White Paper

Driving Digital Sustainability:

The DMIx and Sympatex Case

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Executive Summary

The textile and fashion industry faces unprecedented challenges: sustainability pressures, increasing speed-to-market demands, and the complexity of global supply chains. To remain competitive and responsible, companies must rethink traditional workflows.

This paper explores the collaboration between DMIx, the digital collaboration platform by ColorDigital GmbH, and Sympatex, a leader in sustainable, high-performance, waterproof, windproof, and breathable materials. Together, they have built a Digital Fabric Library that empowers designers, brands, and suppliers to reduce waste, speed up development, and ensure scientific accuracy in color and material appearance.

By merging cutting-edge digital technology with sustainable performance material expertise, this partnership delivers a blueprint for the textile industry's future: one where innovation and responsibility go hand in hand.

Introduction

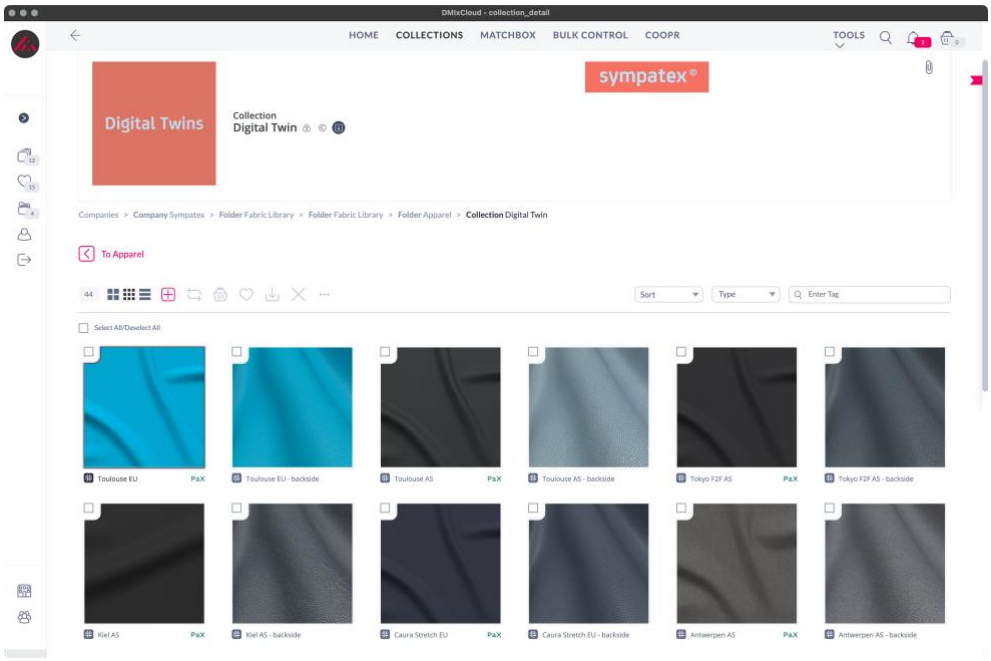
For decades, the fashion, outdoor and sportswear industries relied heavily on physical sampling and manual communication to bring products to life. While effective in the past, this model is slow, resource-intensive, and environmentally damaging. Every additional fabric swatch manufactured and shipped across the globe consumes materials, chemicals, and carbon emissions.

At the same time, digital design and 3D visualization tools have matured. Yet, without accurate, scientifically based data, digital materials often fail to match their physical counterparts, leading to mistrust, extra sampling, and costly delays.

Enter DMIx and Sympatex: two innovation-driven companies tackling these issues from complementary angles.

- Sympatex brings decades of expertise in sustainable membranes and laminates, pushing the boundaries of recyclable, high-performance textiles.
- DMIx provides the digital backbone: a platform that ensures colors, materials, and appearances are accurate, consistent, and directly usable across brands, suppliers, and design tools.

Together, they have established the Digital Fabric Library, a new way for the apparel and corporate & workwear industry to work.



