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Urethanes TECHNOLOGY INTERNATIONAL

A CRAIN FAMILY BRAND

Quiet tyres, loud innovation

The science of silence



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Cryogenic insulation
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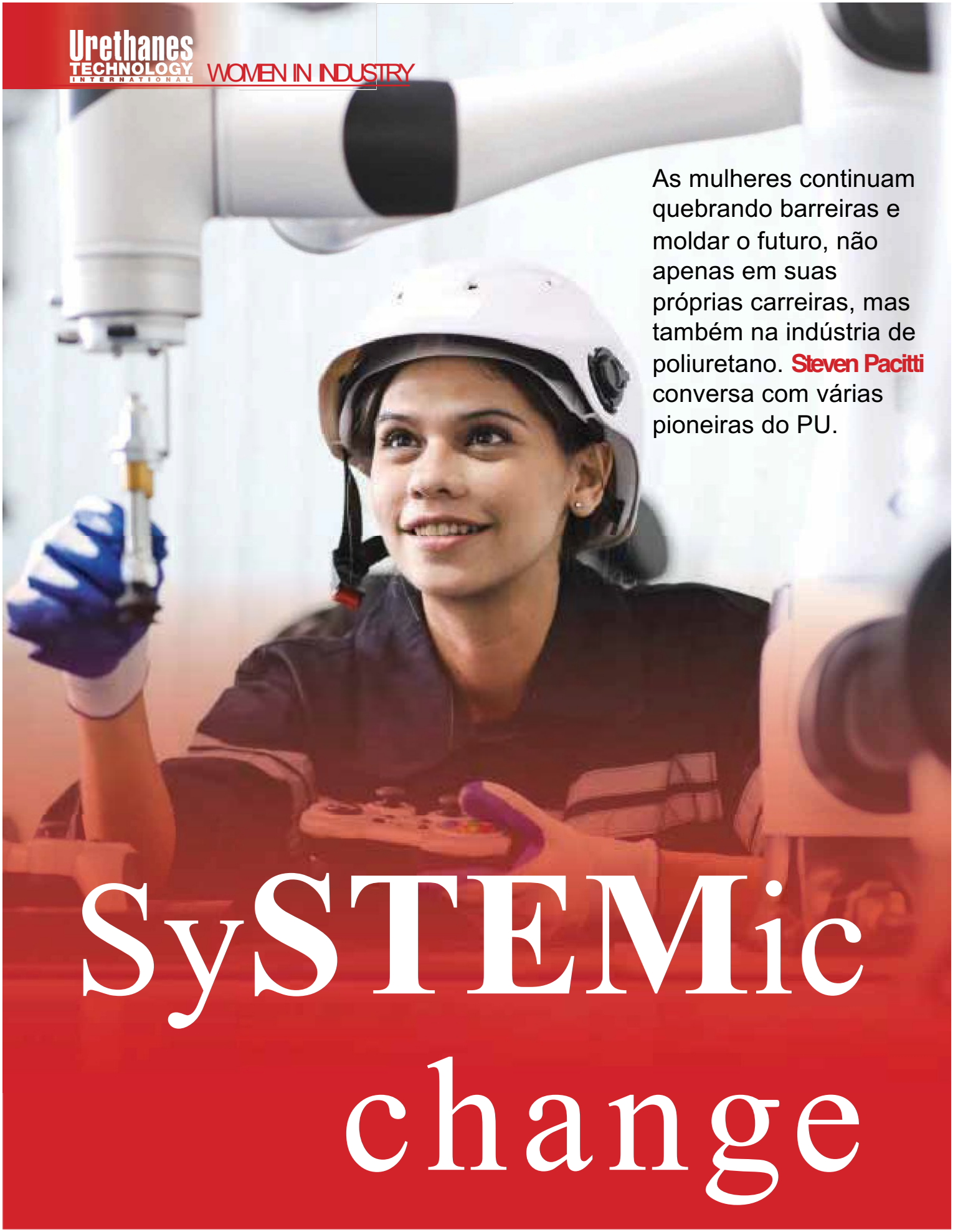

As mulheres continuam quebrando barreiras e moldar o futuro, não apenas em suas próprias carreiras, mas também na indústria de poliuretano. **Steven Pacitti** conversa com várias pioneiras do PU.

