ZDHC

MRSL



Impact Report 2025

Sustainable Chemical Management



Better Chemistry, Better *Nature*

ZDHC

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Paving the way *Together.*

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Executive Summary

Structured around natural capital and four pillars of impact, this report follows the journey from participation to implementation, from implementation to measurable performance, and from performance to wider environmental and social outcomes.

Story Highlights

A Shared Roadmap For Better Chemistry

MAS Holdings, Coats Group, and Elevate Textiles discuss the impact of a common chemical management framework.



Decathlon: Systemic Change At The Source

The ZDHC approach can extend into sports equipment and other non-textile manufacturing. Here's how Decathlon is doing it.



Brands, Scientists, And Certificates Working Together For River Health

River health proof point: brands and scientists join forces to turn factory chemistry into real protection for Bangladesh's waterways.



Chemical Risk Is Financial Risk

What evidence can companies, investors and lenders use to understand exposure and prevent costly harm?



Beyond Fashion: One Framework, Different Sectors

The Inter IKEA Group's entry into the ZDHC Signatory Community marks a new chapter for chemical management



Gender, Chemicals, And Justice

Chemical exposure and the effectiveness of worker protection through a gender lens



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Number Highlights

397

Organisations Across The ZDHC Community

Including 64 brands, 60 chemical formulators, 45 suppliers, 17 associates, two textile machinery manufacturers, 22 Friend Brands, 28 Friend Vendors and 159 Approved Solution Providers.

3,712

Registered Chemical Formulators

Of these, 2,270 were actively publishing products, bringing the publication rate to a record 61.2%.

>75%

More than 75% of reports achieved Progressive or Aspirational performance for five key wastewater parameters

Non-conformance for biological oxygen demand, chemical oxygen demand, nitrogen, phosphorus and total suspended solids was generally around 1–2%

14,938

Suppliers registered on the ZDHC Gateway and Supplier Platform

The continued increase reflects the growing digital infrastructure available for chemical inventory management, reporting and supplier engagement.

166,915

Chemical products published on the ZDHC Gateway

The number increased by 105% since 2022, considerably expanding the range of identifiable alternatives available to manufacturers.

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A Message From Our Leadership

Documenting 2025's Momentum



Frank Michel

Chief Executive Officer
ZDHC Foundation

Dear ZDHC Community,

Welcome to the ZDHC Impact Report 2025.

The operating environment for our industry is changing fast. Supply chains have had to navigate geopolitical instability, disrupted trade flows, regional political uncertainty, cost pressures, and shifting regulatory expectations. At the same time, artificial intelligence and digital transformation are redefining the pace at which businesses, supply chains, and operating models evolve.

Sustainability has to become part of how our industry builds resilience, manages risk, and protects long-term value. For ZDHC, this reinforces the purpose of the Roadmap to Zero Programme: to align our industry around better chemistry, stronger implementation, credible data, and collective impact.

A few years ago, much of the industry conversation was dominated by climate change and the development of climate programmes. At ZDHC, we have always looked at impact more broadly. Climate, water, circularity, and biodiversity are deeply connected to how chemistry is selected, used, managed, and discharged. Today, natural capital is a sharper, more integrated way to explain the purpose of our work: better chemistry protects life, land, air, and water.

In sustainable chemical management, natural capital is directly relevant to business performance, and materiality helps identify where impacts and dependencies can create business risk: supply continuity, product integrity, regulatory readiness, market access, worker protection, community trust, and long-term value creation.

But the industry needs to turn that understanding into action.

ZDHC's Roadmap to Zero is a purpose-driven programme. Our mandate is to drive positive impact by creating the conditions for measurable progress for natural capital, people, and business resilience.

We do this by translating our impact parameters, KPIs, and implementation framework into attributes that help the industry respond to regulatory and reporting expectations and act with more clarity: prevention at source, reduced duplication, less audit and data fatigue, stronger comparability, better evidence, and more aligned implementation across brands, suppliers, chemical formulators, and solution providers.

This Impact Report shows that evolution. We see a growing community, deeper supplier engagement, more published products on the ZDHC Gateway, stronger use of InCheck and ClearStream, and new work connecting facility-level conformance with wider questions of water, biodiversity, circularity, and human health. The work with Quantis is part of this maturity journey. It helps translate better chemistry into recognized impact indicators, while also reminding us that credible claims must be grounded in facility-level, process-specific, and transparent data.

The Roadmap to Zero was built on a simple idea: the most credible way to address pollution is to prevent it before it enters production. That remains our purpose. As we move towards the midpoint of our strategy next year, the upcoming phase is about scale, evidence, and shared accountability.

Thank you to all signatories, suppliers, formulators, solution providers, partners, and colleagues who are making this work real every day.



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A Message From Our Leadership

Caring for the Planet



Scott Echols

Chief Impact Officer
ZDHC Foundation

As I reflect on the past year, it's clear that ZDHC's work is a deeply personal issue for me. As a father and grandfather, I owe it to the next generation to keep pushing for systemic change in how our industry uses chemicals.

As Chief Impact Officer at ZDHC, my role is to build our capabilities for measuring the Impact of our Sustainable Chemicals Management Framework and Roadmap to Zero Programme.
I have now spent 11 years as an integral part of the ZDHC team and over 25 years working to restrict and reduce the use of hazardous chemicals in the fashion industry and their potential impacts on Nature.

This Impact Report focuses on the ZDHC mission framed as reducing the risk to Natural Capital. Simply put, this is a way to assign metrics that measure the impact on resources we all need to thrive: clean air, clean water, healthy soil, and healthy ecosystems. These are embodied in our ZDHC work as our impact areas: climate, water stewardship, biodiversity, and circularity.

ZDHC's work to restrict and reduce the use of hazardous chemicals has personal impacts. Reducing hazardous chemical use and discharge can have positive impacts on the lives of factory workers, the health of their communities, the health of consumers, and, ultimately, on all of us as an interconnected global community.

In 2025, for the first time, we published data showing how using the ZDHC MRSL and associated Roadmap to Zero Programme can reduce the negative impacts on aquatic and human toxicity at individual factories.

Also, we began work to both expand on those individual factory studies to the ecosystem level and broaden our reach into other chemically intensive sectors. The work of Primark and Oxford Molecular Biosensors supports better basin-level water quality in Bangladesh, and we have added IKEA Group as a Signatory Brand, extending our reach beyond fashion and textiles.

We are making measurable progress, even if this is a continuous journey of improvement. The risks and impacts we are addressing weren't created overnight, and like all global problems, have no single easy answer. But we know that better input chemistry, stronger wastewater treatment, and more efficient production can reduce harm, protect natural capital, and help drive a long-term transformation across the value chain.

Globally, we are all bound together and share the limited resources of Earth, whether we choose to acknowledge it or not. Chemicals can and do have both positive and negative impacts.

Thanks for reading our Impact Report, and thanks to all who support our mission, and especially the efforts of all those in the supply chain who are working diligently to reduce the negative impacts and have chosen to use better chemistry.

There is still hard work ahead. Negative impacts from the discharge of hazardous chemicals will be paid for now or later. Science doesn't care how or when that debt is paid.

But **WE should.**



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Chapter 1

Framing 2025's Progress

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ZDHC 2025 Impact Report: A Natural Capital Approach

As the cost of inaction exceeds the cost of change, it's clear that **sustainability has moved from a nice-to-have future ambition to a foundational part of how companies understand risk, resilience, and long-term value.** And ZDHC's own 2025 framing reflects the crucial stance that natural capital is far from an Environmental, Social, and Governance (ESG) abstraction but a measurable, reportable risk lens.

In 2025, mandatory reporting under the EU Corporate Sustainability Reporting Directive (CSRD) and recommendations by the Taskforce on Nature-Related Financial Disclosures (TNFD) pushed businesses to account for their environmental dependencies and impacts. For financial stakeholders, nature-related risks go beyond carbon exposure or climate targets. In textile and leather supply chains, it can appear as physical risk when degraded watersheds, polluted rivers, or stressed ecosystems disrupt production; as transition risk when regulation tightens around chemicals, wastewater, traceability, product design, or disclosure; and as liability or reputational risk when harmful substances are found in products, processes, or surrounding environments.

In practice, chemical pollution in supply chains is now, quite literally, a balance sheet issue. PFAS liabilities, stranded assets tied to non-conformant chemistry, and regulatory penalties from the EU Chemicals Strategy for Sustainability are real costs, in real time, for companies that waited for perfect data before acting.

ZDHC's Role Within Natural Capital Protection

Natural capital is the living foundation for both economies and communities. In the textile, apparel, footwear and leather sectors, it shows up in very practical ways: the water used in dyeing and finishing, the rivers receiving treated wastewater, the soil and climate conditions behind natural fibres, the biodiversity that keeps ecosystems functioning, and the clean air surrounding factories and homes. When these systems are depleted or degraded, we feel the impact directly. Manufacturers may face less reliable or more contaminated water, communities may lose access to healthy rivers and safe local environments, and supply chains face unstable raw material quality, higher costs, or greater disruption. **In financial terms, nature degradation turns shared environmental systems into operational risk. In** human terms, it affects the places where people live, work, grow food, and raise families.

In "Managing nature risks: From understanding to action" (2023), PwC estimates that 55% of global GDP (around 54 trillion Euros) is moderately or highly dependent on nature. Fashion requires water-intensive manufacturing and chemical-heavy wet processing: long before a garment reaches a store, textiles are washed, bleached, dyed, printed, finished, rinsed, and treated to achieve colour, softness, durability, water resistance, wrinkle resistance, or other performance qualities. Many of these steps depend on large volumes of water and a complex mix of chemical inputs. Water is the medium that carries dyes, auxiliaries, detergents, salts, solvents, finishing agents, and residues through the production process. That is why ZDHC has always focused upstream, preventing hazardous chemistry from entering production before the harm is visible.

ZDHC helps turn natural capital protection into practical action across the value chain.

Through the ZDHC MRSL and the Sustainable Chemical Management Framework, ZDHC sets a clear direction for credible, science-based chemical management. Through the Roadmap to Zero Programme, that direction becomes actionable, helping brands, suppliers, chemical formulators, and machine manufacturers control chemical risk at source. More than a restricted substances list, ZDHC provides a shared system that enables safer chemical input selection, stronger day-to-day management, and more consistent monitoring of wastewater and air emissions. For ZDHC, prevention is the most effective, credible and cost-efficient way to protect natural capital.

The business case is clear: chemical pollution in supply chains is increasingly understood as a real business risk, linked to liability, water stress, stranded assets, regulatory pressure, and reputational damage. What doesn't appear on the balance sheet today can still return later as a crisis. The MRSL serves as a risk firewall, helping prevent downstream liability. That is also why ZDHC's aim is evolving from voluntary sustainability to resilience, readiness, and system design.

Measurement Problem in the Sustainability Market

ESG labels, Sustainable Finance Disclosure Regulation (SFDR) classifications, and natural capital approaches can influence perceptions and capital flows without necessarily changing what happens inside factories, chemical inventories, or wastewater systems. **ZDHC warns against confusing financial classification with real-world environmental improvement — this distinction is essential.** ZDHC can use nature capital as a useful translation tool for investors, boards and regulators, but it should not treat it as the definition of success. Success **must be defined by physical and observable improvement: hazardous substances removed, pollution reduced, water better protected, ecosystems under less pressure, and workers and communities exposed to less harm.**

That is also why the Quantis assessment matters. In 2025, the ZDHC-Quantis report found that proactive upstream chemical management through the ZDHC MRSL, Wastewater and Sludge Guidelines, and Air Emissions Guidelines can substantially reduce nature-related impacts in case-based and modelled scenarios. Reported reductions include up to 95 percent in human toxicity, up to 86 percent in freshwater ecotoxicity in wastewater conformance scenarios,and up to 96 percent across selected nature-related indicators, depending on the case.

Quantis Report



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A precautionary note is called for: these are case-specific results, not industry-wide averages, and should not be used as blanket claims without location-specific, verified data. That guardrail is part of what makes the ZDHC approach more credible for financial stakeholders, regulators, brands, and civil society: supporting sustainable chemical management and measurable risk reduction while staying honest about what the evidence can and cannot prove.

ZDHC does not need to claim that it restores nature on its own, and it should not rely on vague market language to prove relevance. **Its strength is different.** ZDHC offers **a science-based, hazard-focused, industry-tested system that turns sustainable chemical management into something practical, scalable, and increasingly decision-useful for brands, suppliers, regulators, and financial stakeholders.** In that sense, ZDHC's role is evolving from industry benchmark initiative to systems architect: connecting chemical requirements, implementation tools, data and evidence into an approach that helps the industry reduce risk while protecting life, land, air and water.

The natural capital framework helps industries to see how chemical choices shape environmental risk, operational resilience and long-term value. **If fashion wants credible progress on water, biodiversity, climate, circularity, and health, it has to start with what enters the process.** Better chemistry is the foundation.



Lauren Zahringer and Frank Michel at ZDHC's Investor Analysts Breakfast during the London Climate Week, June 2025

Note on claims

This report presents progress, evidence and direction. However, it does not treat modelled results as universal claims. The Quantis study itself states that its figures are based on specific case studies and scenarios, and that public claims should be grounded in critically verified, facility-level, and location-specific data.



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Who We Are

ZDHC is a purpose-driven, multi-stakeholder organisation, bringing together brands, suppliers, chemical formulators, solution providers and other stakeholders.

We collectively develop and implement solutions that benefit the wider industry. Our programmes, solutions and tools are shaped by industry experience, scientific expertise and stakeholder dialogue, so that no single perspective defines the direction alone. Transparency, credibility and continuous accountability guide their evolution. We recognise that good governance is not static. As expectations evolve, we will continue to strengthen our governance structures, increase transparency where appropriate and ensure that our processes remain credible, inclusive and fit for purpose.

Our Goal

We want 100% of chemical formulations used in the ZDHC Community and 70% of chemical formulations used in the global industry to conform to the ZDHC MRSL by 2030.

Our Mission

Our mission is to lead our global value chains to achieve the highest standards for sustainable chemical management, driving resource efficiency and circularity.

Our Vision

Our vision is to create a world where better chemistry leads to the protection of life, land, air and water.

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2025 at a Glance

By the close of 2025, the ZDHC community had grown not just in numbers, but in reach and ambition. Perhaps most tellingly, 2025 marked the moment the ZDHC community stepped beyond fashion altogether, welcoming its first signatory from outside the textile sector.

That shift is not a footnote — it's a signal of where chemical management standards are heading next.

Built together. Measured in *progress.*

Signatory Numbers

Brands	64
Chemical Formulators	60
Suppliers	45
Associates	17
Textile Machinery Manufacturers	2
Friend Brands	22
Friend Vendors	28
Approved Solution Providers	159
Total Number	**397**

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Staff Numbers

Staff Members	67
Staff Locations	13
Staff Nationalities	19

ZDHC Locations Map

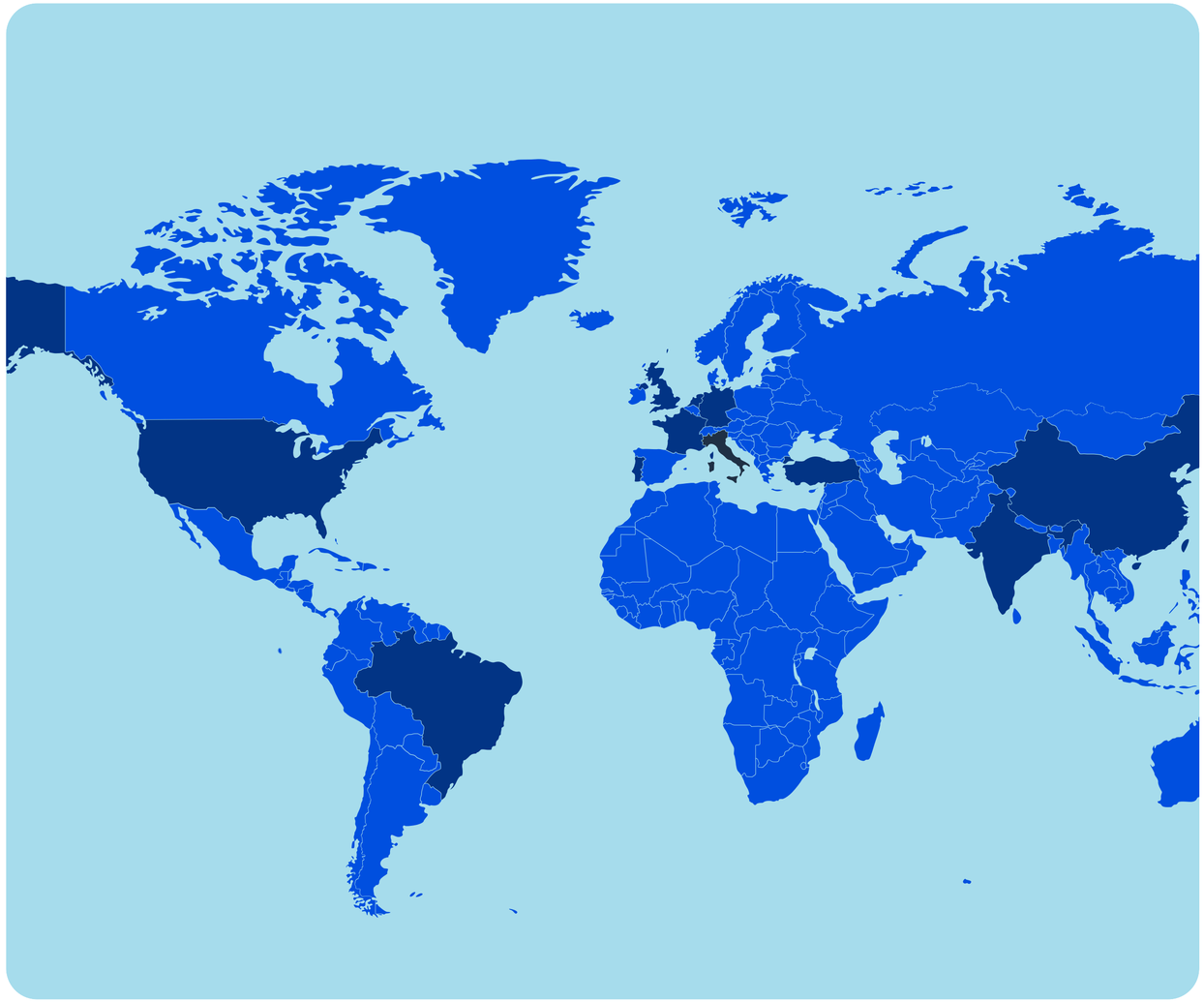


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Chapter 2

Four Pillars, One Natural-Capital Lens

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In the 2025 report, ZDHC's impact stories and year-on-year data are structured by Four Pillars of Impact. Together, they connect operational practice to natural capital and show how changes inside facilities, across supply chains, and in the wider social context can shape environmental, social, and economic outcomes.

