

The Butterfly Effect

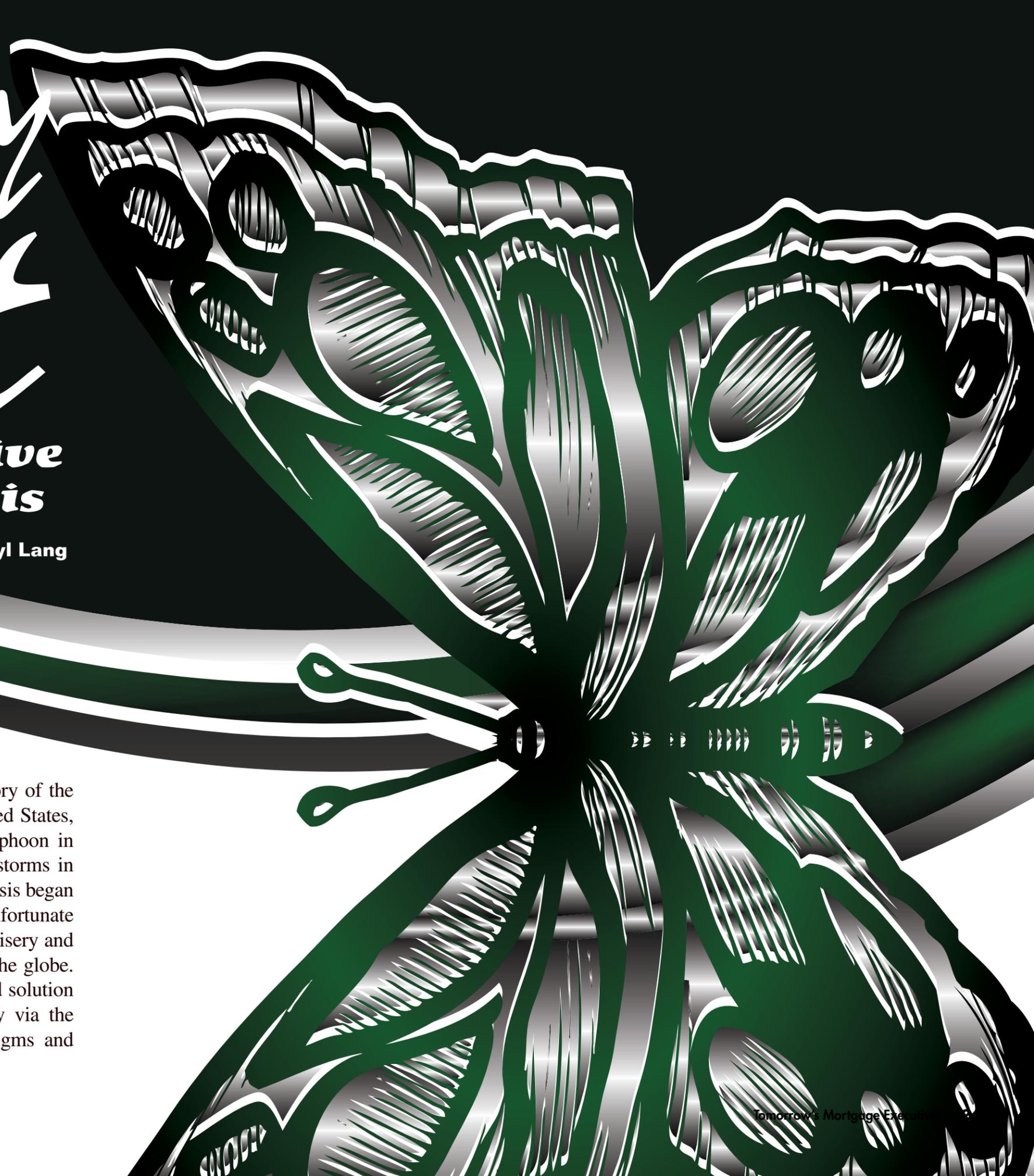
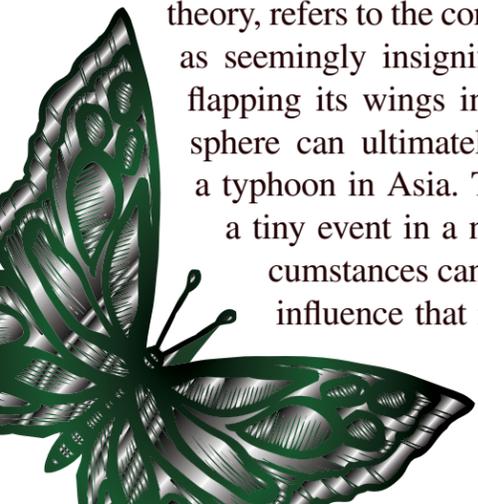
& the Defective Drywall Crisis