The Sympatex Digital Fabric Library

Launched in 2022 and expanded since then, the Sympatex Digital Fabric Library is built on DMIx Cloud technology. It provides:

- Photorealistic Digital Twins of Sympatex materials.
- Drag-and-Drop Integration into leading 3D design tools such as CLO and Browzwear.
- Detailed Technical Data that ensures transparency and supports product development.
- Centralized Access for brands, designers, and suppliers worldwide.

Instead of waiting for physical swatches, designers can now browse, test, and integrate fabrics directly into their 3D workflows. This speeds up decision-making, reduces redundant sampling, and builds confidence in digital-first processes.

"Digitalization only builds trust when the data is correct. With DMIx, we get precise spectral color data and physics-based visualizations for Sympatex laminates, enabling a high level of consistency between digital approvals and physical production outcomes."

Carmen Keim, Color Management, Sympatex

Access the **Sympatex Digital Fabric Library** free of charge here:

How DMIx Powers Accuracy and Connectivity

The backbone of the collaboration is DMIx's end-to-end ecosystem, which connects color, material, and product data across the value chain. Key elements include:

- **Scientific Color Management**: DMIx uses spectral measurement and physics-based rendering to ensure what designers see on screen matches what arrives in production.
- **Digital Twin Generation**: Real materials are scanned and transformed into digital assets with precise color and texture information.
- **Master Data Synchronization**: All product information is stored and distributed centrally, ensuring consistency across brands, suppliers, and systems.
- **Plug-and-Play Connectivity**: Materials from Sympatex can be used seamlessly in existing digital workflows, from design tools to PLM platforms.

This data accuracy is what makes digital materials truly valuable for industrial workflows, closing the gap between digital imagination and physical realization.

Benefits of the Collaboration

Deploying Sympatex materials via DMIx delivers measurable sustainability and efficiency gains:

1. Sustainability Impact

- Fewer physical swatches reduce product waste, shipping, and carbon emissions.

2. Efficiency and Speed

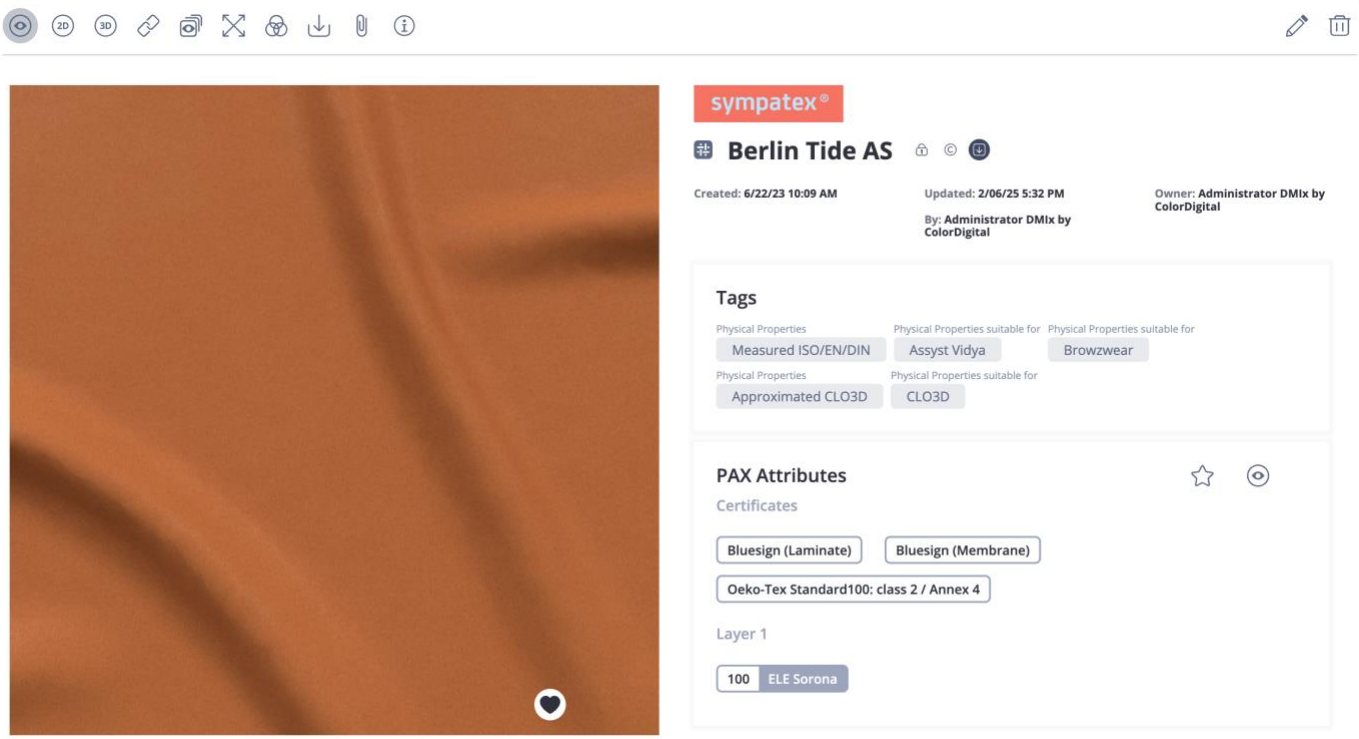
- Instant access to materials shortens the design cycle.
- Brands can make earlier, more confident material selections.
- Sample lead times and development iterations are drastically reduced.