Across all four pillars, the report moves from activity to evidence, from evidence to risk reduction, and from risk reduction to real-world resilience. The aim is to show that progress is possible when sustainability is made an integral part of textile production. ZDHC's work begins with chemistry, but its relevance extends to helping the industry build the practical infrastructure needed to protect natural capital, strengthening confidence, and supporting safer outcomes for people and ecosystems.

Pillar I

Activity-Based Impact

This pillar looks at how participation in the Roadmap to Zero Programme is expanding. It follows the progression of the programme across regions, trainings, events, signatories, friends, external users, and ZDHC Academy participation.

Pillar II

Transformation Impact

This pillar examines how ZDHC is helping shift the industry's operating system. It also examines how sustainable chemical management is becoming part of resilience planning, particularly regarding PFAS exposure and water stress, and how these can be linked to risk assessment, insurance, and investment decisions.

Pillar III

Nature Impact

This pillar focuses on ecosystems. It traces the pathway from chemical inputs to environmental outcomes, showing how better control at the source can help reduce pressure on water systems, air quality, soil health, and biodiversity.

Pillar IV

Human Health Impact

This pillar explores the human dimension of natural capital. It examines health and safety programmes, gender-specific chemical risks, and human health insights.

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Pillar I

Activity-Based Impact

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Impact Story

A Shared Roadmap for Better Chemistry

How suppliers are turning safer chemistry into trust, leadership, and resilience



Joining ZDHC means more than just being the new member of a club. It means more than just committing to goals. It means entering a framework that asks suppliers and brands to look upstream, requiring new habits and clearer data processing across purchasing, storage, formulation, process control, wastewater management, training, and accountability.

For suppliers worldwide, the Roadmap to Zero has been the starting point of a common journey to phase out hazardous chemicals from the textile, apparel, leather, and footwear value chains. These stories examine what it took to begin, why they chose ZDHC as their primary sustainable chemical management framework, and why they remain motivated to do the work.

The Common Language of Better Chemistry

"Chemical management was something that we needed to work on because we had a very complex set of requirements coming from customers"



Sugath Disanayake

Sustainability Manager at MAS Holdings, Sri Lanka

Headquartered in Colombo, Sri Lanka, MAS Holdings is one of South Asia's largest apparel and textile manufacturing groups, with operations spanning manufacturing, design, innovation, wearable technology, logistics, and apparel-related services. Its customer portfolio has included major international names such as Nike, Victoria's Secret, Marks & Spencer, Columbia Sportswear, Ralph Lauren, and Banana Republic, making chemical management as much a matter of operational consistency as of compliance.

In 2017, MAS became the first Sri Lankan manufacturer to join the Roadmap to Zero Programme. Nearly a decade later, ZDHC is embedded across MAS's approach to chemical purchasing, training, supplier engagement, wastewater testing, and facility-level accountability.

"We realised that chemical management was something that we needed to work on because we had a very complex set of requirements coming from customers," says Sugath Disanayake, Sustainability Manager at MAS Holdings, who leads the group's chemical management strategy. "We were working with a large number of customers across the group, many of whom came with different requirements. And it was challenging to work on different requirements for similar aspects." According to Disanayake, most of all, ZDHC offered two things: "a common language plus collaboration."

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"Everyone can use the Roadmap to Zero language to get the maximum benefits out of it," Disanayake says. "We saw some of the bigger brands joining, and also some of the manufacturers. They were all moving in the same strategic direction."

Today, Disanayake says, chemicals cannot simply enter the system at MAS because someone wants to test them or because a supplier recommends them. They must meet ZDHC's MRSL requirements. In many facilities, this control is now part of the Enterprise Resource Planning (ERP) management. Based on the ERP regime, new chemicals cannot be purchased unless they are approved by the chemical management point person. What was once one responsibility among many for the environment, health and safety or inventory leads has now become a dedicated point of accountability across several teams.

The change did not stop inside MAS. It also reshaped relationships with chemical suppliers and local agents in Sri Lanka. Before, those relationships were largely built around price, delivery, and customer-driven compliance documentation. Now, local suppliers challenge manufacturers themselves when labels, product names, safety data sheets, Gateway information, or product identifiers do not match. "It's not only about compliance," Disanayake says. "It builds mutual trust."

Looking ahead, Disanayake sees the next phase of chemical sustainability being shaped by several forces driving future development at once: data, transparency, traceability, digitalisation, regulation, and collaboration. "While the brands are creating the business case, it is ZDHC's role is to get technical know-how into one place and harmonize it. As a result, there will be better chemistry," he says. "Today, the chemicals are already better than they were in 2017. Tomorrow, they will be even better. It's an evolving term."



Spotlight

Sri Lanka's textile industry

The sector directly employs around 350,000 people. Depending on the source and definition used, indirect employment is estimated at between 350,000 and 600,000 people. Women make up the majority of the workforce, with some estimates placing their share at around 78%. (Asian Development Bank. Securing women's place in Sri Lanka's apparel industry, 2020.)

Sri Lanka's apparel and textile industry remains the country's largest export sector, accounting for approximately €4.2 billion in export earnings in 2025. (Sri Lanka Export Development Board. Industry capability report: Sri Lankan apparel sector, 2025.)

Sri Lanka's apparel sector comprises approximately 300 export-oriented manufacturers, along with a broader network of smaller factories, suppliers, sourcing offices, and service providers. (Sri Lanka Export Development Board. Industry capability report: Sri Lankan apparel sector, 2025.)

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From One-to-One Compliance to Shared Accountability

The thread that holds a seam together, the zips and trims that help a product function: Coats' contribution to the fashion and textile industry is often small in scale, but essential in use. In apparel and footwear, Coats sits in Tier 2 of the value chain, one step behind the garment or shoe assembler, providing materials and components to Tier 1 factories that make finished products for global brands. "Coats is a market leader with a global footprint," says Andy Li. "We supply to the world's leading international fashion and sports brands, as well as leading brands in China." Li has worked in compliance for 16 years, and he knows that keeping thousands of inputs, suppliers, processes, and customer expectations aligned is no simple task.

Before Coats joined the Roadmap to Zero Programme as a Signatory Supplier in 2018, chemical management was already part of the company's work. But, as Li describes it, the system was fragmented. "We used to have various restricted substance lists to deal with from different brands," Li says. "In order to align all these requirements, we had to update our own list to cover all customers."

The process depended heavily on upstream supplier declarations and self-discipline. That was common practice across the industry, he says, but it left gaps. There was less regular chemical testing, fewer industry-recognised certifications for chemicals, and limited external guidance on how to build a full chemical management system. Wastewater testing was narrower and focused largely on legal discharge permits. In China, Li explains, a factory permit may require around 20 parameters. ZDHC wastewater testing, by contrast, can cover more than 200.

"This is not one man or one team's work. We need to involve the full organisation."



Andy Li

Head of Environment and Compliance at COATS, China

At site level, Coats created a dedicated chemical officer role and built a chemical management system using ZDHC's Technical Industry Guide as reference. The company consolidated procedures, strengthened Safety Data Sheet (SDS) management, adapted policies and SOPs, and created chemical management committees that brought together procurement, production, engineering, environment, health, and safety teams. "This was not one man or one team's work," Li says. "We need to involve the full organisation."

Some global suppliers were ready for the conversation. Others had low conformance rates and needed engagement, communication, and time. Smaller local suppliers, especially those producing commodity chemicals, still face barriers, as certification is costly and their product range may be narrow. The solution, according to Li, came through the ripple effect: if the chemical supplier tests through an accredited lab and shares recognised certification, trust travels through the value chain. "It makes a lot more sense," he says. "This is a very good methodology to help our chemical suppliers build a connection, build trust and confidence with their customers."

Ten or 15 years ago, Li says, communication was mostly one-on-one: one customer, one concern, one restricted substance list, one corrective request. Today, ZDHC provides a platform for more consolidated conversations between brands, suppliers, chemical formulators, testing labs, and solution providers. The benefit, he says, is the ability to meet the highest standards, protect product quality, support customer confidence, and keep the business resilient.

Spotlight

China's textile and apparel industry

China remains the world's largest textile exporter and one of the most important manufacturing bases. In 2025, China's textile and apparel exports were reported at approximately €251.8 billion. (Grand View Research. Dye sublimation printing market size, share & trends analysis report, 2026.)

The National Bureau of Statistics listed 2.456 million employees in textiles and 1.981 million in garments and apparel in December 2025. (CEIC Data. China number of employee: Textile, 2026; CEIC Data. China number of employee: Garment & apparel, 2026.)

China's textile and apparel system spans fibre production, yarn, fabrics, dyeing, finishing, trims, components, garment assembly, footwear materials, technical textiles, and export logistics.

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A Race to the Top

Elevate Textiles brings together some of the oldest names in textile manufacturing, including American & Efird, Burlington, Cone Denim, Gütermann, and Safety Components. But while the company's roots are deeply American, its manufacturing and customer base are global. The challenge is clear: how do you apply the same environmental and chemical expectations across very different geographies?

For Jimmy Summers, joining ZDHC in late 2017 was a way to give the company's existing sustainability approach more structure, comparability, and industry weight. "What made us join ZDHC was not just the similarity in our approach to chemistry, but also that a lot of our customers were starting to require ZDHC's MRSL conformance," Summers says. "We saw that as a step forward in our water stewardship, too. It fit with what we were doing, where we were headed."

Another motivation came from maintaining Elevate's leadership in the industry. "We wanted to be at the table, to help shape the development of tools and strategies for implementation versus just reacting," he says. For Summers, that is both risk management and leadership. "We want to minimise the risk of having non-conformant restricted substances show up from our operations," he says. "But also, we believe very strongly that suppliers should not just react and wait for brands and others to decide. We should be an equal partner with our brand partners to chart the course forward."

As the company expanded beyond its US base in the early 2000s, it chose to install effluent treatment systems equivalent to those it would have used in the US and aligned with global standards, even when local law did not require them. "We knew the right thing to do," Summers says. "And that's not doing less than we would do in the US or in Europe. ZDHC was basically expressing what we already believed," he says, "although it put a lot of rigour and standardisation around what we were doing."

That standardisation has been one of the biggest benefits. Teams now have a shared reference point for meeting chemistry, MRSL, InCheck reports, wastewater performance, and facility-level progress requirements. "It gave us a common language when we're talking about chemistry, a common North Star for what we're doing as a company, and a way to measure each facility," Summers says. "It facilitated a race to the top for us."

Externally, it reduced duplication. Instead of managing multiple customer approaches to the same issue, Elevate could work around one widely recognised standard. Large global dye manufacturers understood the direction early, while some of the smaller auxiliary and in-country chemical producers were harder to bring along. Over time, however, many recognised that listing products in the ZDHC Gateway would turn out to be a business advantage.

> *"We wanted to be at the table, to help shape the development of tools and strategies for implementation versus just reacting"*



Jimmy Summers

Vice President of Environment, Health & Safety, and Chief Sustainability Officer at Elevate Textiles, the United States

Summers sees ZDHC as one of the mechanisms that has changed how the industry expands. In the past, apparel and textile production often moved into lower-cost geographies with lower environmental controls. Damage came first; cleanup came later. Standards, however, make it harder to repeat that pattern. "Without guardrails, without programs, without standards, it can turn into a race to the bottom," he says. "That's why we believe so strongly in ZDHC. It sets the structure for growing in a more accountable way."

Spotlight

The United States' textile and apparel industry

In 2025, the value of US textile and apparel shipments was approximately €52.28 billion. (National Council of Textile Organizations. U.S. textile industry demonstrates resilience amid global disruptions, secures major policy wins, 2026.)

The US textile supply chain employed 453,122 workers in 2025. The US government also estimates that one textile manufacturing job supports three additional jobs in the wider economy. (National Council of Textile Organizations. U.S. textile industry demonstrates resilience amid global disruptions, secures major policy wins, 2026.)

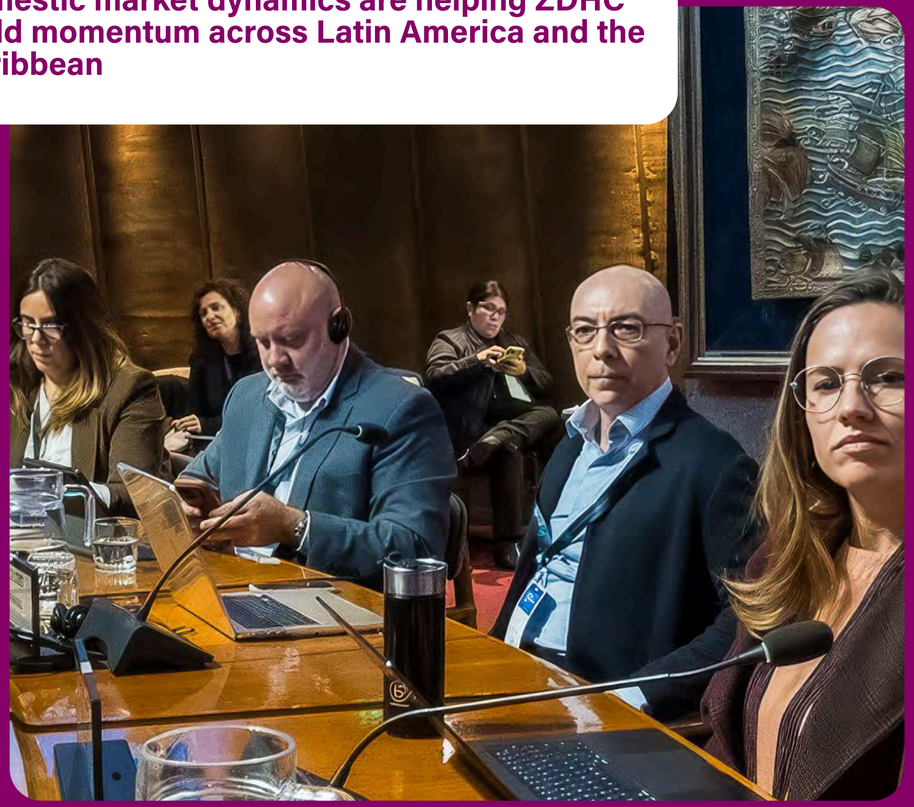
US exports of fibre, textiles, and apparel reached around €25.12 billion in 2025, while capital expenditures for textile and apparel production totaled approximately €5.12 billion in 2024. (National Council of Textile Organizations. U.S. textile industry demonstrates resilience amid global disruptions, secures major policy wins, 2026.)

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Brazil's Chemical Management Moment

Local representation, regional forums, and domestic market dynamics are helping ZDHC build momentum across Latin America and the Caribbean



For Marcelo Lobo, ZDHC's Regional Manager for Latin America and the Caribbean, work in the region has become more visible in 2025, moving towards "local representation that brings clarity of purpose" and "an ordered plan for the region, with effective participation in relevant forums." Brazil, for example, has been defined by many industry experts in textile manufacturing as one of the most dynamic regions in the global textile and footwear value chain. The country, according to Lobo, is no longer on the periphery of the global conversation but a central contributor to the global chemical management agenda.

Brazil's textile and apparel sector includes around 25,700 companies, employs more than 1.34 million workers, and generated €37.1 billion in revenue in 2024, according to Associação Brasileira da Indústria Têxtil e de Confecção (ABIT - Brazilian Textile and Apparel Industry Association, in English). Its footwear sector is one of the largest outside Asia, with the Brazilian Footwear Industries Association projecting around 904 million pairs produced in 2025.

Considering this development, ZDHC has reinforced the organisation's footprint in Brazil over recent years, establishing partnerships in a very particular textile market. Unlike many export-led production hubs, Brazil does not function only as a supplier base responding to overseas brand requirements but is strongly anchored in domestic demand: more than 85% of national footwear industry sales are absorbed by the local market. "Brazil's textile, footwear, and leather goods sectors are often mistaken for low-cost, export-oriented industries," Lobo says. "In reality, they are mainly focused on Brazil's enormous domestic market, highly regionalised and with different clusters specialising in textiles, footwear, leather, fashion, or technical production." Lobo points to a country composed of several industrial ecosystems: in the South, Santa Catarina has a strong capacity in knitwear and technical textiles, while Rio Grande do Sul is known for footwear, leather processing, and design. Ceará and other parts of the northeast concentrate more labour-intensive footwear and apparel manufacturing. São Paulo brings together fashion, branding, high-value apparel, logistics, chemicals, and machinery. Each of these places has different labour profiles, technology levels, environmental risks, supply-chain maturity, and export exposure. A single implementation narrative rarely works. "Overall, these sectors are diverse, domestically anchored, socially complex, and in transition towards stricter global expectations on sustainability and compliance," Lobo says.

Lobo describes Brazil's chemical management landscape as fragmented, with diverse compliance requirements from various sources, often expressed through proprietary guidelines or certification schemes. "It is exhausting for the industry to meet all these requirements," he says. He describes Brazil and the Americas as "a tremendous pilot" for ZDHC because the region pushes the programme to connect technical implementation with business reality. "The question is: what advantage does Maria get?" he says, using a Brazilian expression for the practical business case. "In the end, that is what everyone is interested in."

For him, the local language supports the adoption. In English, the discussion can become formal and technical. In Brazilian Portuguese or Spanish, ZDHC can explain more directly why safer chemical management matters for the business. "Local representation brings clarity of purpose," Lobo says. "It is essential for day-to-day work and for democratising knowledge across all levels of the industry. There are many gaps in both knowledge and infrastructure, within the same country and from one country to another," Lobo says. "Deepening implementation begins with understanding needs, practical purposes, and the results that can be achieved."

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With local support, technical teams, EHS managers, purchasing departments, formulators, facility leadership, and associations can begin to work from the same baseline. "Today, with artificial intelligence and the evolution of digital technology, there is no justification for not making information and guidelines available at least in local languages," Lobo says. "Technical capacity is not a barrier, as long as language is not a barrier," Lobo says. "All companies are looking for reliable, validated data to support ESG goals, regardless of country, company type, or size."

In December 2025, for example, HANIER, a Brazilian chemical formulator with more than 30 years in the textile market and operations across North, Central, and South America, joined the ZDHC Signatory Community as a Signatory Chemical Formulator. "Chemical suppliers see ZDHC as the simplest and most democratic way to demonstrate chemical product conformity," Lobo says. Having improved their technical capacity by joining ZDHC, these suppliers become promoters of the programme. Regional events, roadshows, and sector meetings also help turn awareness into action by addressing local needs directly. "These platforms for exchange allow us to show the [ZDHC] programme's capacity to solve common issues through tools and shared knowledge in the format of a global community."

In 2025, Brazil was a key regional focus for ZDHC activity. Events included roadshows with Société Générale de Surveillance (SGS) and Intertek, participation at Febratex Summit, and the ZDHC Brazil / Latin America & Caribbean Regional Conference. "Progress in Brazil is about awareness and knowledge of the gaps that need to be mitigated," Lobo says. "At the end of the day, everything is business. Consistency in the commercial relationship and investment in the development of the supply network are basic prerequisites."