By Cheryl Lang

Defective drywall has been found in 32 states across the country and now we have to get to work and solve this problem.

The crisis started with a reverse version of the storied “butterfly effect.” The butterfly effect, a term coined in the early 1970s for a scientific paper on chaos theory, refers to the concept that something as seemingly insignificant as a butterfly flapping its wings in the western hemisphere can ultimately wind up causing a typhoon in Asia. The notion says that a tiny event in a non-linear set of circumstances can have a snowballing influence that results in seemingly

unrelated, large-scale chaos. In the story of the defective drywall problem in the United States, the large weather event was not a typhoon in Asia, but instead a series of tropical storms in the Gulf Coast. And the roots of the crisis began not with a butterfly, but with some unfortunate business choices that led to growing misery and financial loss on the opposite side of the globe. Adding further intrigue, an unexpected solution is coming from American technology via the field services sector, changing paradigms and preconceptions as its potential unfolds.



Space does not permit a complete re-telling of all the details surrounding the defective drywall fiasco, but there will be books about it for those who want the entire butterfly effect-like story. In short form, it happened something like this: In the early 2000s, a German company, Knauf Gips KG, one of four foreign companies involved, started importing drywall made in China to the United States, providing a cheaper alternative to the domestic product. New home construction was starting to boom, and the company saw a significant opportunity because of its reduced manufacturing costs in Asia. A few years later, demand for drywall increased dramatically because of the series of hurricanes and tropical storms that generated in the Caribbean and ravaged Florida and the Gulf Coast, culminating with Hurricane Katrina in 2005. Rebuilding efforts were

but studies indicated that some American products also emitted fumes, though in barely noticeable amounts for the most part. While the chemistry may be a mystery, the impact of the problem is not. The problem is widespread throughout the Gulf region and all through Florida, making life difficult for residents, insurance companies, mortgagees, servicers and investors. In the worst cases, homes are completely uninhabitable; in the best cases, they are merely unhealthful and odorous. Either way, it is a situation requiring remediation at the most detailed levels possible. Defective drywall has been found in 32 states across the country, but the heat and humidity in the Gulf areas make the ill effects far more pronounced.

Typical remediation methods are sorely time consuming and very, very costly. The tainted drywall must be completely

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underway in earnest and enough defective drywall was imported to build 60,000 homes, most of it delivered to Florida ports of entry via the Panama Canal. These 500 million pounds of drywall were a tiny amount when compared to the 15 million tons that come from U.S. manufacturers, but it was a literally a matter of any port in a storm – if you had drywall, it was going to be purchased and put to use.