3. Accuracy and Trust

- Scientific data ensures digital colors and textures are reliable.
- Reduced mismatch between digital design and physical production prevents costly errors and claims.

4. Collaboration and Transparency

- Brands, suppliers, and manufacturers work on the same source of truth.
- Designers can focus on creativity, supported by accurate, real-world material data.

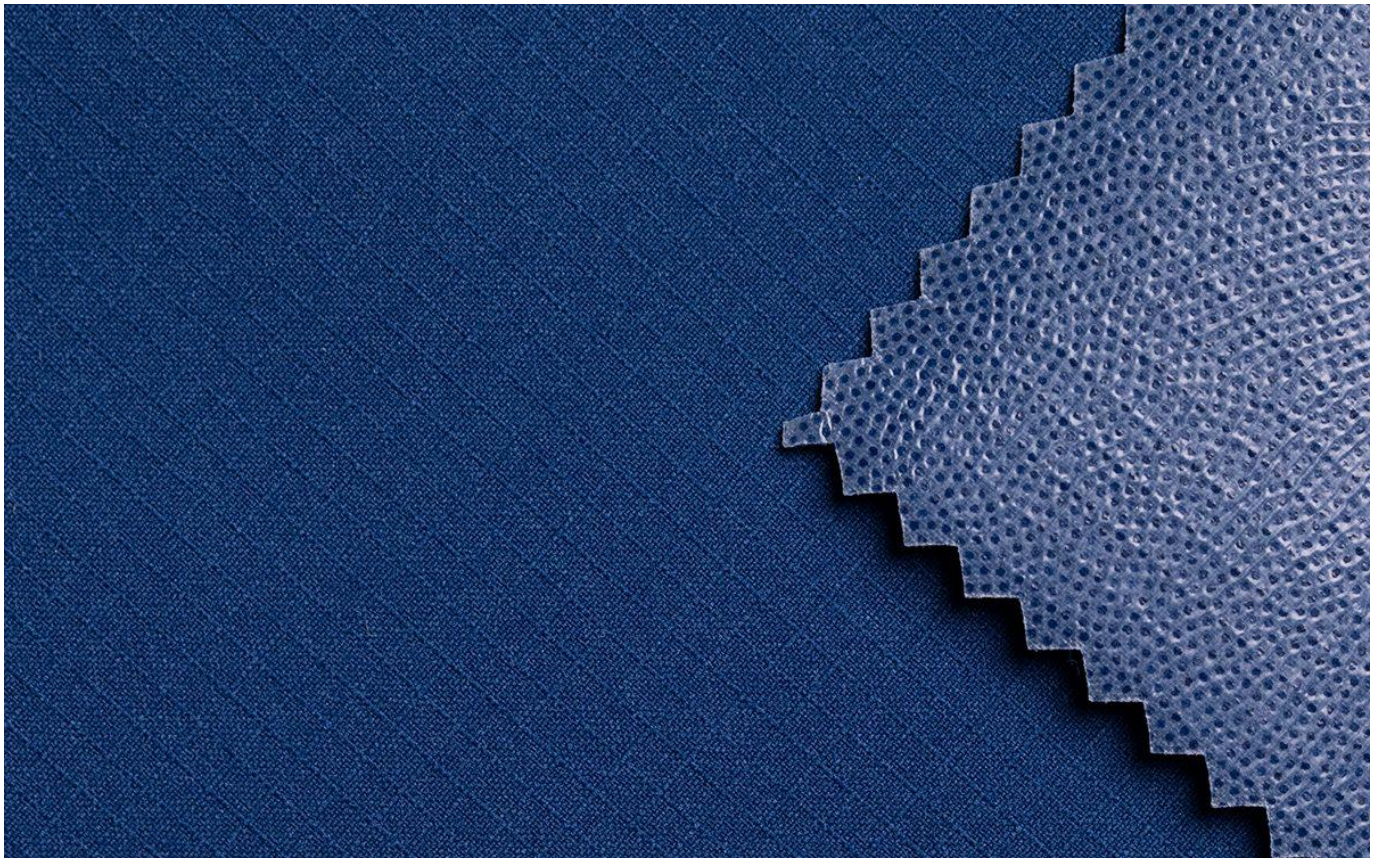


Case in Practice

Several brands working with Sympatex, and its highly complex and technical product, now increasingly rely on the Digital Fabric Library for sourcing and prototyping.

- Designers create digital collections with high-fidelity Sympatex materials inside CLO or Browzwear, reducing the need for early physical samples.
- Spectral data enables a precise match to target values at the point of approval, with minor, anticipated variations during subsequent production steps — all managed within the agreed tolerances.
- Supply chain partners access the same master data, improving collaboration and reducing misunderstandings.

What once took weeks of back-and-forth sampling can now be achieved digitally, with only final confirmation samples produced physically.



Lessons Learned

Transitioning from physical to digital sampling is not just a technical shift, it requires cultural change. Sympatex has invested in:

- Onboarding support for brands and suppliers.
- Training and communication to build trust in digital processes.
- Iterative expansion of its Digital Fabric Library, starting with key fabrics and extending to a broader portfolio.

The key lesson: successful digitalization requires both technology and human adoption.