Marcelo Lobo

Regional Manager for Latin America and the Caribbean

ZDHC Foundation



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Understanding ZDHC's Impact Model

ZDHC

ZDHC exists to advance sustainable chemical management across global supply chains and drive measurable improvements for people and nature.

SCM Framework

Built on the MRSL, the Sustainable Chemical Management Framework sits at the core of ZDHC's vision, providing a science-based framework for sustainable chemical management.

Roadmap to Zero Programme

This framework (SCMF) is translated into the Roadmap to Zero Programme for the textile, apparel, leather, and footwear industries, providing tailored implementation pathways for brands, suppliers and chemical formulators.

Engagement Models

Stakeholders engage with the ecosystem in different ways depending on their maturity and level of commitment, ranging from the transactional use of individual tools to full programme participation and collaboration.

Tools and Solutions

Digital tools and solutions support implementation, verification, and the demonstration of progress.

ZDHC Platforms

Platforms like the ZDHC Gateway provide the infrastructure that connects data, evidence and claims across the ecosystem.

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It Takes Education and Knowledge Sharing

2693

ZDHC Academy Certificates issued

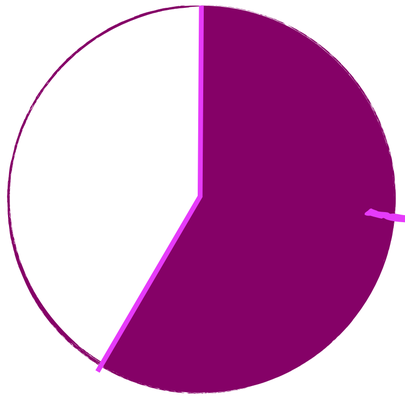
280

Trainings conducted in 2025 by the Approved Training Providers (ATP)

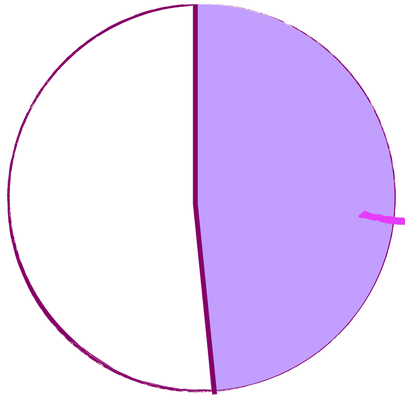
31

ATPs approved for training by the end of 2025

It Takes Industry-wide Participation in Regional Events



61% of Signatory Brands participated



47.5% of Approved Solution Providers participated

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Regions and Events Summary 2025

Total Numbers

Total number of events
263
236 ZDHC-hosted or co-hosted
27 stakeholder-hosted

Total number of attendees
21000+

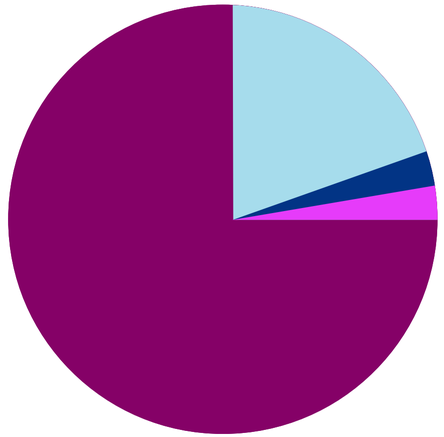
Types of Events

Total number of events
1901

In-Person
44

Hybrid
16

Regional Distribution of Events



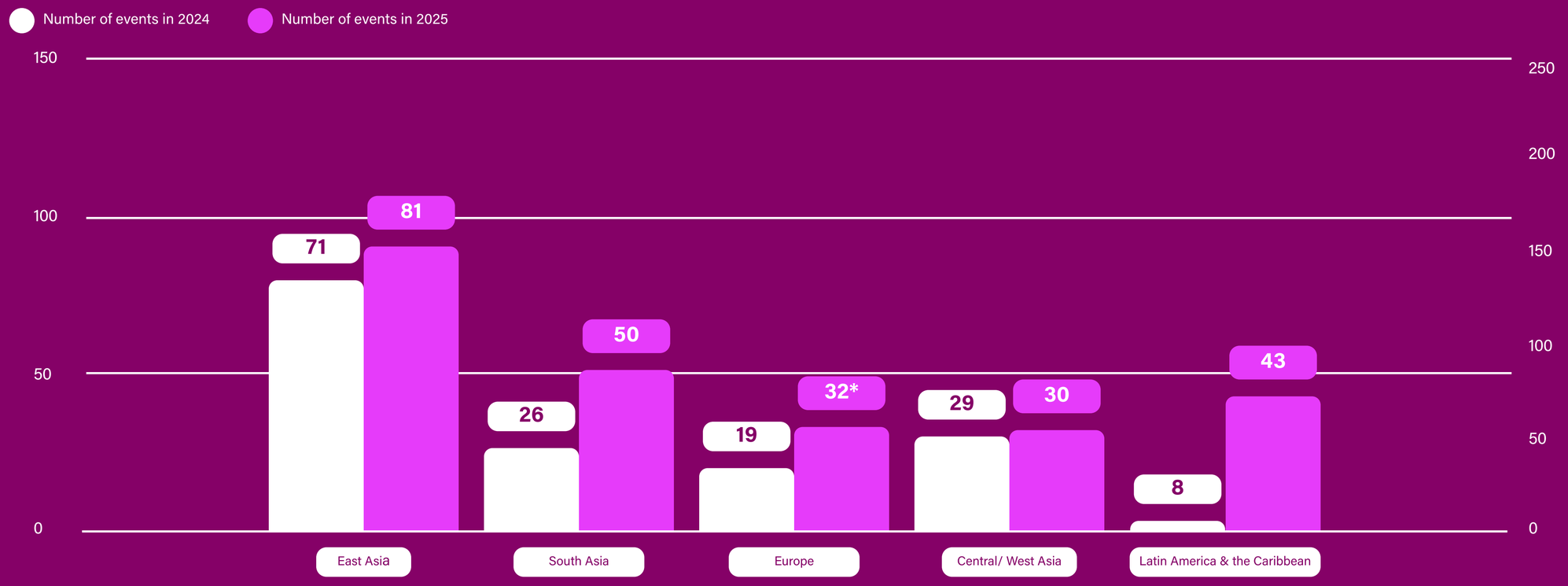
- **75** Approved Solution Providers
- **39** Signatory Brands / Friends of ZDHC
- **3** Signatory Chemical Formulators
- **3** Signatory Suppliers

5 ZDHC Regions

16 Languages

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Number of Regional Events 2024 vs. 2025

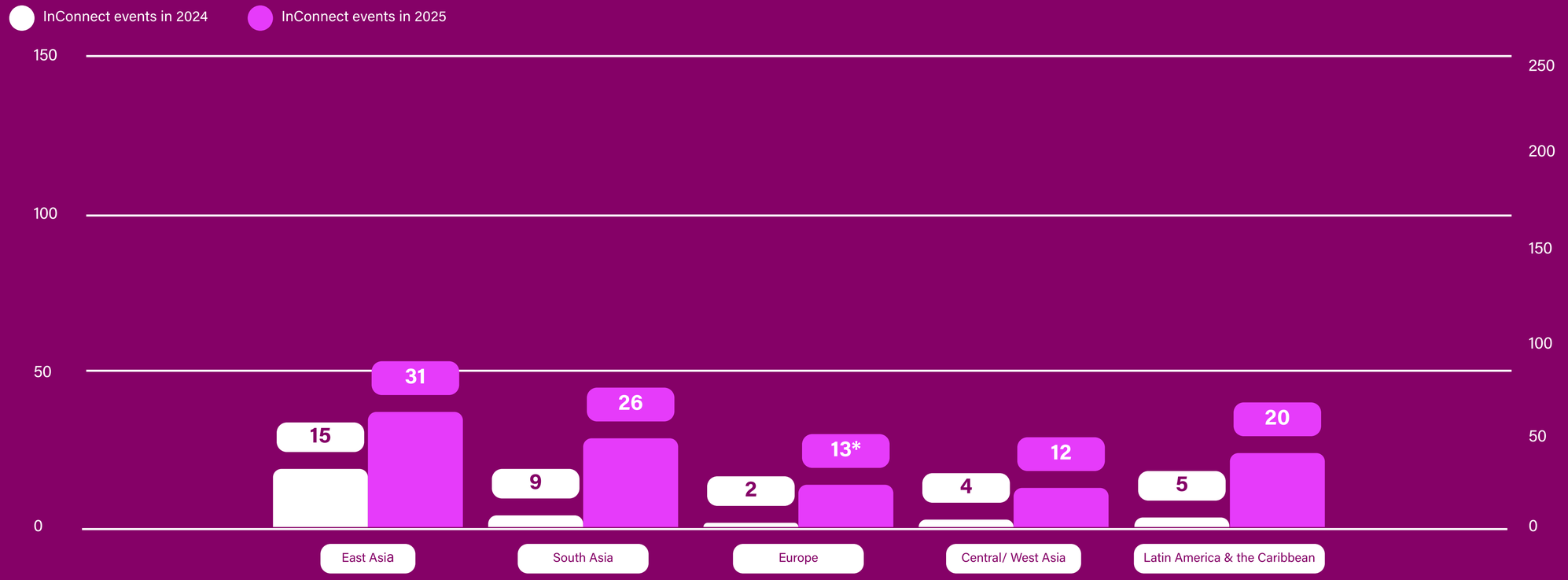


* 2 Events took place in Africa

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Number of ZDHC InConnect Events

ZDHC InConnect is a series of dedicated sessions (often invite-only) that bring together ZDHC Signatory Brands and Friends of ZDHC to communicate their chemical management goals and implementation requirements to their supply chain partners.



* 2 Events took place in Africa

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Pillar II

Transformation Impact

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Impact Story

A Joint Effort for More Sustainable Textile Manufacturing in South Africa

How ZDHC teamed up with governmental and corporate partners to innovate the industry's chemicals management



In South Africa, sustainable chemical management is gaining importance, thanks to the Clothing & Textiles Circular Economy Project. The project activities in the country are part of a wider Southern Africa initiative covering South Africa, Lesotho, Madagascar, and Ethiopia, funded by the Global Environment Facility (GEF) and implemented nationally by the National Cleaner Production Centre South Africa (NCPC-SA) in partnership with the United Nations Industrial Development Organization (UNIDO).

The project responds to a set of shared challenges across the region: weak enabling environments, limited technical knowledge and capacity, and insufficient coordination between local and global sustainability initiatives. UNIDO works with governments and industry to support inclusive and sustainable industrial development. In the Clothing & Textiles Circular Economy Project, it supports the broader regional framework linking circular economy, chemicals, and waste management, and its implementation across the textile and garment sector. In South Africa, these challenges are both commercial and operational, as manufacturers work to improve environmental performance while competing in a challenging market.

For ZDHC, the project opened a door into a region where sustainable chemical management was still unfamiliar to many stakeholders. "A lot of people didn't know about ZDHC, or had limited knowledge about sustainable chemical management," says Claudia Haverman, Projects & Partnerships Manager at ZDHC. "Now people really start to see the importance of managing chemicals."

From theory to factory implementation

In South Africa, the project focused on translating sustainable chemical management from guidance and training into facility-level practice. Six beneficiary facilities participated in training and implementation activities, while a 12-member local task force was established to support future industry engagement, technical implementation, and the wider uptake of sustainable chemical management practices across South Africa's textile sector.

The Durban and Cape Town sessions brought together factory representatives, consultants, and local stakeholders to strengthen understanding of chemical management systems and wastewater practices. ZDHC Chemical Management System Technical Industry Guide (CMS TIG) training, wastewater management training, online chemistry sessions, and Train-of-Trainer programmes were implemented too.

"We were not simply delivering slides. We were sharing real-life experience," one trainer says. "We had the training in the classroom. After that, we went to the factories. We learned from the factories."

Participants could assess wastewater systems, review chemical inventories, and observe industrial processes firsthand, enabling local actors to implement and adapt solutions independently. Following the initial training phases, technical teams conducted factory visits to support the development of Chemical Inventory Lists (CILs), assess chemical management systems, and strengthen conformance with ZDHC's Manufacturing Restricted Substances List (MRSL) requirements. "The main focus here was on input management and very much about chemical inventories," Haverman says, "how to create a chemical inventory and why that is important."

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Beneficiary facilities in eManzimtoti, project specialists worked alongside factory teams to review dyeing processes and identify opportunities to reduce chemical discharge into wastewater systems. "The first thing was to get rid of harmful chemicals that we are currently using in the plant itself," says one of the directors. "We went through the whole list of chemicals and dyestuffs to make sure that the chemicals conform to the requirements."

The project also introduced the company to lower-temperature bleaching systems that reduce steam consumption and operational costs. "Anything that can run at a lower temperature is major for us, because it saves steam, which is currently a major driver of expenditure," says one of the directors.

At the same time, beneficiary facilities used the project's technical support to strengthen ongoing work around wastewater recovery systems. Another director says: "We're implementing a water recovery plant, and the work with the project team assisted us in validating that the design is correct."

"It does no harm first, as opposed to trying to fix the harm. That really appeals to me about the program."

The economic challenge

In South Africa, many textile manufacturers are operating with extremely narrow profit margins, unstable production volumes, and ageing infrastructure. Several companies involved in the programme were facing restructuring processes, downsizing measures, or reduced operational capacity while simultaneously trying to invest in sustainability improvements.

For many factory representatives, the challenge was finding the financial and technical capacity to implement change while remaining commercially viable. "The profitability levels, if you're lucky, are 2% of turnover in South Africa," one participant says. Factories also face pressure from competitors operating under lower environmental standards. "At the end of the day, it's the buyers who compress, not on sustainability, not on zero discharge. Very often they're only looking at cost."

The importance of continuity

While participants strongly valued the training sessions, factory visits, and technical support delivered through the project, many also questioned how collaboration would continue after the initial implementation phase. Sustainable chemical management cannot be treated as a one-time intervention: stronger local coordination mechanisms are needed to sustain engagement among factories, technical experts, retailers, and institutions after formal project activities conclude.

"Our aim is that South Africa can be standing self-reliant with their own team of expert members who can deliver value to the entire community," one participant says. "You hope to have these projects start things up," Haverman says, "and that in the end, they start a new cycle that doesn't rely on only funded projects."

At the same time, the project demonstrated that strong local ownership is already emerging. The local certified task force is among the project's most important long-term achievements, because it builds the expertise needed to continue implementation independently.

The environmental transition of South Africa's textile sector remains far from complete, but the project has demonstrated that long-term change is possible. As one participant put it, "everyone has a story to tell, and they all have a very important message."



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Beyond Fashion: One Framework, Different Sectors

The Inter IKEA Group's entry into the ZDHC Signatory Community marks a new chapter for chemical management



While many people associate the IKEA business with a white pressboard bookshelf, the Swedish retailer has substantially expanded its merchandise range since BILLY was developed in 1979. As a result of their expansion, the IKEA business operates across many manufacturing processes, supplier types, geographies, and materials, including wood, metals, foams, and textiles.

In November 2025, The Inter IKEA Group joined ZDHC as a Signatory Brand, becoming the first brand from outside the fashion and textile industry to do so. The achievement marks a transitional moment for ZDHC, expanding the chemical management support across other water- and chemical-intensive sectors.

Before joining ZDHC, the IKEA business already had an established supplier engagement system in place, making its adoption of the Roadmap to Zero Programme a case of alignment rather than replacement. Since 2000, supplier expectations have been managed through IWAY, the code of conduct and framework for the responsible procurement of products, services, materials and components. IWAY sets requirements for environmental, social and working conditions, as well as animal welfare across supply chains, and is mandatory for suppliers and service providers.

In textiles, IWAY has been used alongside chemical specifications to support chemical safety with customers in mind. Joining ZDHC does not replace these systems. "We have learned that it is about building on existing systems rather than replacing them," says Aurora Bossi, Global Water & Biodiversity Sustainability Leader at Inter IKEA Group. "The ZDHC set of tools and guidelines complements and strengthens IWAY and the chemical specifications already in place."

From the early 2000s, Inter IKEA Group worked with textile mills to install effluent treatment plants, even where this was not required by local law. Over time, the work expanded from controlling restricted substances and pollution to improving water efficiency and reducing dependence on freshwater.

"As a brand operating in a diverse array of industrial sectors, we aim to learn from our journey in textiles and transfer knowledge, tools and methods to other chemical- and water-intensive sectors where applicable in the future."



Aurora Bossi

Global Water & Biodiversity Sustainability Leader at Inter IKEA Group

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In the most water-intensive operations, the business continues to engage suppliers on zero liquid discharge systems and circular water set-ups, depending on local water risks and business conditions. To date, 30 manufacturing units in the textile business have invested in advanced filtering technologies and/or zero liquid discharge systems designed to avoid liquid discharge and recycle water back into production.

Joining the Roadmap to Zero Programme accelerates work already underway. Many key partners are vertically integrated, and a significant number of suppliers are already aligned with ZDHC practices. However, capability gaps remain, especially further upstream, where the distance from the IKEA brand increases.

"We acknowledge the need for a systemic mindset shift to transition from a compliance focus to proactive chemical management and nature impact measurement and management," says Aurora Bossi, Global Water & Biodiversity Sustainability Leader at Inter IKEA Group. "As a brand operating in a diverse array of industrial sectors, we aim to learn from our journey in textiles and transfer knowledge, tools and methods to other chemical- and water-intensive sectors where applicable in the future."

Inter IKEA Group is at the beginning of its ZDHC Roadmap to Zero implementation. The first focus remains textiles, where water and chemical intensity are highest. The longer-term opportunity is to work with ZDHC to enable knowledge transfer across other chemical- and water-intensive industries, making existing ZDHC guidelines, tools and solutions relevant beyond textiles and validating them through the supply chain.

For sectors facing similar chemical and water challenges, this experience shows that chemical management becomes more scalable when businesses can rely on methods designed for industry-wide use and broader application.