SySTEMic change


Jennifer Hristovski, SprayWorks Equipment


Annegret Terheiden, Evonik


Audrey Polyto-Silva, Purcom Quimica

The polyurethane industry is undergoing a quiet but powerful transformation, one driven by the growing presence and impact of women across all sectors of the field. From research labs to executive boardrooms, women are increasingly stepping into roles of leadership, innovation, and influence, reshaping the industry and challenging long-standing norms.

This progress is not just inspiring – it's necessary. As sustainability, innovation, and diversity become central to the future of PU, the inclusion of women's voices is proving to be a critical advantage. Companies are recognising that diverse teams foster stronger collaboration, better problem solving, and more resilient business models. But while significant strides have been made, are they enough? And just how clear is the path for the next generation of female scientists, engineers and leaders?

Jennifer Hristovski, marketing director and a partner at US-based SprayWorks Equipment, has witnessed a huge shift in the stereotypes women experience in the PU industry, recalling "bathroom talk" a decade ago that made women feel uncomfortable in this space. As the daughter of a spray foam professional who taught her about the chemical structure of foam at a very young age, Hristovski sees a much more supportive space for female business owners and workers in the sector now.

"I think more companies are seeing the value of female leadership and working to remove barriers like stereotypes and harassment is a huge step in the right direction," she said. "It's not something that takes place overnight; it becomes a generational change. Having leaders in industry organisations also helps to pave the way for change."

As is the case in technology-driven industries, in the past women have predominantly occupied roles in areas such as administration, marketing, human resources and quality control. However, when Evonik's Annegret Terheiden started in a technical role nearly two decades ago, there were already several female role models in positions such as R&D manager and production manager.

"Has this number increased?" she said. "In my experience, it seems to have remained at a similar level, and this ratio somewhat reflects the percentage of women studying chemistry or chemical engineering."

Terheiden, who is now global technology director for comfort applications within Evonik's comfort & insulation business line, points to a typical trend in the PU industry of people changing companies and functions but remaining within the sector – shifting from additive or raw materials supply to foam production, for example. "We often use a phrase like 'PU is sticky', meaning once you're in the industry you will surely enjoy it, making it hard for you to leave. Now, with the increasing focus on sustainability, I see a new field emerging that is creating additional career pathways and opportunities."

> "Hoje, consigo ver um aumento significativo na presença de mulheres na indústria, embora, na minha opinião, ainda sejamos minoria. Há espaço para ampliarmos nossa presença em P&D, por exemplo."
> **Audrey Polyto-Silva, Purcom Quimica**

Uma mulher que conhece profundamente a jornada da sustentabilidade é Audrey Polyto-Silva, gerente de P&D da fabricante brasileira de sistemas de PU, Purcom Química. Ela se especializou recentemente no desenvolvimento de polióis biocirculares usando óleo vegetal pós-consumo para a fabricação de tapetes acústicos em caminhões — uma iniciativa que resultou em uma redução de 74% nas emissões de dióxido de carbono equivalen-te em comparação com sistemas à base de petróleo. A engenheira química conquistou o prêmio de melhor apresentação na catego-ria de sustentabilidade automotiva e VOC na Polyure-thanes Technical Conference (CPI), reali-zada nos EUA no ano passado. "Quando comecei a participar de eventos da indústria de PU, como UTECH e CPI, lembro de me sentir uma minoria absolu-ta não apenas como mulher, mas como uma jovem profissional", contou. "Hoje, vejo um aumento significativo na presem-ça de mulheres na indústria, embora, na minha visão, ainda sejamos minoria. Há espaço para ampliarmos nossa presença em P&D, por exemplo."

A general lack of experienced talent in the industry also opens real space for women eager to grow in a technical and evolving field, believes the CEO of Turkish systems house Kimpur, Cavidan Karaca. She points to the diversity of PU – used across industries including automotive, construction, footwear and furniture – as a real opportunity for women to build careers that match their interests and strengths. "With the right encouragement and visibility, I believe more women will see the potential of this field and contrib- ute meaningfully to its future," Karaca said. Diane Langer, Huntsman's director of

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Cavidan Karaca, Kimpur


Diane Langer, Huntsman


Irina Bolshakova, Huntsman

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technology & innovation for automotive polyurethanes in the Americas, agrees that PU's diversity makes it easy to see the direct impact of your efforts in the sector. She views this as a real positive that can help attract more female inventors into the space.

