

ENDORSED BY THE LEADING EXPERTS,

NATALIYA DOLENKO GENÈVE SA, Switzerland

Presents a fully tested, patented apparel engineering technology that redefines fit, production logic, and scalability – delivering luxury results at mass-market scale and cost – making it the only patented method capable of delivering personalised garments without manual intervention or separate customisation processes.

Built on Responsive Tailoring and Dynamic Fit Adjustment, the invention moves beyond self-adjustment as a standalone function – introducing full-garment adaptability with simultaneous reinforcement to deliver a Perfect Dynamic Fit using a Single Fibre. Garments self-adjust in real time to the wearer's movement, shape, and posture, while preserving the sharpness of traditional tailoring. Combining the flexibility of knitwear with bespoke structure and precision, the method delivers perfect fit at industrial scale via a single-layer, dynamic construction on fully-fashioned programmable machines.

The logic-driven programming transforms every stage of development and production into a controlled system – from initial design to final reuse. By replacing rigid sizing with intelligent structural logic, the system eliminates fit uncertainty and outdated sizing models. Three self-adjusting sizes replace eight conventional ones, enabling a market expansion coefficient of 2.67.

The result is a fully scalable, digitally controlled foundation for mass-personalised garments – produced without customisation or manual input. By removing inefficiencies at the source, the method cuts unsold inventory, returns, overproduction, and waste – establishing a new standard for predictive, circular manufacturing at scale.

Rooted in engineering, computer science, textile and apparel technology, the Method remains the only viable pathway for scalable, self-adjusting garments – including future hybrid systems of high-tech knit with 3D print. It is not just a Method, but a new standard for engineered fit – laying the foundation for full lifecycle coordination and the emergence of Predictive Apparel Systems.

THE BEAUTY OF CERTAINTY

VIEW TEXTILES FORECAST ISSUE 150 A/W 2026/27

<https://www.vivacines.com/en/trend-show/mafw150%3C-report%3E76-tools/all?CC?source=1&serie=9>

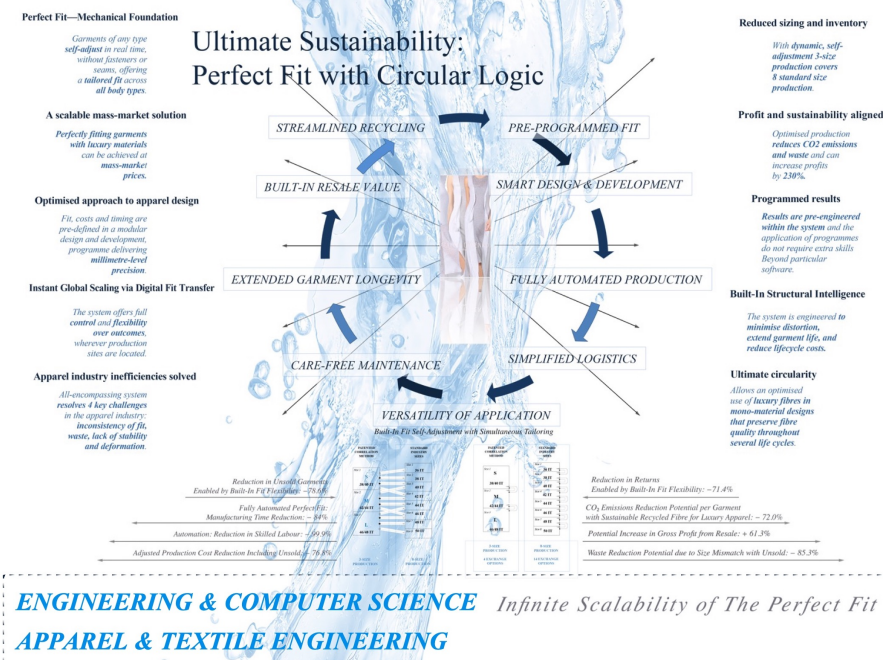
APPAREL MANUFACTURING INNOVATION: ENGINEERING & COMPUTER SCIENCE/APPAREL & TEXTILE ENGINEERING/GARMENTS

APPAREL DISRUPTION: UNLOCKING FUTURE EFFICIENCY

PRESS RELEASE AN EXECUTIVE SUMMARY

KEY APPAREL INNOVATION 2026/27

SYSTEMS FOR SCALABLE PRECISION IN APPAREL



ENGINEERING & COMPUTER SCIENCE Infinite Scalability of The Perfect Fit APPAREL & TEXTILE ENGINEERING

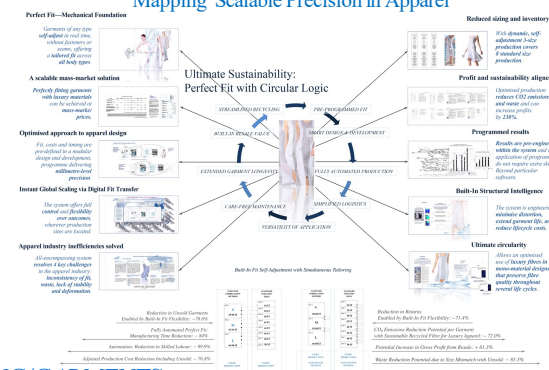
NATALIYA DOLENKO
GENÈVE
FIT—IMPACTTM

A SOLUTION TO FOUR KEY MANUFACTURING ISSUES: Fit • Waste • Stability • Deformation

The patented Correlation Method sets a new industry standard by solving four critical challenges that have long hindered efficiency, profitability, and circularity in apparel manufacturing.