"IKEA joining ZDHC signals that the Roadmap to Zero Programme is entering a new phase. Wherever companies depend on complex supplier networks, chemical inputs, and water-intensive production, there is a need for shared standards and practical tools - even if the company does not primarily identify as a textile or footwear company. IKEA is demonstrating what that next chapter will look like"



Klaas Nuttbohm

Sector Lead Brands
ZDHC Foundation

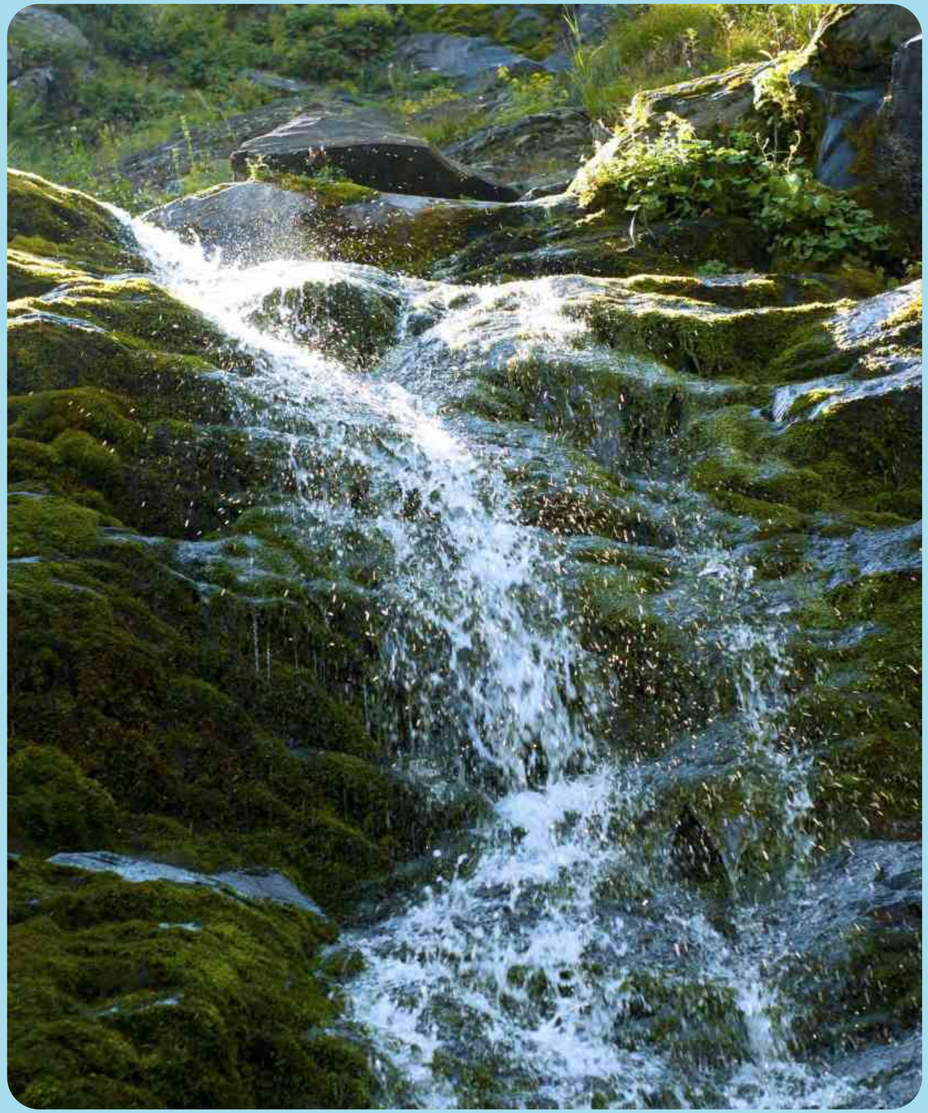
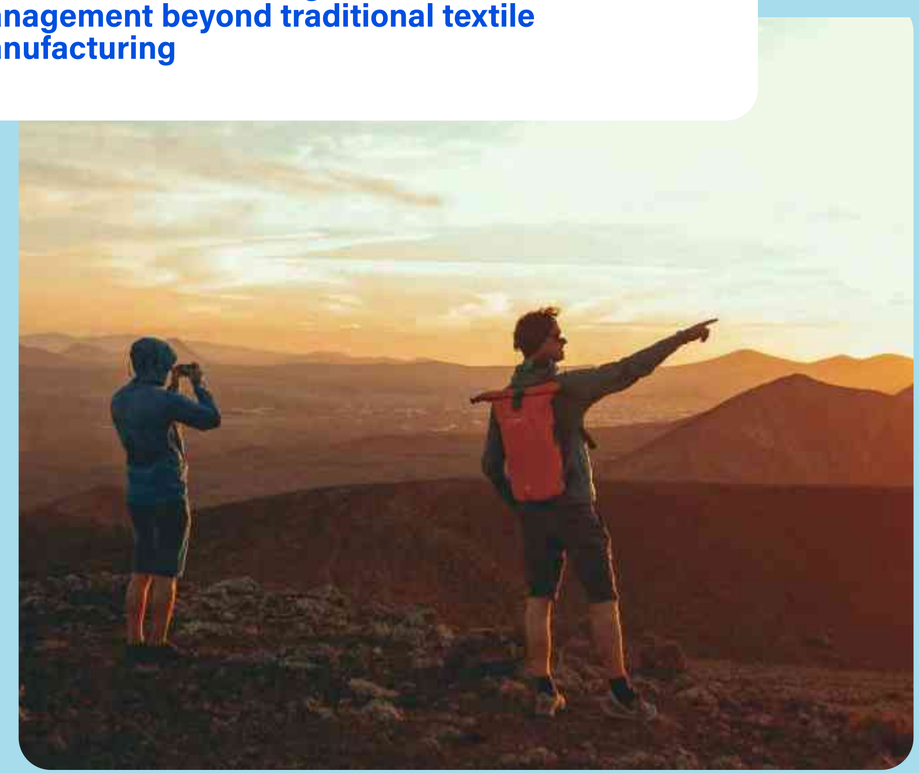


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Decathlon: Systemic Change at the Source

How Decathlon is taking ZDHC chemical management beyond traditional textile manufacturing



French sporting goods retailer and manufacturer Decathlon designs products for more than 80 sports. With footwear, bicycles, kayaks, fitness equipment, and other products made from leather, plastics, rubber, foams, metals, and textiles, its supply chain is complex as well as diverse. Since becoming a ZDHC Signatory in January 2022, Roadmap to Zero Programme has been part of Decathlon's global quality and sustainability framework, implemented across this multifaceted manufacturing context.

Here, Maxence Dubus, Project Leader for Decathlon's ZDHC Project Team, and Devika Perera, Project Leader for its Environmental Compliance Team, explain how a framework developed within the textile industry is applied to hardware, sports equipment, and multi-material manufacturing.

How do you apply a textile-originated framework to suppliers making hardware and other sports equipment?

[Devika Perera] The starting point is recognising that different industries have different levels of maturity. Textile dyehouses are generally familiar with restricted substances, wastewater requirements, and chemical inventories. A factory working with plastics, rubber, foam, or metal may need more foundational education and greater adaptation of the guidance.

Our chemical safety, quality, sustainability, and environmental compliance teams therefore work with suppliers as coaches, rather than relying only on audits. We use training, local technical expertise, supplier data, and corrective action plans to help facilities establish procurement controls, assess chemical risks, and manage their inventories.

The objective is to give suppliers greater autonomy. Instead of waiting for Decathlon to identify every problem, facilities should be able to question their chemical formulators, reject hazardous inputs, and manage their own chemical footprint.

Where has this approach resulted in concrete changes beyond conventional apparel?

[Devika Perera] One example is our work with polyurethane coating and lamination facilities in manufacturing regions including China, India, and Vietnam. These processes are used across footwear, bags, balls, heavy-duty tents, technical clothing, and other sports products, and have historically relied on hazardous solvent mixtures.

Through our collaboration with ZDHC, we have drawn on technical knowledge, supplier education, examples from leading factories, and the experience of other brands to support the substitution of substances such as DMFa and toluene and promote safer coating systems, including water-based and solvent-free alternatives.

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The relevance beyond textiles can be seen particularly clearly in inflatable sports equipment. Decathlon has phased out toluene from the glues used to manufacture its inflatable kayaks and paddleboards. It shows how a chemical management approach developed within textiles can inform decisions in a very different product category.

What are the main barriers to extending this approach?

[Devika Perera] Transparency becomes harder deeper in the supply chain, particularly when companies depend on raw-material suppliers and commodity chemical formulators.

Different manufacturing sectors also begin from different levels of chemical-management maturity. Textile facilities are generally more accustomed to restricted-substance requirements, while suppliers working with metals, plastics, rubber, or other hardware materials may require more foundational education and adaptation.

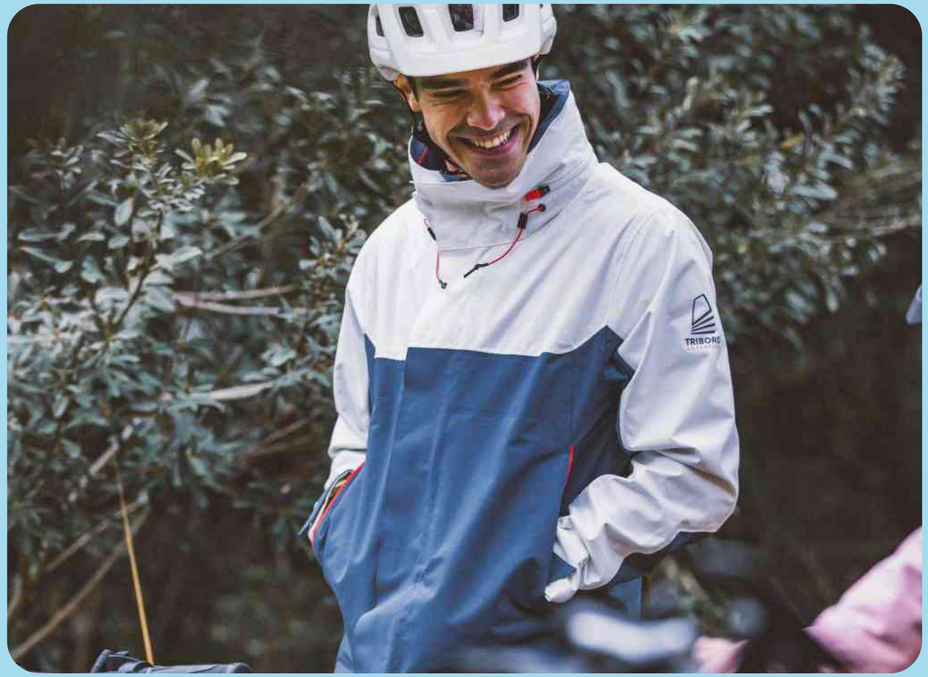
There are technical and commercial barriers as well. In specialised sports equipment, a chemical cannot always be replaced without extensive research into performance, durability, safety, and affordability. Developing an alternative that meets all these requirements can require significant investment and lead time.

What can other industries learn from Decathlon's experience?

[Maxence Dubus] The first lesson is to act at the source. Testing only the finished product is reactive, expensive, and potentially wasteful. Managing the substances entering a factory provides a stronger basis for preventing pollution and protecting workers, communities, and customers.

The second is that no company can change the chemical market alone. Shared frameworks allow brands to send a clearer, collective demand signal to chemical manufacturers.

Finally, companies need to invest in supplier independence. Supply-chain resilience cannot be managed through an endless cycle of external audits. Suppliers need the knowledge, systems, and digital tools to manage chemical risks themselves. As we often say: when our suppliers win, we win.





Devika Perera

Project Manager Sustainable Development

Decathlon



Maxence Dubus

Chemical Safety Manager

Decathlon

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Growth in Registration, Deeper Engagement

The 2025 figures for 'Supplier Registration and Platform Engagement' underscore the ongoing digitalisation and scaling of the ZDHC ecosystem. This dual upward trend reflects a broader industry commitment to digitalising supply chain compliance, ensuring that a growing network of suppliers has the tools necessary to manage chemical data efficiently and transparently.

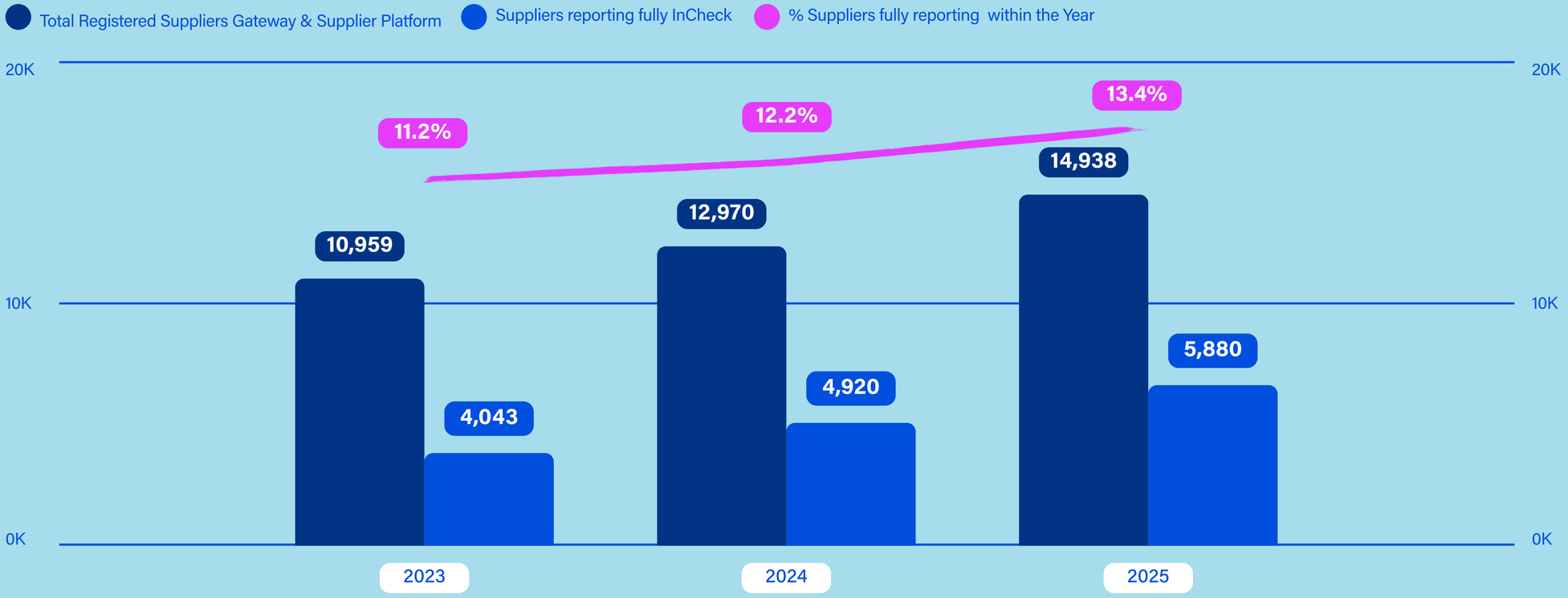


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The Resilience Behind the Risk

Can supply chains keep operating under pressure?

The hygiene factor: that's how Stefan Seidel, Senior Director Climate & Environmental Impact at ZDHC, describes wasterwater management. It might not have the same visibility as carbon emissions, social compliance, or labour risk, but like many hygiene factors, the importance of sustainable chemical management becomes obvious when it fails. With healthy, abundant, and well-managed water systems, the risk may remain invisible. Water scarcity or pollution makes the risk obvious.

Seidel points to Tiruppur, India, as the extreme example. In 2011, the Madras High Court ordered the closure of more than 700 bleaching and dyeing units and effluent treatment plants after years of concern over pollution in the Noyyal River. The units were allowed to reopen only after achieving zero liquid discharge; environmental compliance became a direct condition for doing business. Later accounts of Tiruppur's transformation suggest the shutdown affected tens of thousands of workers and created a major financial loss for the region.

More than a decade later, the reality in Tiruppur is completely different: the Economic Times reported in 2025 that the cluster recycles around 130 million litres of water daily, with treatment systems recovering 92 percent of pure water for reuse in processing.

As regulations tighten and pressure on freshwater systems grows, companies that are able to show how they manage chemistry and wastewater are significantly less exposed than those that lack adequate regimes for disclosure. As scrutiny increases, chemical management systems have become a precondition to continue operating.

However, Seidel makes a point of not painting all regions with the same brush. Not every district or city should mechanically copy Tiruppur: zero liquid discharge is capital-intensive and context-specific. The point is that water pollution can become a business interruption risk

Recent cases show the issue has not disappeared. In 2025, India's Central Pollution Control Board reported to the National Green Tribunal that 32 bleaching units in Panipat were operating without required consents or effluent treatment systems, allegedly discharging wastewater containing acids and chlorinated compounds into drains flowing towards the Yamuna. All 32 units were recommended for closure. In 2026, activists in Maharashtra alleged that around 100 illegal jeans-dyeing units were operating in rural areas around Kalyan, Ambernath, and Badlapur, discharging untreated chemical waste into rivers, drains, and soil pits, following the earlier shutdown of similar units in Ulhasnagar.

These examples differ in scale and context, but they point to the same structural issue. If the shared water resource is degraded, the business model becomes more fragile..

ZDHC's input chemistry and wastewater programmes provide an industry-aligned toolbox to help facilities reduce chemical risk at source, strengthen wastewater performance, and avoid failures that can ultimately threaten their licence to operate. The system is still evolving, but over time, rising MRSL and wastewater conformance levels help reduce risk and strengthen resilience across the supply chain.

Resilience starts before the incident

For Francesca Rulli, Co-Founder at Ympact, resilience begins with visibility. Ympact works with fashion companies on traceability, risks and impact measurement, and sustainability performance across the value chain, including chemical management approaches aligned with ZDHC methodology through the 4sustainability CHEM framework.

Rulli's starting point is practical: a brand cannot manage chemical risk if it does not know where production takes place, which suppliers are involved, which processes are used, and what data are available. "When a brand starts to map its risks and collect data to reduce impacts, it starts mapping its supply chain," she says. From there, suppliers can be engaged for traceability, process management, chemical inventory analysis wastewater analysis, raw material control plans, and sub-supplier involvement.



Zero Liquid Discharge facility at an Arvind (ZDHC signatory) textile plant in India

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Rulli sees three outcomes for brands: better knowledge of the supply chain to choose the best partners, clearer definition of risk exposure, and a measurable environmental and social impact reduction. For suppliers, the same system can support resilience by helping them control costs, improve efficiency, manage risk exposure, and stay aligned with market and regulatory expectations, even as regulation evolves.

But for Rulli, the framework must be enabled by traceability. "Without traceable data, implementation is not possible," she says. Industrial data management and traceability, in her view, has three main dimensions: mapping the suppliers and tiers involved in production, tracing the production phases connected to the final product, and gathering data along production processes to evaluate risks and impact and create reduction plans. "Without data, we cannot measure," Rulli says. "Without measuring, we cannot reduce the impact. The ZDHC approach is fundamental because it harmonises the measuring framework and gives the opportunity to evaluate chemical impact reduction by implementing at scale."

Suppliers cannot carry resilience alone

Sustainable chemical management requires investment. But if a brand asks a supplier to invest in better practices and then shifts production to a cheaper supplier, the system weakens. The supplier that did the transition to a more sustainable chemical management invests for the future. If this results in the less responsible competitor winning the order, the market sends the wrong signal.