Drywall is drywall – processed gypsum encased in heavyweight paper -- what can go wrong? When tainted materials are used, apparently much can go wrong, and did. Warm, humid weather stimulated a reaction in the defective drywall, causing it to emit hydrogen sulfide and other sulfurous vapors that oxidized metal components in the home, especially those made of copper. The houses smelled of rotten eggs, aggravating respiratory complaints, causing headaches and even nosebleeds. Scientists still haven't completely figured out how or why the drywall was tainted,

removed and replaced, taking the house down to bare studs. Electrical switches and some wiring need to be removed and air conditioning units are replaced, along with some ductwork and other appliances. The money involved is enormous just to have work performed, so naturally fingers are pointing in all directions and lawsuits are being filed with abandon by a delighted legal profession. Judges are disagreeing in various states as to who is supposed to pay whom, whether homeowner's insurance companies are liable (they are in Louisiana for the moment) and how to extract compensation either from China, from Germany's Knauf, other defective drywall manufacturers, or all of the above.

Once again, we are talking about 60,000 affected houses, condominiums and townhouses, so the scope of the problem, financially and otherwise, is immense. A 3,000 square foot home will cost approximately \$100,000 to remediate us-

ing traditional methods, a process taking about ten weeks to complete. Gulf Coast summers, as we in Houston know all too well, bring heat and humidity, and they in turn will bring more defective drywall issues to the fore soon. This year, however, will be different. We have some technology to deploy to combat the problem.

A number of years ago, the U.S. Department of Energy and the National Security Administration initiated their Chemical and Biological National Security Program, or CBNSP. As part of this overall plan to decontaminate the nation's institutions in a time of attack, Sandia National Laboratories developed a biochemical technology designed to handle destructive emissions, including sulfurous ones such as those produced by defective drywall. Over the last almost three years, a process adapted from this technology has been tested against defective drywall for use on location, “in-situ,” meaning that the removal of existing drywall panels is not required. The National Association of Home Builders, many of whose members are affected by the crisis, monitored the testing over the last year. It is not a temporary fix, but a long-term solution that brings homes up to the building codes needed for occupancy approval. The key ingredient is a non-toxic, water-based biochemical agent that neutralizes the emission producing process of the chemical structures within the drywall itself, leaving behind harmless water vapors that simply evaporate.

A similar method is used to remediate other types of property damage from harmful chemicals, including damage to places such as methamphetamine labs. The process itself is as different from the old traditional remediation method as a scalpel is from a chainsaw. Instead of ripping out the drywall, its outer surfaces are sprayed with the agent. Drilling holes and filling the space between studs with a foam-based version of the product reach the inner substrates of the wall panels. Living areas are fogged with an aerosol form of the agent, and all affected equipment is assessed and replaced, right down

to electrical switches and plugs – any place that might have been corroded by the volatile sulfur compounds from the defective drywall.

The results are breath taking, or in this case, breath restoring. Within minutes of application, the biochemical agent has done much of its work and the noxious odors disappear. When the entire treatment is finished, the emissions are gone and home is ready for re-habitation.

This approach to remediation is very new, though tested thoroughly and proven effective. When IMS first began offering this biochemical remediation process to clients in May it was among the only alternatives to the older, heavily invasive methods. But the word is still getting out about its availability. Our service partner for this product is also a general contractor

that also does remediations the old way, but as this new process gains traction, the company expects the chainsaw to rapidly give way to the scalpel. Confidence in the results is very high, and a three-year, renewable warranty is provided as part of the service.

As a technology-enabled property preservation and loss mitigation provider, we are accustomed to the role technology plays in making things better, faster and

more efficient in the mortgage industry. Observing first-hand how technology can replace a highly physical “rip and replace” aspect of home construction, however, was an unexpected but welcome improvement. This less invasive solution to the defective drywall crisis is an important advance in the healing process along the Gulf Coast, and a truly welcome development for thousands of families victimized by the storms – and the butterflies. ❖

ABOUT THE AUTHOR

Cheryl Lang is president and CEO of Integrated Mortgage Solutions (IMS), a national property preservation and field services provider based in Houston, Texas. Prior to founding IMS, Ms. Lang held key senior management positions with several top mortgage servicers. She was among the founders of No Paws Left Behind, a non-profit that rescues pets abandoned in foreclosures.



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