"Creating PU materials is 50% chemistry and 50% processing, and as such, I think a little more emphasis on encouraging women into engineering and processing roles is required," she said. Her colleague Irina Bolshakova, who is global marketing director for automotive polyurethanes, added that long-term change will come from altering perceptions at a grass roots level.

Showcasing role models can be part of a catalyst for change, according to Christine Mendoza-Frohn, Covestro's EVP for Sales Performance Materials in EMEA & LATAM. She wants to encourage women to take chances and not hold back in their aspirations. "Be courageous and believe in yourself," she said. "Learn from setbacks and try again."

A combination of positive role models and a desire to fulfil burning ambitions is perhaps also contributing to the changing career paths chosen by young women, and these are becoming less influenced by gender norms. Meanwhile, many companies are becoming more intentional with supporting women, suggests Vanessa Thorn, strategic initiatives manager at Stockmeier Urethanes USA. She says that the implementation of diversity and inclusion policies, among other things, are important and meaningful steps, but progress doesn't mean the work is finished. Thorn wants to see a focus on cultivation to ensure those efforts are sustained.

Tangible progress

Companies across the PU value chain are clearly committed to enhancing gender diversity within their management ranks. This reflects a belief that diverse teams drive innovation and improve decision making.

As of 2024, women held 22% of executive positions at Evonik, with a target of reaching 30% by 2026, while the proportion of women in senior management has increased to 19.1%, aiming for 25% in the same time frame.

"As of April, our executive board is now 60% female and more international, with our former business line head Lauren Kjeldsen leading our new custom solutions segment and taking responsibility for innovation and the Americas region," said Evonik's Terheiden. The second of the company's two business segments, advanced technologies, is also led by a woman.

And progress can be seen elsewhere. Huntsman's board of directors includes what Irina Bolshakova calls "a notable level of gender diversity with five out of 10 directors' women". Kimpur claims that 41.46% of its managers and directors are women, with the goal to reach 50% by 2027. Spray Works boasts 45% of leadership roles being held by women, while at Stockmeier Urethanes USA, 34% of its management **Na Purcom Química, a representatividade feminina na empresa quase dobrou nos últimos 13 anos, com mais mulheres em cargos de liderança e posições estratégicas.** And half of Covestro's business entity heads and one of its four board members is female.

"The statistics are still not where I dreamt of starting 1990 and where we want them to be," Christine Mendoza-Frohn said. "Let's continue the journey."

The snapshot of companies featured in this article suggests that women occupy an average of 38% of management and leadership roles, with expectations that this will tip above 40% by 2027 based purely on a few targets outlined to *Urethanes Technology International*. In all likelihood, the real figure may well be slightly higher than this. "It is great that more women are now represented on the boards of the PU associations, but I'd say there is still room for improvement," Evonik's Terheiden said.

Catalysts for change

There is a consensus that to attract more women to work in the PU industry, you must start early, at the stage when they are deciding what to study. "For me it all started back in school, where I had a very motivating woman as my chemistry teacher," Terheiden said. "When I started my career in the technical field of PU, specifically in PU additives, I did not really know what to expect. During my studies in chemistry, PU was typically just a small paragraph in the curriculum. However, even after 18 years, I am still fascinated by this versatile material."

Terheiden admits to always feeling very well accepted and appreciated in the industry and enjoys being part of the PU "family". She praises companies for embracing change. "From what I see, many companies have recognised the importance of diversity, equity and inclusion, and are launching initiatives aimed at improving representation and fostering a more inclusive culture," she said. "However, to ensure that they are more than just lip service, I think it's important to establish a genuine engagement and actively promote a culture of inclusion."

Initiatives often include mentorship programmes, leadership training, and networking opportunities specifically designed to support women. "Offering flexible work schedules, equal pay, and career development opportunities will also attract more women into the sector," Huntsman's Langer explained.

As the first employee at her company to become pregnant, Stockmeier Urethane


Vanessa Thorn, Stockmeier Urethane USA


Christine Mendoza-Frohn, Covestro

USA's Vanessa Thorn admitted to being worried about how pregnancy and motherhood would impact her professional development. However, she lauded the support she received from her employer. In fact, both of her first two promotions came within six months of returning to work from each of her two spells of maternity leave. "It's not about lowering expectations, it's about removing barriers, and when that happens, women don't just stay in the workforce; they rise," Thorn said.

In a further initiative, Stockmeier partners with West Virginia's "Explore: The New Manufacturing" programme. The aim is to help educate school-aged West Virginians about PU and career pathways in manufacturing.