Rulli is quite outspoken about the imbalance. "When only the price wins, the transition to a more sustainable practice is not possible," she says. Rulli argues that brands need to offer differentiated treatment to responsible suppliers, providing stability, continuity, shared planning, and predictable demand.

She also sees chemical management as a pre-competitive issue. A brand cannot ask for safer chemistry credibly while maintaining a sourcing model that undermines the suppliers making those investments. Chemical management becomes more durable when it is embedded into purchasing behaviour, not treated as a separate compliance layer. The safer the common baseline becomes, the less room there is for irresponsible production to compete on weaker standards.

"The investments suppliers make in safer chemistry and traceability need to be visible, credible, and comparable to create lasting value. By providing independent verification, harmonised assessments, and trusted data, ZDHC Approved Solution Providers enable brands to distinguish genuine performance from claims, creating the confidence needed to support long-term, resilient supplier relationships."



Elisa Gavazza

Sector Lead Solution Providers
ZDHC Foundation

Trust as part of resilience

The final layer is trust. Credibility depends on who is making the claim, what evidence supports it, and whether the framework is recognised beyond one company.

If an individual brand creates its own MRSL and promotes it publicly, the claim may be read as marketing. "But if you have an organisation the size of ZDHC," Seidel says, "with the transparency of the tools and MRSL in the market and having both NGOs and academia support, we can ensure that the claims are not perceived as a greenwashing exercise."

ZDHC participation does not mean chemical risk has disappeared. Its value is more precise: it shows that a company is working within a recognised, multi-stakeholder framework, using shared tools and common expectations to manage chemical risk more systematically. The claim becomes stronger because it is connected to recognised practice, not only to a company's own statement about itself.

A company may not experience forced closures, water scarcity, or public scrutiny every day, but resilience is built before the risk happens. Can suppliers keep improving under commercial pressure? Can brands support the investments they require? Can wastewater performance be understood before regulators intervene? Can claims be trusted by customers, investors, civil society, and communities?

The answer depends on shared standards, traceability, supplier stability, and credible evidence.



Stefan Seidel

Senior Director Climate & Environmental Impact
ZDHC Foundation



Francesca Rulli

Co-Founder Ympact and 4sustainability

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Certificates Issued — Suppliers to Zero

After a slight consolidation in 2024, the number of Level 1 certificates surged to 2,339 in 2025. Even more notable is the continued growth in Level 2 certification, which reached 329 in 2025, a substantial increase from 235 in 2024 and more than doubling the 126 certificates recorded in 2023. This robust growth indicates that suppliers are not only entering the programme at higher rates but are also successfully advancing to higher levels of chemical management, reflecting a deeper, more sustainable commitment to the Suppliers to Zero framework.

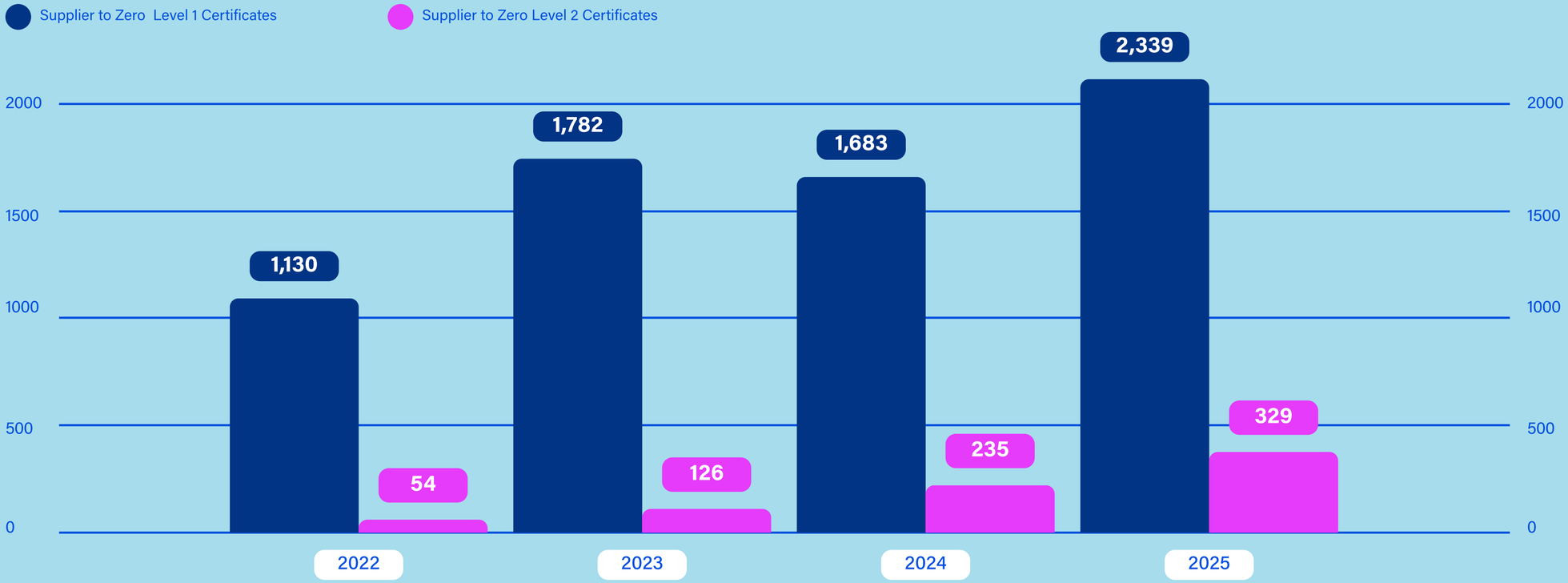


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Registered Formulators and Published Products

The 2025 data for Registered Formulators and Published Products underscores a clear trend of accelerating industry transparency and engagement. The total number of registered formulators grew to 3,712, continuing the steady upward trajectory from previous years. Critically, the rate of publication - the percentage of formulators actively publishing their product data - has also risen consistently, reaching 61.20% in 2025.

This positive trajectory highlights not only a growing ecosystem of registered formulators but also a deepening commitment to transparency, which is essential for robust chemical management and informed decision-making across the global supply chain.

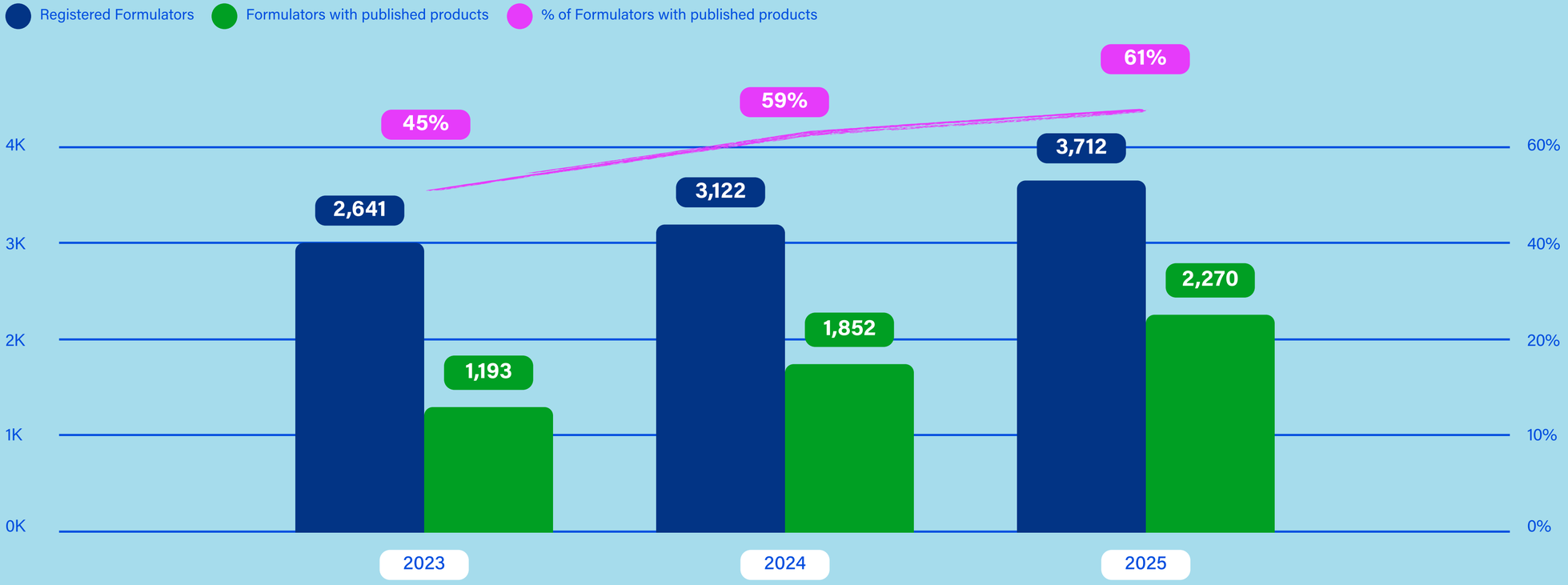
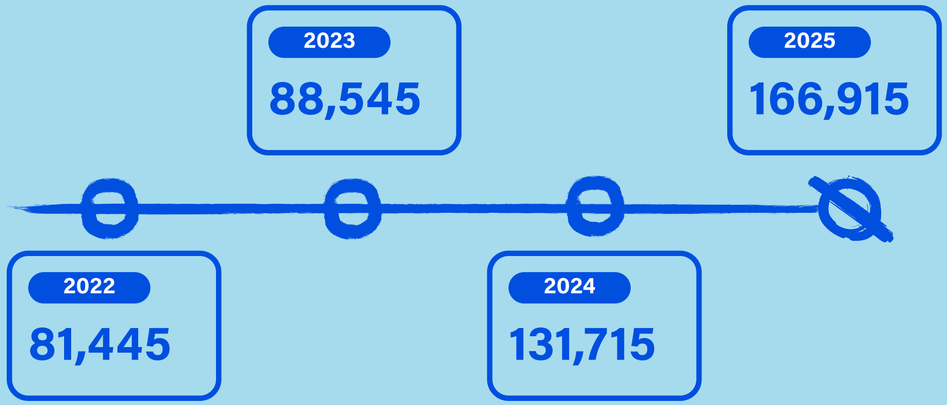


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Number of Published Products

Before a single supplier can switch to safer chemistry, that chemistry has to exist, be findable, and be trusted. That is what the ZDHC Gateway delivers, and the 2025 numbers show the supply side moving at the speed the 2030 goal needs.



A **+27% year-on-year i**ncrease, and +105% since 2022 show a structural shift. Chemical formulators are no longer treating ZDHC conformance as an export market nicety. **With 3,712 registered formulators** in 2025, **61.2%** of them now actively publishing, it is becoming the way they design and document their core catalogues.

For a facility manager in Bangladesh, Türkiye, Vietnam, or Brazil who wants to switch to safer inputs, they now have nearly **167,000** options across detergents, dyes, auxiliaries, finishes, and the full chemistry of wet processing. **"I couldn't find a compliant alternative" is becoming much harder to defend.**

If this trajectory holds, the main barrier to the 2030 goal will no longer be the availability of safer chemistry. It will be uptake: whether those alternatives are selected by procurement teams, approved by brands, tested on production lines, trusted by facility managers, and used consistently in everyday manufacturing.

Participation, implementation and conformance show that the conditions for progress are being built. They are not environmental outcomes in themselves. ZDHC is contributing to the development of science-based approaches that connect sustainable chemical management practices with broader environmental outcomes.

In natural capital terms, ZDHC has built the infrastructure to enable the industry stop drawing down its chemical natural capital account. The next four years are about making sure the industry actually uses that infrastructure, at the volumes and consistency that nature, communities and balance sheets all require.

That sharpens the operational priorities for 2026–2030 to four:

- **Deepen Leader Programme adoption. Each Supplier to Zero Level 2 facility is, on average, a meaningful conformance gain. Scaling Supplier to Zero and launching Formulators to Zero are key parts of the near-term progress**
- **Expand into domestic markets and adjacent sectors. The 70% industry target is global by definition. Brazil, Türkiye, India, and China's domestic markets, plus adjacent sectors such as workwear and upholstery and furniture textile are where the threshold will be set.**
- **Strengthen data and assurance. A credible 2030 number requires credible 2030 data. That means tighter InCheck reporting coverage, broader ClearStream wastewater coverage, and continued alignment with the Quantis blueprint so that conformance translates into CSRD-, CSDDD-, and TNFD-aligned disclosures.**
- **Translate chemistry into financial language. MRSL conformance is increasingly seen by investors, insurers, and regulators as a nature-related risk signal. The clearer the translation, the faster the conformance gap will close, because the business case will move in lockstep with the environmental one.**

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MRSL Conformance

"The ZDHC MRSL is the global definitive standard for safer input chemical management. ZDHC InCheck successfully translates this standard into measurable supply chain reporting to track tangible progress. The steady increase in average MRSL conformance over the past six years clearly demonstrates the success of the ZDHC Programme's paradigm shift toward responsible input chemical management by the textile and leather industry"



Prasad Pant

Chief Technical & Education Officer ZDHC Foundation

Calculation method

To ensure accurate monthly tracking, only the final Performance InCheck Report submitted by a supplier during any given month is considered. Any prior reports uploaded within that same month are excluded from the analysis. Calculations rely strictly on the total number of individual products recorded in the InCheck. Duplicate entries do not alter this baseline, and the physical weight of delivery or consumption is completely disregarded, even if specified as 0 (zero) kg.

All eligible reports across the full supplier network are aggregated equally, utilising just the final report per supplier each month. Consequently, whether a supplier submits a single report or twelve throughout the year, each provided report carries identical weight in determining the final average performance.

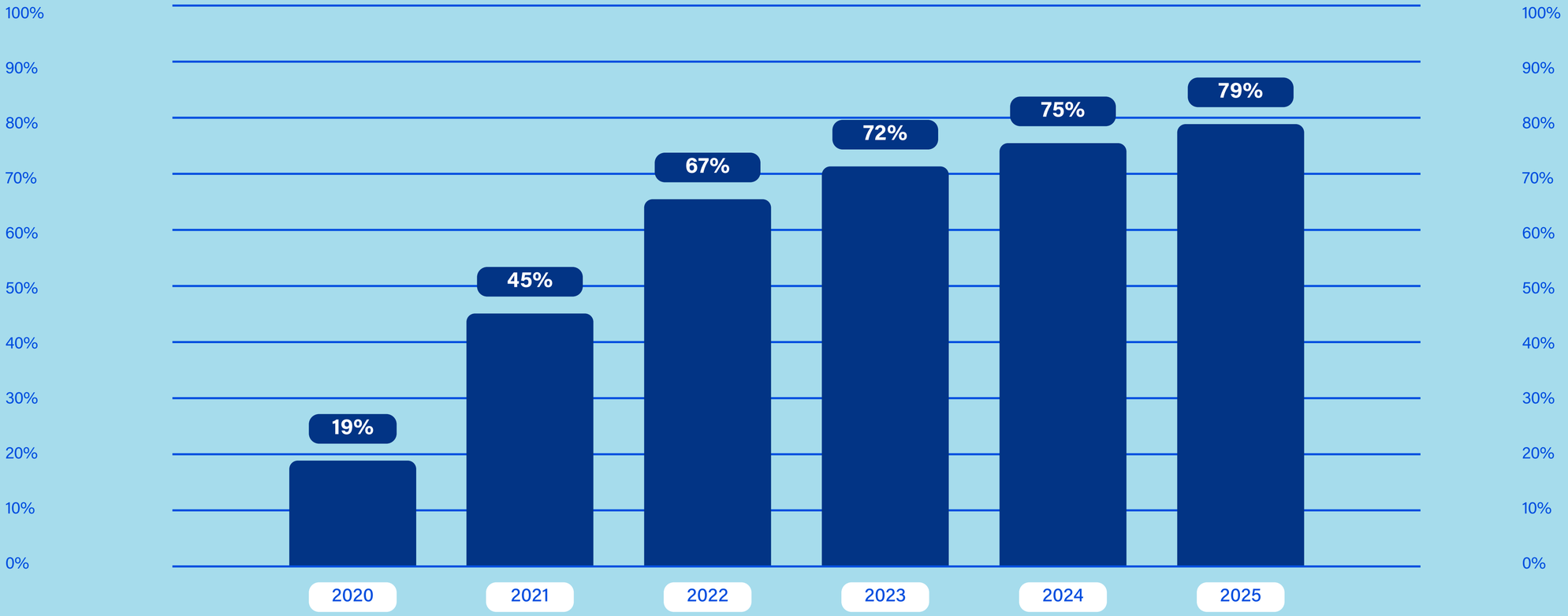


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Supplier Roadmap to Zero: Redesigning the Path to Better Performance

In 2025, ZDHC completed a fundamental redesign of its supplier implementation approach, recognising that the industry had outgrown the original Supplier to Zero framework. While the programme successfully introduced a structured approach to chemical management maturity, experience over recent years highlighted the need for a clearer distinction between implementation support, performance measurement, and verification.

The first milestone of this transformation was the introduction of the **Supplier Roadmap to Zero**, launched at the end of 2025. Supplier Roadmap to Zero provides practical guidance, implementation support and a structured improvement roadmap that helps manufacturing facilities strengthen their sustainable chemical management systems over time. It translates ZDHC expectations into practical actions and gives suppliers a clear pathway towards higher levels of performance.

This new approach lays the foundation for **Supplier to Zero V2**, which will be fully launched in 2026. The redesigned maturity assessment introduces a fundamental shift in how supplier performance is recognised. Instead of defining achievement by the type of assessment undertaken, Supplier to Zero V2 measures facilities against clearly defined performance metrics that determine their level of achievement. The level of confidence in those results is then recognised separately through different verification approaches, ranging from self-assessment to desktop review and independent second and third-party on-site verification.

By separating **performance** from **confidence**, the new framework creates a more flexible and meaningful system that accommodates different business relationships and assurance needs. Suppliers are recognised for what they achieve, while brands can select the level of verification that best reflects their partnership, sourcing strategy and risk profile. This creates a scalable approach that rewards continuous improvement while reducing unnecessary duplication and providing a practical solution for organisations at different stages of their sustainability journey.

The redesign completed in 2025 establishes the foundation for the next generation of Supplier to Zero, creating a more practical, performance-based framework that will support wider adoption and greater impact across global supply chains from 2026 onwards.

