

Exaptation: The innovation strategy the adhesive tape industry cannot ignore

In a second article by Afera President Evert Smit in *DICHT! Magazine's* current issue, he argues that in a rapidly shifting market, the adhesive tape industry must embrace exaptation—the evolutionary art of repurposing existing technologies—as a powerful, untapped path to innovation.



"Can the adhesive tape industry afford to ignore exaptation? I believe the answer is no." – Dr. Evert Smit, President of Afera, The European Adhesive Tape Association

Let's be honest – our industry talks a lot about innovation, disruption, agility and transformation. But when I attend conferences of adhesive and tape manufacturers, suppliers and other companies in the sector, I notice how little our conventional innovation approaches help us in today's VUCA environment.

Take, for example, meticulously developed product roadmaps: one change in regulations, and they are obsolete. Strategic five-year plans deteriorate faster than a pressure-sensitive adhesive under harsh UV conditions. Meanwhile, our customers are becoming increasingly impatient with our various milestones, which arrive too little and too late.

Perhaps exaptation will help us in the future – although I'm not introducing anything new with this concept. The term simply describes what evolution has brilliantly mastered for billions of years. Exaptation is nature's most successful innovation strategy: when something developed for one purpose proves perfect for something entirely different. One illustrative example is feathers: They weren't originally developed for flight but for thermal regulation or courtship display. Flight came later, as a brilliant, novel use of something that already existed – not a redesign, just a

new vision of something familiar, what we might today call rethinking. This is exactly what our industry needs.

What if the next breakthrough – maybe even the next breakthrough application – does not come from the R&D lab but from reinterpreting an existing technology? What if an adhesive system designed for the automotive industry proved unexpectedly valuable for wearable electronics? Or if a bonding technology developed for consumer electronics opened new avenues for circular construction methods? I am certain – and I know – that smart R&D teams are already thinking along these lines. I have seen first-hand how a "medical" adhesive system is finding new uses in flexible electronics. Or consider high-performance construction tapes that have been reengineered for automated manufacturing. Bio-based components originally developed with sustainability in mind are suddenly solving performance challenges in completely unexpected ways.

Exaptation is not a theory – it is happening now, all the time. So what limits the use of this innovation strategy? One reason may be the structure and working methods of most companies – including those in the adhesive tape sector – because exaptation requires curiosity instead of control, exploration instead of optimisation. In my view, this leads to new demands on the management levels of our industry. Asking

“what comes next?” will not get us far. Far more important are questions like, “What else could this adhesive solve? What other possibilities could this platform enable? What does this customer challenge reveal about the capabilities we already possess?”

When markets change faster than development cycles, the ability to repurpose existing technologies becomes a major competitive advantage. But exaptation is also interesting in another respect – ever-new solutions increase the complexity of their use. In adhesive technology, we know what that means. Reusing what we already know can also help conserve resources. Nature has done both for billions of years. It is time we not only acknowledge this but actively incorporate it into our thinking and development.



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