Looking Ahead

The next steps involve:

- 2025 will see the launch of DMIx SamplR, a new scanning device for rapid digital materialization, empowering even more suppliers to create high-quality digital twins.
- Addition of Footwear Materials in the Digital Fabric Library

By linking digital twins to our recyclable textiles, we're taking a clear step toward circular, transparent systems.Together, DMIx and Sympatex demonstrate how digitalization and sustainability can reinforce one another, creating both business value and environmental responsibility.

"For us, digitalization is a powerful enabler of sustainability. The more we rely on digital twins, the less physical material is consumed, the faster teams can collaborate and the sooner we can shift our focus toward circular, PFAS-free performance."

Kim Scholze, CSMO, Sympatex

Conclusion

The DMIx–Sympatex partnership showcases what the textile industry needs most: a practical, scalable, and sustainable way to transform workflows.

By combining Sympatex's material expertise with DMIx's digital platform, the collaboration has delivered measurable benefits in efficiency, accuracy, and sustainability. The Digital Fabric Library is not only a tool for today but a strategic foundation for the industry's digital and sustainable future.

For brands, suppliers, and designers, this case offers a clear message: adopting digital-first, data-driven workflows are not just possible; they are already delivering results.

Scan to sign up for access to the Sympatex Digital Fabric Library (free):

Digital Fabric Library - Sympatex Membran & Laminate

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