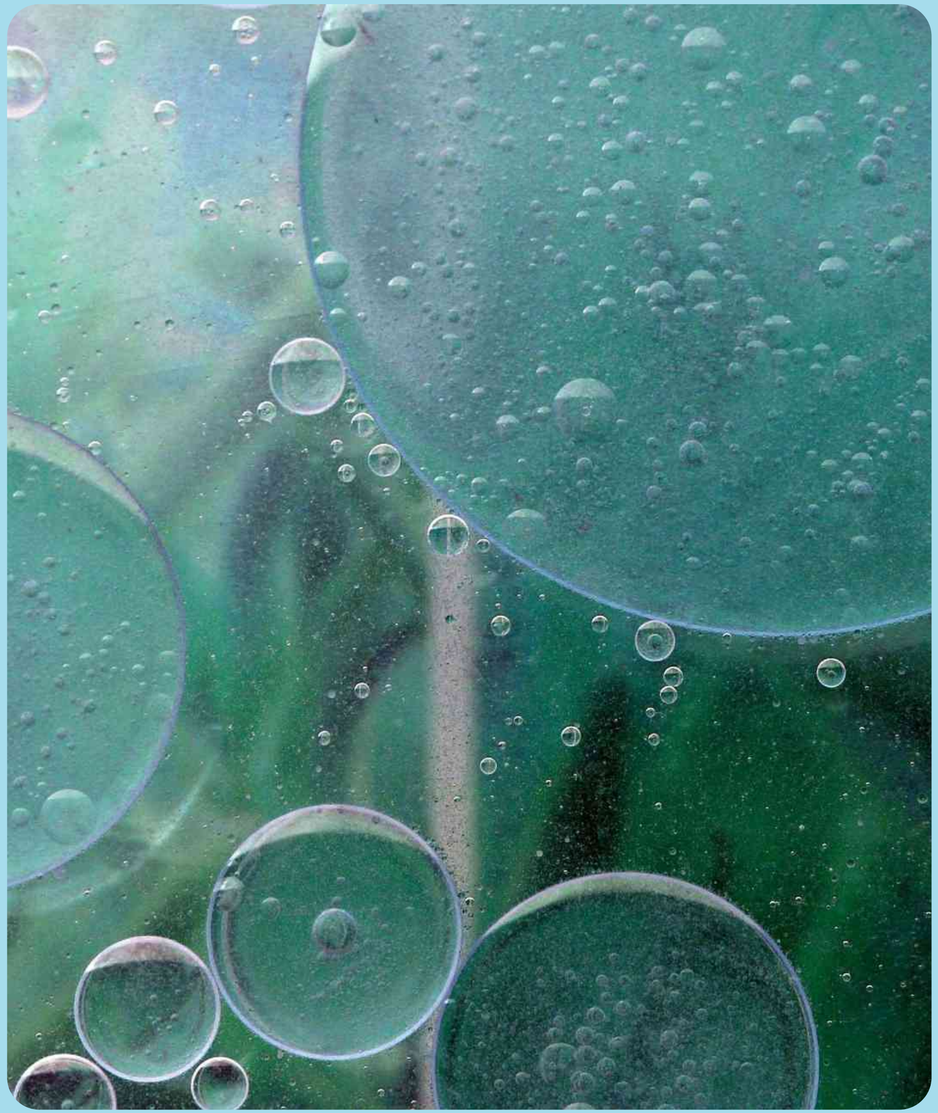


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Pillar III

Nature Impact

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Impact Story

Brands, Scientists, and Certificates Working Together for River Health

How a partnership between Primark and Oxford Molecular Biosensors supports better basin-level water outcomes in Bangladesh



Primark is an international fashion retailer and one of the world's most widely recognised high street brands. With more than 480 stores across 19 countries in Europe, the US and the Middle East, and over 80,000 colleagues, Primark serves millions of customers each year. Many of its products are manufactured in Bangladesh, one of the world's most important textile and garment sourcing countries.

But when it comes to addressing environmental consequences caused by the garment industry in general, or matters of river health more specifically, even a global player like Primark is powerless when acting alone. "Just getting our own house in order isn't enough, and broader influence is needed to drive that basin-level outcome," says Lewys Isaac, Primark's Water Stewardship Manager. "Only if we look at it as a shared resource are we going to be able to drive more sustainable outcomes."

What Isaac refers to are growing concerns about worsening levels of water pollution and extraction in the districts where textile dye and production sites are concentrated (an estimated 500–700 factories release synthetic dyes and heavy metals into waterways surrounding Dhaka, Narayanganj, and Gazipur). **A 2025 study on water vulnerability in the region** identifies the Shitalakhya, Turag-Tongi Khal, Buriganga, and Balu rivers as highly polluted, with dissolved oxygen hitting alarming low levels.

Moreover, the basin receiving wastewater is also part of the system that sustains workers, communities, and ecosystems. River health, industrial resilience, and community wellbeing cannot be treated separately; they are closely interlinked.

What became increasingly clear to Isaac and his colleagues was that in order to reduce these effects, they needed to better understand them. And factory reports alone would not help Primark comprehend how to prevent pollution in a basin as complex as Dhaka's.

Visible pollution, invisible thresholds

Primark had already been working to improve wastewater performance at the site level, but was faced with a fundamental challenge: When the water body is shared, the basin receives a multitude of effluents from an indistinguishable array of different sources - and even if all factories improve their own discharge and their sites conform to the ZDHC Wastewater and Sludge Guidelines at a given point in time, the downstream combination can still be toxic and polluting. **Even if one facility has passed a test, can the basin still absorb pressure without losing ecological function?**

What ZDHC-aligned chemistry already makes possible

"In Bangladesh, we have a good understanding of our chemical inventories, the extent to which formulations are certified against the ZDHC MRSL," says Peter Walters, Primark's Senior Ethical Trade Manager for Chemistry and Environmental Sustainability. He also notes that Primark works with over 300 parameters in the ZDHC Wastewater and Sludge Guidelines, with a substantial portion of testing applied to raw wastewater to detect MRSL substances.

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But Walters is also clear about the limitations of the tests: concentration-based limits are only one part of the picture. ZDHC-aligned chemistry alone doesn't prove that a river ecosystem is recovering. While conformance data is essential, and frameworks such as ZDHC's MRSL have driven major progress across the sector, compliance data primarily shows whether specific parameters fall within predefined thresholds at a given point in time. It doesn't necessarily show how river systems are responding to cumulative effects across an entire basin, which includes domestic wastewater.

Working with Oxford Molecular Biosensors

That is where Primark's work with Oxford Molecular Biosensors and Oxford's river-modelling expertise comes in. The partnership builds a bridge between two scales of evidence: **what is known at the factory level, and what can be understood about a river basin shared by many factories.** The goal was to add a scientific layer that could show how pollution behaves beyond the facility boundary, going beyond ZDHC-aligned chemistry or conventional wastewater testing.

Primark has been engaged with stakeholders connected to Oxford Molecular Biosensors (OMB) for almost 10 years, including earlier support for the REACH programme, a multi-stakeholder initiative focused on water challenges in Bangladesh. Back then, working with the Alliance for Water Stewardship, Primark looked across its supply chain and the basins where its suppliers operate.

In the Meghna Basin, the team conducted a catchment assessment, dividing the basin into sub-territories, examining different river systems, water risks, and industrial pressures. The assessment helped Primark understand where the textile sector sat within a wider landscape of domestic, municipal, and industrial pressures.

Dhaka stood out. The region has dense textile clusters, large wet-processing facilities, and high dependency on both water and chemistry. Therefore, Primark mapped water dependency, wastewater generation volumes, and existing ZDHC water-quality data to identify 10 high-impact factories for the project. These were facilities where water use, wastewater discharge, and chemical dependency made the link between production and basin pressure especially relevant.

Adding scientific layers to compliance data

The project then added two scientific layers. The first was INCA modelling, developed in the mid-1990s by Professor Paul Whitehead (University of Reading / University of Oxford) and Professor Dan Butterfield. Whitehead describes the modelling layer as a way to see the river system beyond individual discharge points: "The model takes into account the inputs coming in, both from the factory discharges and also from other sources. There's domestic waste coming in, but you've also got industrial effluent and then effluent from the garment industry. The model integrates all of these and simulates their combined impact down the river systems." In simple terms, **it creates a digital representation of a river system—like a digital twin.** INCA simulates flow, water quality, and ecological conditions and assesses how pollution, metals, pathogens, climate change, or changes in treatment might affect downstream water quality. It also shows where pollution travels, where it accumulates, and how different sources combine across the basin.

"We're able to read the health of the water from a living organism perspective."



Dr. Cordelia Rampley

CEO Oxford Molecular Biosensors Ltd (OMB)

The second layer was a biosensor testing system, developed by a team of OMB scientists, led by Dr. Cordelia Rampley. The biosensors utilised are living organisms that respond to the aggregate biological effects of chemical mixtures, especially organics and metals. They report their physiological status through changes in light output linked to ATP (Adenosine Triphosphate), a marker of central metabolism in living organisms. In practice, this provides a rapid snapshot of bioavailable toxicity as the water triggers a biological stress response.

The model and the biosensor perform complementary tasks: **INCA helps show what the river system is likely experiencing across space and time, while the biosensor helps show how living systems respond to the water mixture in real time.**

What the science revealed

In Bangladesh, the model was used to assess how water quality parameters change across the catchment, helping identify areas where cumulative pressures may be greatest. This included mapping spatial trends in parameters such as ammonia, dissolved oxygen and metals, providing additional insight to help prioritise interventions and inform future collaborative action.

These findings make it possible to see where action might have the most significant impact.

While conventional wastewater testing can show which substances are present and whether specific parameters fall within defined thresholds, it cannot fully explain how a mixture of chemicals behaves once those substances interact. **The question remains: how does a mixture of effluents affect a living system?**

Duane Ager, Chief Scientific Officer at OMB, describes the gap this way: "You can do the standard chemical analysis and identify a list of chemicals that are there, but it doesn't tell you about the toxicity. If you mix them up, then you've got interactions and, you know, it all goes haywire. And so the biosensor reports on the aggregate toxicity of everything that is in there."

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Cordelia Rampley, Chief Executive Officer at OMB, puts it in ecological terms: "If you had just that list of chemicals, you wouldn't be able to predict what the outcome on a living organism might be. Because much of the literature has been done on compounds in isolation, in pure water systems. Not in that complex mixture that Duane's describing. **Having a snapshot within two hours from a living organism is that missing gap between the list of chemicals and the outcomes."**

For now, the constraint is the availability of ecological data. "In an ideal world, we'd have intense ecological monitoring," says Ager. "You've probably seen videos of teams of students going out with a quadrat—incredibly expensive and labour intensive, but that would be the gold standard." Because that kind of monitoring is difficult to sustain, he says the team is also looking at what can be done "remotely, either by satellite imagery or potentially even drones to get more ecological information."

With more frequent biosensor testing, stronger ecological field data, and broader participation from brands and factories, the industry could move from individual compliance snapshots toward a more continuous understanding of ecological pressure. Signs of a healthier system would include "reductions in biosensor stress responses alongside improved treatment performance, lower pollutant loads, and improved receiving-water quality downstream of industrial areas," explains Ager. At the basin scale, the aim would be "to observe lower cumulative ecological pressure despite industrial growth, particularly where improved chemical management and treatment interventions are introduced."

Cleaner water in practice: what changes operationally

For Lewys, the value of the basin-scale work is that it changes what Primark can see. "When you take into account site-level water quality, that is compliant, but when you consider the total loading of various water quality indicators over time, and then you start to model the impact of climate scenarios and the context within other industries and the overall industrial landscape in Dhaka, it gives you a very powerful picture of that aggregate impact."

And this new understanding of how water is impacted by different influences changes how brands and suppliers can prioritise interventions. If the data shows that certain facilities have high water dependency, high wastewater generation, or high chemical dependency, they are logical places to focus deeper engagement. If a specific parameter appears to contribute more strongly to basin-level pressure, the response may sit upstream in chemical input control, inside the facility through process management, or downstream through improved wastewater treatment. In other cases, **the answer may not rest with a single factory at all, but with a shared approach across brands sourcing from the same facilities or river system**.

It could also inform the future evolution of wastewater expectations. Walters notes that the ZDHC Wastewater and Sludge Guidelines have already considered adding ecotoxicity parameters, and Primark's partnership with OMB could help build part of the evidence base for that discussion. "ZDHC has a proven track record in harmonising implementation approaches, rolling out tools, putting them in place around implementation frameworks," he says. If basin-level evidence is to change industry practice, shared infrastructure can provide brands and suppliers with a basis for moving toward coordinated water stewardship.

> *"When you've got a model that combines the hydrology with the water chemistry with the ecology, you've got a very powerful combination tool."*



Professor Paul Whitehead

Chairman and Chief Modeller of Oxford Molecular Biosensors Ltd (OMB)



No single factory can protect a river alone

"No single brand or factory can solve this problem by themselves," says Rampley. Rivers respond to "multiple point sources of pollution, multiple types of pollution, and different seasonal effects as well." During periods of low flow, for example, the river has less capacity to dilute pollutants. During periods of heavy rain or flooding, pollution can move differently through the system. Climate change adds another layer of uncertainty, intensifying both flood risk and dry-season stress.

For Rampley, the opportunity is to build a different kind of industry intelligence. "There's a genuine opportunity for the whole industry to collaborate and come up with an environmentally intelligent platform," she says. In practical terms, that means linking chemical management practices and treatment performance more directly to ecosystem health and biodiversity outcomes.

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- **For communities, that could mean reduced exposure to polluted water and healthier local environments.**
- **For suppliers, it could mean clearer expectations, better process control, and more foreseeable results when wastewater performance is assessed.**
- **For brands, it means moving beyond facility-level assurance toward basin-level risk management.**

Those points lead to a holistic understanding of shared pressures, where intervention is most needed, and where collective action can produce greater benefit than isolated corporate efforts. In the OMB team's view, a more collaborative approach is mandatory. "The scientific value of anything increases substantially with scale, diversity of data, and geographical coverage," the team notes. "Ecosystem relationships are inherently complex and basin-specific, meaning robust conclusions require large datasets across multiple factories, brands, seasons, and river systems."

If scaled, the approach could shift the industry from periodic conformance monitoring toward continuous understanding of ecological outcomes and assess whether industrial activity is measurably improving or degrading freshwater ecosystems over time.

"For true change, you need to have a really collaborative multi-industry partnership. The textile industry in Bangladesh is so large. One can make a substantial difference just by collaborating within that."



Dr. Cordelia Rampley

CEO Oxford Molecular Biosensors Ltd (OMB)

Towards ecological intelligence

While there's still a lot of work to be done, the partnership is showing how to **strengthen credibility through better chemical management** and how this connects to better environmental understanding.

- **The modelling helps show where pollution travels and accumulates.**
- **The biosensors indicate how complex mixtures affect living systems.**
- **ZDHC-aligned chemistry and wastewater data provide the common foundation that enables those questions.**

Together, they point toward a more disciplined form of water stewardship.

Moving from conformance to ecological intelligence doesn't make conformity less important. In fact, it makes it more useful because it places facility-level performance within the basin's reality.

Spotlight

Bangladesh's textile industry

Bangladesh is one of the world's largest garment exporters, second only to China in many global rankings. Its ready-made garment sector remains the backbone of the country's export economy.

Bangladesh's garment industry employs around 4 million workers, with women accounting for a large share of the workforce (Economics Observatory, 2025).

There are over 4,000 apparel factories serving major global fashion brands (BGMEA, 2025).

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Conformance Level of the Conventional Wastewater Parameters Based on ZDHC Data

The table below lists the 11 most detected conventional wastewater parameters and their respective conformance level. With the exception of E.coli, which is a parameter related to fecal bacteria originating from domestic wastewater, all other parameters show conformance levels of over 97%. All conventional parameters not listed in the table have conformance levels of 99% or above.

Zooming in on 5 key wastewater parameters of Biological and Chemical Oxygen Demand, which are important to ensure oxygen levels in a river do not drop too low, as well as total Nitrogen and Phosphorus, which are indicators of potential overexposure to nutrients and therefore algae blooms and finally Total Suspended Solids, which can be used as a proxy for microfibre pollution, we see that non-conformant reports to the ZDHC wastewater guideline are in the region of 1-2% while over 75% of all reports show Progressive or even Aspirational Performance for those parameters.

Building on those positive results, new requirements set in European legislation and the inspirational work by OMB, Oxford University and others on expanding the scope of work beyond a single factory's conformance, ZDHC plans to initiate a major revision of the current wastewater testing program towards a more risk-based and impact-focused approach.



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Conventional Wastewater Parameters Based on ZDHC Data

***Measuring Broader Pollution Impact**

Looking at the trend of reports with at least one parameter on alert, we see the percentage has dropped from 8% to 5% over the last three years, which is encouraging. At the same time, we also observe a trend of increasing reports with at least one parameter not being analysed. We will investigate the reasons behind this widening gap to ensure that, going forward, the overall percentage of reports in full conformance also reflects the good progress made on parameters with alerts.