Covestro has clear policies and encourages diversity, equity and inclusion, with key DEI performance indicators tracked by the supervisory board. However, Mendoza-Frohn adds that finding the perfect balance of approaches is a marathon everyone can contribute to, rather than a sprint.

"I sense most companies have DEI programmes; showcasing the overall societal impact could be a gain," she said. "Let's not forget, next to companies and individuals, some former patterns are as well rooted in societies, families and traditions."

Likewise, Stockmeier's Thorn believes that many forces are at play here. "At a company level, I have seen women begin to step into more technical, operational and leadership roles," she said. "I don't think the shift is by chance; it's the result of better representation, progressive policies, mentoring and sponsorships, aid from allies, education, and culture shifts linked to society challenging gender norms. Together, they are creating significant impact."

Representation, adds Spray Works' Jennifer Hristovski, is the most important part. It allows women to see themselves in the reflection of other women in industry, boosts self-esteem, and fosters inclusivity.

Growing up watching her parents run a spray foam business, Hristovski credits her mother for providing a great role model of a strong female and credits the "amazing women in our industry" for showing a path to success. These include Karen Wikert (owner of Mrs Spray Foam), Rebekah Taylor (SPI), Lisa Bilben (Atticus Insulation), Robin Pence (Intech), Bonnie Strickler (Puff), and Stacy Recker (UPC).

"Another woman who inspired my professional career is my oncologist, Bhuvaneswari Ramaswamy, who taught me to not just fight for my life, but to fight for the life I wanted," Hristovski said.

Audrey Polyto Silva, da Purcom Química, afirma que políticas impostas sozinhas não enfrentam os desafios culturais nem reconhecem e valorizam o mérito das profissionais mulheres. Ela acredita que uma governança corporativa forte é a forma mais eficaz de aumentar a representatividade feminina na indústria de poliuretano.

"Vejo a visibilidade como algo crucial, pois destacar mulheres bem sucedidas não só ajuda a quebrar estereótipos de gênero e normalizar a liderança feminina, como também inspira jovens mulheres a seguirem carreiras semelhantes", afirmou. "Acredito que o caminho é oferecer formação nas universidades, criando uma conexão mais próxima e maior conhecimento sobre o poliuretano entre os jovens. Por ser uma indústria predominantemente masculina, é essencial investir em equidade salarial, conscientização, governança e políticas adequadas para criar ambientes de trabalho seguros e respeitosos, garantindo a permanência das mulheres no setor a longo prazo."

Many companies choose to participate in programmes led by social responsibility organisations rather than launching stand-alone internal initiatives. One example of this is the UN Women Target Gender Equality programme, which Kimpur is part of.

"These types of programmes truly make a difference because they help companies set measurable goals, monitor progress, and even update their internal policies, including HR practices, to align with those goals," Kimpur's Karaca said.

She also sees great value in company open-day programmes as part of social responsibility efforts. This allows them to welcome students into production facilities or R&D centres to give them hands-on experience of how PU systems are developed and applied.

"Several women who started with us as interns now hold roles in our technical departments," Karaca said. "PU is still a very niche industry, and I don't think enough people – especially those early in their careers – fully realise the potential and versatility of this material. Because of that, the sector might not always seem as appealing at first glance. That's why I believe it's crucial for companies in our field to be more visible in university events and career days."

Progress is being made, but more work is required, say Huntsman's Bolshakova and Langer. However, they do see an active focus on encouraging girls to study science, technology, engineering and maths (STEM) subjects at school, which will have a positive impact on the sector in the years to come.

"Early outreach in schools through STEM programmes, workshops, and internships can help break down misconceptions and show that this is a field where women can thrive," Langer said. "The number of PU products that span into every industry is amazing. Particularly in the automotive industry with the invention of electrified vehicles, the use of PU for batteries is at its infancy. I think the sky is the limit for PU uses, and that is what continues to motivate me as an innovator in the field."

Kimpur's Karaca adds that she has learnt over the years that women do not need to follow traditional male leadership models to succeed. Instead, they can lead with their own strengths: intuition, analytical thinking, fairness, empathy and determination. "These qualities create a powerful and universal leadership language," she said. "Every woman has the potential to build her own leadership story by staying true to who she is."

At the end of the day, it's about building a culture where women feel trusted, supported and valued. And this should not just be on paper, but in daily working life.

Each interview will be published in its entirety on utech-polyurethane.com in the coming weeks