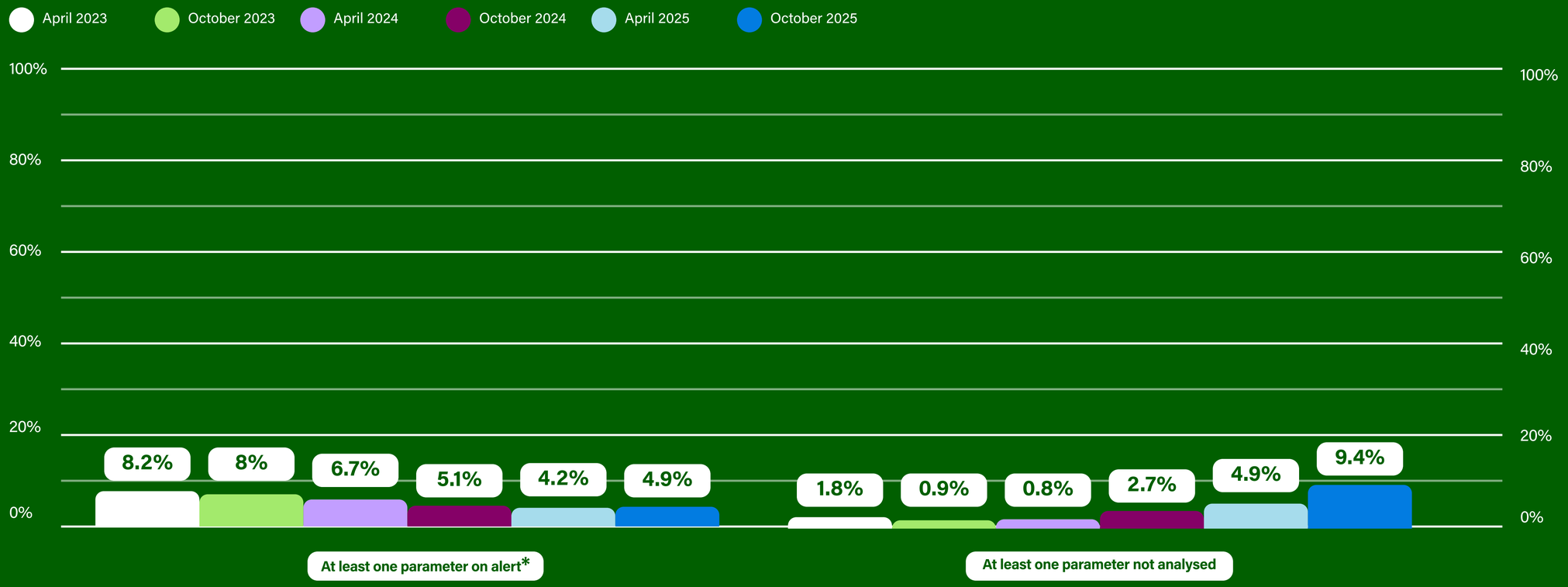


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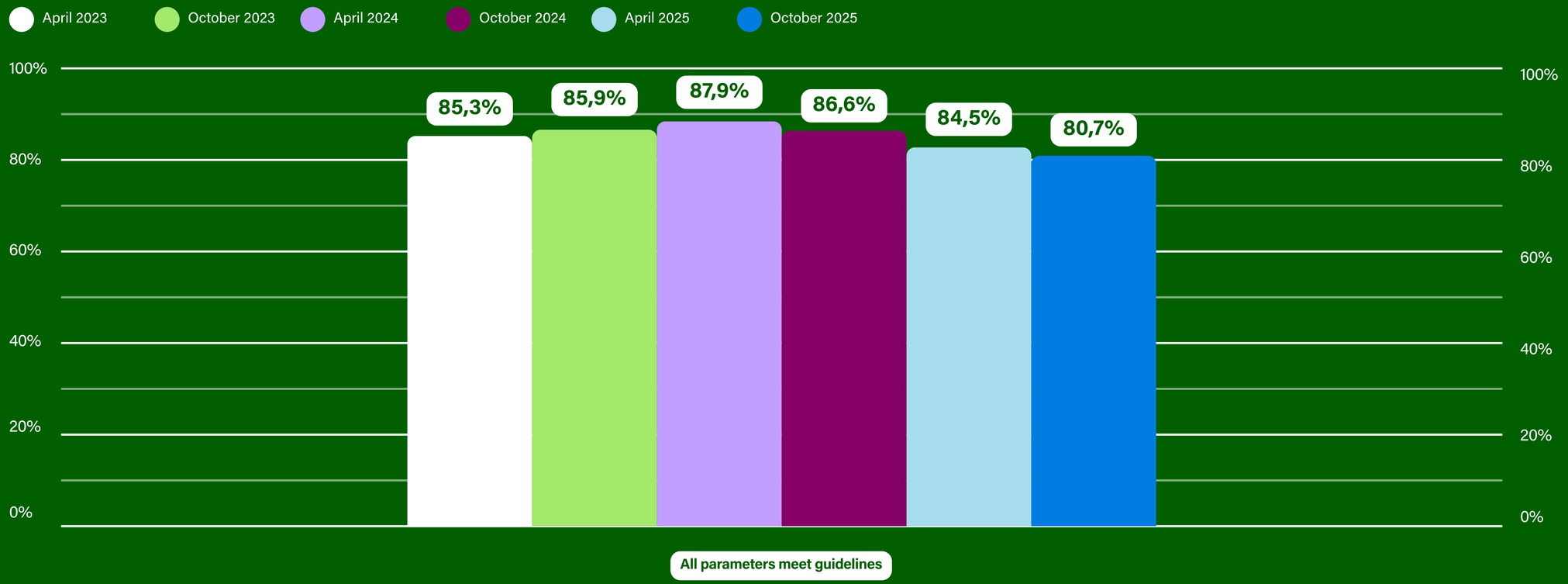


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Impact Story

Chemical Risk Is Financial Risk

How MRSL-driven prevention helps companies protect natural capital, reduce uncertainty, and prepare for a market that is starting to price pollution



Often, chemical management is a technical task on the to-do list of sustainability teams, compliance officers, chemical experts, and facility managers. It can seem far removed from financial strategy, but as nature-related financial disclosure comes under the scrutiny of mainstream investors, that gap is closing.

While companies need credible evidence of their risk-prevention efforts, investors and lenders need evidence to understand where they are exposed to risk. Between them, a common language is forming: nature risk is financial risk.

A new language for an old risk

The connection between environmental harm and business performance is not new. Companies have always depended on natural systems, whether they priced that dependency properly or not. "The financial penalties are real now, from regulatory fines, or litigation exposure, contract loss or higher insurance premiums; meaning externalising environmental costs is no longer a way to drive revenues, which is good, since it never was a viable or sustainable business strategy." Lauren Zahringer, Market Engagement & Stakeholder Development at ZDHC, says.

Allanna McAspurn, an independent consultant in ESG, Sustainability, and Resilience Strategies, observes a shift in perspective on the corporate side. Large publicly listed companies, she says, are already under investor scrutiny. They understand, at least at the top of the market, that environmental and financial risks are intertwined. But the understanding is not shared by all market participants - or at least it is unevenly distributed between companies of different sizes. "Mid-market suppliers and manufacturers may mainly see environmental compliance as a cost they have to bear, and not something that is protecting their financial performance," she says.

McAspurn witnessed that companies tend to delay environmental compliance when margins are tight. The implementation accelerates when companies see it as financial protection.

The blind spot investors are beginning to see

Nature risk can feel abstract to investors, lenders, and analysts. While corporate efforts to reduce carbon output have made substantial progress through clear metrics, targets, and reporting systems, adopting sustainable chemical management practices has been harder to quantify. Investors don't need to be experts in chemistry; they need to understand exposure.

"The questions they're asking themselves are where this risk is sitting in my portfolio, and what does it cost me if it materialises?" Zahringer says. "That's why I believe the best entry point for engaging or starting conversations with relevant investors is still materiality, showing where these nature risks live on a balance sheet, making it relevant for them. Then conversations start moving."

Consequently, companies need to translate chemical management into terms their own finance teams can use. Investors and lenders need practical indicators that show whether chemical risk is being prevented, reduced, or left unmanaged. Instead of a technical compliance language, they need terms relating to risk prevention, asset protection, operational resilience, and nature-related due diligence.

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PwC's study on potential consequences of degrading ecosystems in Australia, Canada, New Zealand, and Singapore, "Unearthing the nature risk in financial portfolios" (2026), suggests that unchecked nature loss could erode 12–17% of GDP and 12–18% of stock-exchange market value, roughly €9.5 trillion, within 15 years.

These are not apparel-specific chemical-management figures. From these findings, one cannot infer that the implementation of ZDHC's Manufacturing Restricted Substances List (MRSL) directly protects trillions in market value. But they show that nature loss should be treated as a financial exposure. An investor cannot claim to be minimising financial risk while ignoring bad chemistry in a portfolio company.

However, many investors are unable to make such a decision because they are not yet using chemical-footprint data in their portfolio models. To change that, ZDHC's data and tools provide investors, lenders, and analysts with a more tangible basis for decision-making. They also give companies a clearer way to demonstrate that chemical risk is being managed before it becomes a liability or lost value.

The ZDHC MRSL as a gate

The ZDHC MRSL shifts the point of intervention. "Here's where the gate is. This is the MRSL," Zahringer says. "Because here's where the manufacturing is going to start. You're pretty good downstream if you didn't use the hazardous materials to begin with," she says. McAspurn uses a similar metaphor. "The MRSL acts as a kind of risk firewall," she says. In the past, textile mills often had to navigate multiple chemical lists from multiple brands. That created duplication, confusion, and cost. "The MRSL unifies the data." The same prevention tool serves different parties because the underlying risk is shared.

From nature impact to financial evidence

Investors and lenders need data to compare, screen, price, and engage. Companies need data to explain, defend, and improve their own risk position. McAspurn points to the ZDHC Gateway data, to InCheck, and ClearStream as part of a broader evidence system. "The Gateway data helps populate the Corporate Sustainability Reporting Directive (CSRD) reports and improves ESG rating," she says. "And it reduces time spent on due diligence." She also points to the financial incentive: "

The alternative is rising financial uncertainty. Companies that cannot show which chemicals they use in manufacturing, whether their formulations conform to recognised standards, or how wastewater is performing leave investors, lenders, customers, and internal decision-makers in the dark. "There's no greater risk than that which you don't know," Zahringer says. MRSL conformance, chemical inventory visibility, supplier data, and wastewater performance help reduce that uncertainty, making chemical risk visible and manageable.

Increased transparency supports companies in their procurement decisions, supplier engagement, regulatory preparedness, customer trust, and access to capital. On the other hand, investors and lenders have more information on due diligence, stewardship, portfolio screening, and risk pricing. One party generates data to manage the evidence; the other uses it to understand financial exposure.

Fewer risks, more resilience

The Apparel Impact Institute's **Cost of Inaction report,** developed with Accenture, models how climate inaction can translate into financial and operational risk for apparel brands and suppliers. Its findings suggest that climate impacts could reduce apparel company margins by up to 34% in the near term and by up to 67% by 2040, while companies investing in supply-chain decarbonisation now could face climate-related risks that are four to five times lower by 2040.

Those figures focus on climate, but chemical management is moving along a similar path. Environmental risk becomes financially material.

McAspurn says the first step is supply chain mapping, beginning with the areas where exposure is most likely: key suppliers, risky products, and risky raw materials. "If you've got a properly mapped supply chain, your risk profile can improve significantly," she says. Transparency can lower regulatory, operational, and reputational risk. It can also expose inefficiencies, quality failure points, duplicated costs, and suppliers that create more risk than value. In a crisis, it gives companies a clearer view of where exposure is and where action is needed first.

As nature-related data disclosure matures, the phasing out of hazardous chemicals is likely to be understood less as a technical compliance exercise and more as a core part of business resilience. The question is the same for companies, investors, and lenders: where is the risk, how credible is the evidence, and what can be done to avoid expensive harm?



Lauren Zahringer

Market Engagement & Stakeholder Development
ZDHC Foundation



Allanna McAspurn

Strategic Advisor
ZDHC Foundation

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Impact Story

Sustainable Chemical Management as the Foundation for Circularity

Circular economy in textiles requires knowledge of their chemical history and a design for future cycles

Protecting natural capital in the textile sector starts with keeping hazardous substances out of water, soil, and air. However, chemical management does more than prevent harm at the point of use or discharge: it also shapes what can happen to a product at the end of its life cycle.

Textiles that are safe, traceable, and technically suitable can move through more than one life cycle. If a textile contains hazardous or poorly documented substances, recycling can become more complex, more expensive, and less safe. In some cases, it also reintroduces harmful substances into new products, workplaces, and production systems.

Various ESG experts in the textile industry connect chemical management and the natural capital approach directly to circularity, noting that safe chemicals in a product now are a prerequisite for its future recycling. Consequently, sustainable chemical management today protects material value tomorrow.

José Guilherme Teixeira, of Cotton Move, makes a similar point from the perspective of Brazil's textile circularity ecosystem. Cotton Move works as an integrator of reverse logistics, traceability, chain of custody, and circular textile flows, connecting brands, retailers, recyclers, cooperatives, operators, and consumers. "Chemicals are at the centre of textile circularity," Teixeira says, "because recycling is also about the entire chemical history of those materials."

Based on this premise, chemicals must not only improve fabric performance while disregarding their effect on future recycling. A circular economy needs chemistry that is also safe, traceable, and designed for future production cycles.

At the first Open-Ended Working Group meeting of the Global Framework on Chemicals in June 2025, Marcelo Lobo, ZDHC Regional Manager for Latin America and the Caribbean, underscored pesticides as a central environmental risk in the textile sector and described safe chemicals as the basis for circularity. "There are strict controls over agricultural inputs, both through Brazilian public regulation, including MAPA [the country's Ministry of Agriculture and Livestock], and through sector initiatives such as ABRAPA [the Brazilian Cotton Growers Association] and Better Cotton [which supports responsible cotton practices]," Lobo says. "However, traceability of these inputs still needs to improve."

He also draws a clear boundary around ZDHC's role. "ZDHC does not control agricultural inputs," he says, "but we support institutions through joint work, for example, with the Pesticide Action Network at the United Nations Environment Programme." It's clear that the sectors are "fully aware of this need, but there are still structural issues to address, and a systemic management policy for all chemicals is the basis for that."

Teixeira points out that materials without reliable information about composition, finishes, or chemical history are one of the major barriers to safe circularity. Without information on fibres, dyes, resins, finishes, and additives, textile waste becomes a "black box". That increases the risk of contaminated batches, lower recycled fibre quality, worker exposure, industrial incompatibility, and regulatory difficulty. Chemical recycling may be able to process some materials that mechanical systems cannot, but it still depends on feedstock quality, contamination control, and safe chemical handling. Neither pathway removes the need for upstream chemical transparency.

"Like Lego, circularity is made up of many pieces," Lobo says. "Safer chemistry is the small piece that, if left out, blocks the whole system because of critical bioaccumulation, recycling risks, and risks to human health and the environment."



José Guilherme Teixeira

Founder & CEO of Cotton Move

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Pillar IV

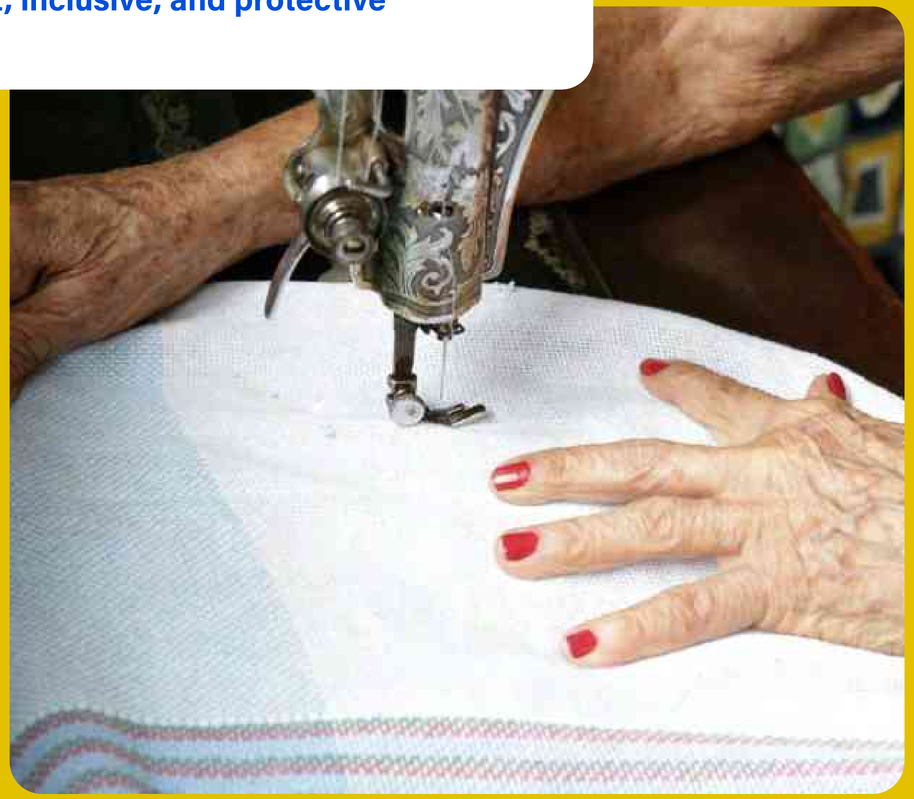
Human Health Impact

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Gender, Chemicals, and Justice

The gender lens: making chemistry more just, inclusive, and protective



So far, this report has framed ZDHC's work in terms of its contribution to protecting natural capital: reducing pressure on ecosystems by keeping hazardous substances out of production. However, safer chemistry is also defined by its ability to protect people, most of all those directly exposed to chemical risks.

While this applies to both men and women, the effects on the human body depend on biological differences, labour patterns, cultural norms, workplace design, protective equipment, and access to information. Given the significantly above-average proportion of female workers in the textile value chain, analysing chemical risk and exposure with a gender lens is fundamental.

Protecting Women From Chemical Exposure

Women represent nearly 60% of the global garment workforce, rising to nearly 80% in some regions, according to the International Labour Organization. Some work in factories, others from home, in subcontracted spaces, or in informal workshops. Their labour is essential, but not always protected.

In Brazil, women make up to 80% of the direct workforce in the garment and textile manufacturing sector. For Dr Francisca Dantas Mendes, Associate Professor in Textile and Fashion at the University of São Paulo's School of Arts, Sciences and Humanities and coordinator of SUSTEXMODA, a research and innovation centre focused on sustainability in the textile and fashion chain, that safety gap reveals one of the blind spots in fashion's social pillar. While the industry often discusses sustainability, it misses proper discussions around the time, expertise, and bodily cost of the people doing the work.

Work that is not only executed in controlled environments but in some cases at home, in poorly protected facilities, informal workshops, or subcontracted spaces, which makes chemical exposure harder to measure and protect against. This includes questions of equipment, training, or workplace safety policies. It can be a glove too large, leaving gaps around the wrist or fingers. It can be a mask that does not seal properly, boots that make movement unsafe, or a lab coat designed around a single body type.

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As Sherika Ballingsingh, Poison Information Coordinator for the Caribbean Poison Information Network, explains, "Most of the time [women] are using equipment that is made for men, not specifically for women". According to Ballingsingh, health and safety systems cannot protect workers equally if the equipment, training, guidelines and procedures are defined on the premise that all bodies are the same. Nor will information protect workers if it does not reach them.

"We need to have the information on the products that we're using and also on the work environment that we're in," Ballingsingh says. Without that knowledge, exposure can continue beyond the factory. Garments, raw materials, or residues may be taken home, washed with family laundry, or handled by other family members. "Workers might be unaware of the chemical risks associated with it," Ballingsingh says.

The Gender and Chemicals Partnership, an international, multi-stakeholder coalition that advocates for gender equality and women's empowerment in the chemicals and waste management sectors, identifies these challenges. Who is exposed, how does exposure occur, whose symptoms are taken seriously, and is the data collected detailed enough to show what is happening? Average figures, generic training, and one-size-fits-all safety rules do a disservice to workers' health and safety.

A gender-informed approach to workplace protection, therefore, requires more specific questions. Does Personal Protective Equipment (PPE) fit different bodies? Are pregnant workers protected from chemical exposure as well as physical strain? Are workers trained in a language that they understand and can use in daily life, instead of scientific jargon? Are there indirect exposure pathways?

Protection has to fit the task, the body, the workplace, and the life around the worker—especially in an industry where women make up such a large share of the workforce.



Sherika Ballingsingh

Poison Information Coordinator for the Caribbean Poison Information Network



Image source: ILO(2003): Woman entrepreneur with a disability: Second-hand clothes trader at her shop in Tigray region, Ethiopia.

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ZDHC and the Gender and Chemicals Partnership

In 2025, ZDHC became an official board member of the Gender and Chemicals Partnership (G&CP). Mariella Noto, ZDHC's Academia and Multilateral Partnerships Director, together with Sinem Akkocaoğlu Gender Focal Point at ZDHC, lead the organisation's engagement. The G&CP brings a more structured approach to the gender and chemicals discussion, helping connect ZDHC's work on safer chemical management with broader efforts for a gender-responsive chemicals and waste management.

Global Women's Breakfasts

ZDHC organised its first Global Women's Breakfast as part of the wider International Union of Pure and Applied Chemistry (IUPAC) Global Women's Breakfast, an international initiative that connects women across science to advance equity, visibility, and collaboration. The sessions bring together women working in safer chemistry, sustainability, and chemical management to share experience, discuss challenges, and strengthen professional networks. Meetings will continue in 2026.

So far, speakers included Dr. Amy Cannon, Co-Founder and Executive Director of Beyond Benign, a non-profit organisation dedicated to green chemistry education, and Margaret Frey, Vincent V.C. Woo Professor in Fiber Science and Apparel Design at Cornell University.

Knowledge Sharing And Intersectionality

ZDHC has contributed to knowledge sharing through the Gender and Chemicals Partnership. This included co-authoring the article **"Harmonized standards on chemical waste prevention within the fashion and textiles industries among women with disabilities in Africa,"** which looks at how gender, disability, and socio-economic status can shape exposure, access to information, and participation in safer chemical management.

2025 also marked the beginning of a series of informative webinars in collaboration with the Partnership, open to ZDHC signatories and non-signatories, brands, suppliers, chemical suppliers, policymakers, students, and others interested in the health impacts of hazardous chemicals. The recordings are available through the ZDHC Academy and YouTube as an on-demand learning resource.

United Nations Environment Assembly Event

Together with the Gender and Chemicals Partnership, the International Sustainable Chemistry Collaborative Centre (ISC3), Women4Biodiversity, the Chemichemi Foundation, and the Indira University, ZDHC joined the 7th United Nations Environment Assembly (UNEA-7) held in Nairobi, Kenya, in December 2025. The session on "Gender and Chemicals in Focus: Turning Global Commitments into Local Impact" brought together stakeholders from government, civil society, science, and industry to discuss how to integrate gender considerations into international chemical management processes and their local implementation.

Knowledge Platform And Policymaker Training

Through the Gender and Chemicals Partnership, ZDHC also contributed to wider efforts to build shared resources and capacity for the Gender and Chemicals Knowledge Platform to be launched in 2026, and European Chemicals Focal Point training series. ZDHC supported the initiative by bringing together research, practical tools, and training activities for European chemicals focal points and other policymakers on gender-responsive chemicals management.

The activities undertaken by ZDHC and the other partners within the Gender and Chemicals Partnership create the conditions for gender considerations to become a driving factor in how chemical safety is researched, taught, governed, and implemented.

Over the coming year, ZDHC should explore how the ZDHC MRSL and the ZDHC solutions can be leveraged to enable gender-disaggregated data collection and strengthen the identification of human toxicity risks across the value chain.



Mariella Noto

Academia and Multilateral Partnerships Director
ZDHC Foundation

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Creating Conditions for Chemical Substitution

While a gender-informed approach addresses the worker's chemical exposure, substitution moves the work upstream. Instead of depending on workers to handle hazardous chemicals more safely, it reduces the need to use that chemical in the first place.

Dimethylformamide, commonly referred to as DMFa, is a solvent historically used in polyurethane (PU) coating, including synthetic leather and coated textiles used in products such as footwear, bags, jackets, and accessories. It helps create the look, feel, and performance expected from PU-coated materials. However, DMFa is volatile, can be absorbed through both inhalation and skin contact, and has been linked to reproductive toxicological risks. Research shows that male and female bodies metabolise the substance differently: men show higher rates of liver injury, women may be affected by damage to the embryo. Experimental studies also raised additional concerns around fertility, oocyte (immature egg cells) development, and intergenerational reproductive effects.

Alternatives to DMFa had existed for some time, but they were difficult to scale, specify and trust in commercial production. Brands understood the need for change, but individual companies could not shift the synthetic leather industry alone. The issue required a coordinated, industry-wide approach.

That momentum accelerated in 2017, when H&M approached ZDHC to ask whether it could help coordinate action across the synthetic leather value chain.

An industry-wide collaboration

ZDHC set up a process to address the issue and came up with a tangible plan for substitution and phasing out of DMFa. What followed was a long and steady progress towards implementing industry-wide standards for the sake of workers' health: first by identifying why alternatives were not working in practice, then by testing solutions, building confidence, and creating conditions for wider uptake.

"Substituting DMFa is not only about removing a hazardous chemical. It is about creating safer working environments through better inputs, clearer procedures, fit-for-purpose PPE, and stronger training and monitoring. From ZDHC's perspective, healthy and safe working conditions must be built into daily production."



Lydia Lin

Chief Implementation Officer
ZDHC Foundation

DMFa Timeline

2017

The process starts with ZDHC brands documenting the technical challenges they encountered when attempting to substitute DMFa. A technical workshop follows, bringing together brands, PU producers, chemical companies, and other stakeholders. Together, they identify concept-level solutions for 15 of the 16 issues.

2018

ZDHC and the China Synthetic Leather Industry Association hold an exchange meeting in Lishui, China, with support from the local government. Water-based PU production is estimated to have increased by 600% as compared to 2015, while solvent-free PU production is estimated to have increased by 460%.

2020

China's Ministry of Ecology and Environment publishes technical guidance identifying water-based and solvent-free PU factories as leading companies eligible for positive policy consideration.

Today

More than 60% of global footwear brands have actively integrated synthetic/alternative PU leather into their product lineups to meet zero-toxicity benchmarks. Over 300 major global manufacturing companies have formally shifted to bio-based, solvent-free lines to comply with ESG mandates.

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Chapter 3

The Path to 2030

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Brands to Zero

Brands play a pivotal role in transforming how our industry implements sustainable chemical management. The heart of this effort is the ZDHC MRSL and further guidelines, which form the Brand Roadmap to Zero. But the guidelines alone are not enough. The real impact comes when brands actively implement the principles of sustainable chemical management across their supply chains and follow the joint Brand Roadmap to Zero. Each brand amplifies the words and actions of the others to create impact. The Brands to Zero (BtZ) annual assessment provides clear milestones for this joint roadmap and holds Signatory Brands accountable for joint implementation. It helps brands turn sustainability commitments into real-world due diligence results — tracking progress, identifying gaps and building trust through transparency. We call this action that creates impact.

The Brands to Zero assessment focuses on the brands effort and impact on two levels:

Corporate Level: Brand's performance with regard to relevant commitments made, setting them into practices and supply chain engagement. Based on the OECD Guidance, goals and strategies set, implementation plans, enabled staff and responsible business practice or decision-making are evaluated here, as well as standard operating procedures.

Supply Chain Level: Brands' general approach to each of the ZDHC's guidelines, platforms and solutions, brands' adoption practices and how they monitor the implementation scale of ZDHC in their supply chain. Furthermore, this segment evaluates the follow-up and corrective action practices that brands have in place if the suppliers do not meet the expectations and the level of supply chain engagement achieved.

Brands to Zero Assessment Champion Level 2025



First year Champions

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Continuous Improvement

This report is a milestone, not an endpoint. The questions raised by our stakeholders - including those related to environmental outcomes, transparency, governance and accountability - are valuable drivers of progress. They help us identify where further work is needed and where new approaches can strengthen both our programmes and our impact. As science, regulation and stakeholder expectations evolve, ZDHC will continue to improve its guidelines, data requirements and methodologies, sharing both progress and the challenges of transformation at global scale.

A Collective Call to Action

The four priorities above are not ZDHC's to deliver alone. ZDHC is not a regulator, a certifier, or a brand: we are the shared infrastructure for sustainable chemical management. **The 2030 goal is what the system could deliver if every stakeholder uses that infrastructure for what it was built to do.**

Peer organisations across our sector are reaching the same conclusion this year: incremental, voluntary, awareness-led progress is no longer sufficient on its own to meet 2030 environmental commitments. We share that view. The difference is that ZDHC's ask is specific, evidence-anchored, and tied to indicators already on the page. **Here is what each part of our community can do in 2026 with the tools and data already at their disposal.**



Action Steps for Our Signatory Brands

You are the reason our brand-led organisation exists. The 2025 data shows that the largest available lever in the system is not new guidelines; it is **the consistency with which existing ones are cascaded across your supply chain.**

- **Make ZDHC MRSL conformance your default sourcing requirement, not a sustainability preference.** Every brand that treats the MRSL as a baseline rather than an aspiration moves us measurably closer to the 70% industry threshold.
- **Use Brands to Zero to guide you and make your achievements visible.** The assessment is built so progress can be compared, assessed and improved year over year. Hidden progress does not move markets.
- **Incentivise and support supplier progression up the Supplier to Zero pathway.** The jump from 235 to 329 Level 2 facilities in a single year was due to specific brands deciding to. The next jump will happen the same way.
- **Treat InCheck and ClearStream reporting as a due diligence asset for CSRD, CSDDD, and TNFD purposes, not as a compliance chore.** The data you already collect through ZDHC can carry weight in your statutory disclosures.
- **Use the supplier platform as your smart sourcing tool.**

Action Steps for Our Suppliers And Manufacturers

You are the stakeholder group in the system whose decisions most directly determine whether 2030 is met. The 2025 numbers, particularly the growth in Level 2 certifications and wastewater with at least one parameter on alert, dropped to almost half in two years (8% in Oct '23 to 4.2% in Oct '25), showing what is possible when facilities decide to lead rather than wait.

- **Move up the Supplier to Zero pathway.** Level 1 is a foundation, not a destination. Level 2 facilities are also the most resilient to regulatory tightening. Embrace Supplier to Zero V2 and aim at the top. Publish your InCheck data. Only 13.4% of registered suppliers were reporting fully in 2025. Closing that gap is the fastest way to ensure the global conformance number reflects the reality on your factory floor.
- **Use the Gateway as a procurement tool, not a reference library.** The substitution conversation has shifted from "Is there an alternative?" to "Have we chosen the best one available?"
- **Ask brands for the support you need.** The Roadmap to Zero is designed to be co-funded and co-implemented. ZDHC's regional hubs in East Asia, South Asia, Southern Europe, Latin America, and Türkiye are there to help you make that ask.

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Action Steps for Our Chemical Formulators

You are the supply side of the 2030 equation, and the 2025 numbers tell the most optimistic story in this report: 3,712 registered formulators, 2,270 actively publishing products, 61.2%, the highest share in our history.

- **Keep publishing.** Every additional conformant product on the Gateway lowers the cost and friction of substitution for someone, somewhere, in the supply chain.
- **Move with Chemicals to Zero as it scales.** Conformance is the floor; product stewardship, transparent sourcing, and substance-level disclosure are where credible market leadership will be built.
- **Close the data gaps.** Quantis flagged formulation data and substance-level data as the biggest gaps holding back nature-related impact measurement for chemistry. Trusted, confidential pathways to share more of that data, without compromising IP, are the next frontier.

Action Steps for Policymakers And Regulators

The 2025 reporting landscape, CSRD, CSDDD, ESPR, the EU Textiles Strategy, the global plastics treaty, and expanding PFAS restrictions are moving toward what ZDHC has been building for a decade: upstream, input-based, evidence-driven chemical management.

- **Recognise the ZDHC MRSL and the Roadmap to Zero as the science-based, multi-stakeholder infrastructure they have become.** Build on them rather than around them. Duplication slows progress; alignment accelerates it.
- **Use Gateway and InCheck data as a reference point for chemical disclosure expectations.** The data exists, is verifiable, and covers the most chemical-intensive stage of textile production.
- **Support domestic-market adoption.** The 70% industry conformance goal will be won or lost in the domestic textile economies of India, China, Brazil, Türkiye, Bangladesh, Vietnam, and Pakistan. Policy frameworks that recognise ZDHC participation as evidence of due diligence will move those markets fastest.

Action Steps for Investors, Insurers, and Lenders

Over 620 organisations representing more than €17 trillion in assets under management have voluntarily committed to nature-related disclosures. The chemical dimension of nature risk, long the hardest to quantify, is now measurable through MRSL conformance, wastewater performance and Gateway adoption.

- **Read MRSL conformance InCheck and ClearStream reporting as indicators of nature-related risks.** Chemical pollution is one of the least quantified drivers of nature loss, and ZDHC's datasets are among the few that translate it into something a credit committee or underwriter can use.
- **Finance the transition, not just the risk.** Higher-impact, capital-intensive upgrades, wastewater treatment, safer-chemistry substitution at the formulator level, and regional leader programme scale-up are exactly the kind of bankable projects that close the gap between availability and use.
- **Engage with us on the natural capital pilots that will run between now and 2030, built on the Quantis blueprint.** Early engagement from the finance community is what makes those pilots globally usable disclosure tools.

Action Steps for Adjacent Sectors

Protecting the environment requires action far beyond any single organisation, sector or initiative. Lasting progress depends on active collaboration between industry, governments, academia, civil society and science, across the systems that affect our rivers, soils and ecosystems. ZDHC's impact should therefore be understood not only through the actions we directly influence, but also through the collective progress.

- **Use the MRSL Framework as a starting point, not a finished product, for your sector.** The methodology, the Gateway architecture, and the Leader Programme model are open to adaptation.
- **Engage with ZDHC's emerging cross-sector dialogues.** The wet-processing chemistry that drives most of our impact also runs through adjacent sectors. The same MRSL logic applies.

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Action Steps for Civil Society, Researchers, and the Public

In 2025, suppliers in the ZDHC committed community reached an average MRSL conformance of 78.93 per cent in Performance InCheck. This figure matters because it shows how far actual use has progressed toward the chemistry already available in the ZDHC Gateway.

- **Use this data, question it, and build on it,** because better questions from outside ZDHC lead to a better ZDHC.
- **Bring Performance InCheck and ZDHC Gateway data** into your own research, campaigns, and due diligence so that debates about "sustainable chemistry" are grounded in concrete evidence, not abstract claims

"A strategy remains an idea until it is implemented. At ZDHC, we focus on turning sustainable chemical management into practical solutions that the industry can adopt every day. Because real impact doesn't come from what we plan, it comes from what we put into practice."



Francesco Pianca

Chief Programme Officer
ZDHC Foundation

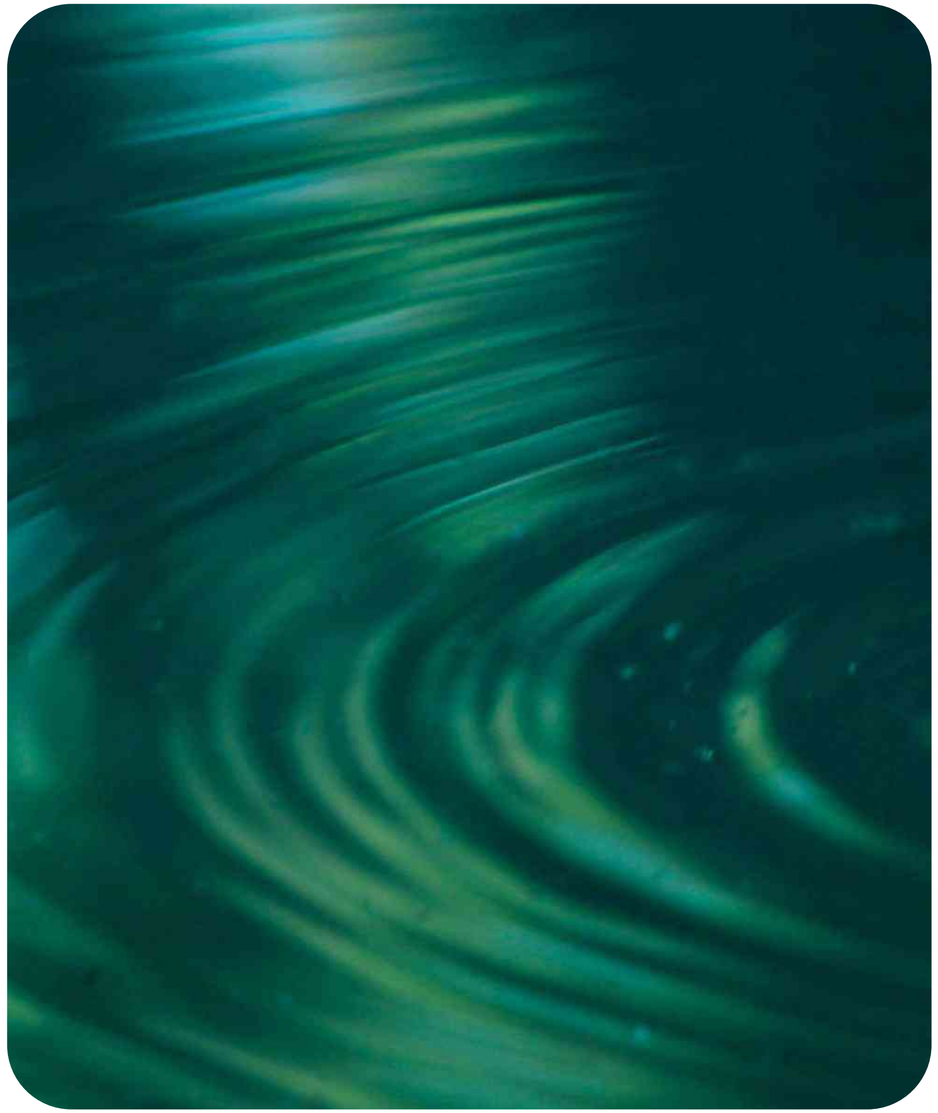


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Our Commitment to Transparency

- **We will publish the gap between Gateway availability and supplier-reported use every year.** And we will address the strategies to close it.
- **We will scale what works. Over the nex**t four years, our operational focus will be on the Supplier to Zero Version2, Chemical to Zero Progressive and Aspirational and the development of sector-specific Roadmap to Zero.
- **We will translate chemistry into the languages our stakeholders use.** That includes financial risk, regulatory compliance, nature-related disclosure, human health, and worker safety, so that the business case for MRSL conformance is impossible to misread.
- **We will keep being a community, not a bureaucracy.** The Roadmap to Zero only works because brands, suppliers, formulators, scientists, regulators, and civil society show up to walk it together. We will keep convening that table.

The 2030 Goal Is Reachable

In 2015, ZDHC was founded on a question: **what if we stopped trying to clean up pollution after it happened, and started preventing it instead?** Ten years later, the answer is in your hands: eight datasets, four pillars, one shared goal.

The chemistry of the textile, apparel, leather, and footwear industry is no longer a black box. The infrastructure to manage it exists, the data to measure it is published, the community to scale it is growing, and the financial logic to fund it is catching up.



ZDHC

Impact Report 2025



ZDHC

Contact

ZDHC Foundation
Oudezijds Voorburgwal
316b, 1012 GM
Amsterdam, The Netherlands

Press inquiries
communications@zdhc.org

Support inquiries
support@zdhc.org

Websites

roadmaptozero.com
zdhc.org

Published by
ZDHC in July 2026.