- **Perfect Dynamic Fit:** Self-adjusting garments eliminate sizing issues in mass production by dynamically responding to movement, shape, and posture. Each construction covers with perfect fit up to four adjacent sizes, replacing eight conventional ones with just three programmable designs, achieving mass-scale precision with minimal configuration.
- **Material Waste Minimisation:** Pre-programmed logic eliminates iterative prototyping by embedding predictability from the start. Combined with 3D programmable knitwear technology, this results in exceptionally low production waste. The reduced sizing model also cuts unsold inventory by up to **78.6%**.
- **Structural Reinforcement in Knitwear:** The Method integrates reinforcement within the garment itself – overcoming knitwear's traditional limitations in form retention and enabling tailored-like precision without secondary components or finishing stages.
- **Deformation Resistance and Longevity:** By coordinating structural logic with the garment's mechanical behaviour, the product maintains fit and form throughout wear. This engineered resilience ensures reduced degradation, extending product life and supporting circularity at scale.

Mapping Scalable Precision in Apparel

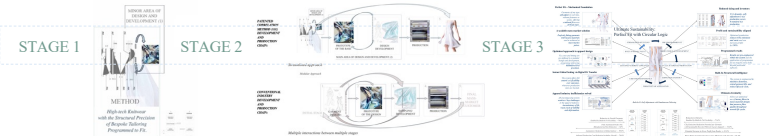


Achieved: A COMPLETE SYSTEM TRANSFORMATION

The Method redefines the system, making fit, lifecycle and circularity programmable from the outset. It transforms the way apparel is designed, produced and scaled: digitally, operationally and commercially. This innovation creates a new category of precision-controlled manufacturing, with technical and environmental benefits unmatched by existing methods. For the first time, two previously incomparable systems can be directly evaluated:

- Self-adjusting, perfectly tailored garments made with the patented Method
- High-end tailored garments made with traditional cut and sew

The Method enables mass-produced garments with luxurious fit, structural elegance and extended wear - without compromise. It replaces fragmentation with full system optimisation - maximising material use and minimising waste at every stage.



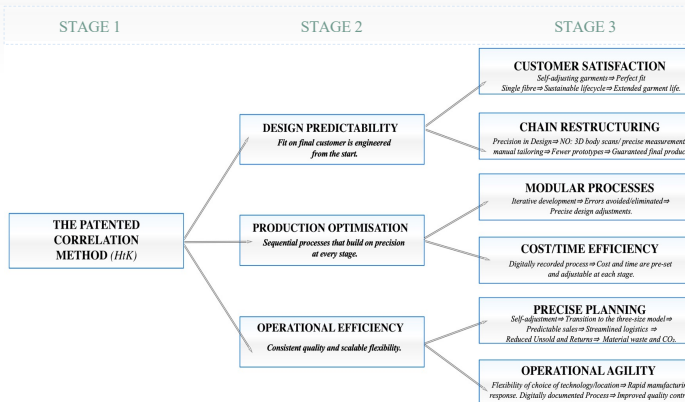
1. Production Time Reduction: – 84.0%
2. Production Cost Reduction: – 73.7%
3. Skilled Workforce Reduction: – 99.9%
4. Space Efficiency: + 99%
5. Unsold Rate Reduction Potential : – 78.6%
6. Return Rate Reduction Potential: – 71.4%
7. Adjusted Production Cost Reduction Including Unsold: – 76.8%
8. Waste Reduction Including Unsold Garments: – 82.4%
9. Waste Reduction per Garment Sold: – 84.9%
10. Waste Reduction Enabled by Expanded Customer Reach: – 85.3%
11. Electricity Use Reduction: – 66.7%
12. CO₂ Emissions Reduction per Garment with Sustainable Recycled Fibre for Luxury Apparel: – 72.0%
13. Luxury Fibre Waste Reduction: 91.2%
14. Reduced Recycling Costs: – 77.8%
15. Increase in Net Profit: +235%
16. Potential CO₂ Emissions Avoided: – 22.6M tonnes

WORLD INTELLECTUAL PROPERTY ORGANISATION (WIPO) APPLICATION NUMBER PCT/EP2023/08012.
PUBLICATION DATE: 10.05.2024 WO2024094577 – AN AUTOMATED METHOD FOR KNITTING A TAILORED THREE-DIMENSIONAL GARMENT, AND A KNIT GARMENT

This innovation marks a definitive advancement in apparel technology. It enables garments to dynamically adjust to different body shapes – delivering a level of fit and adaptability previously unattainable in mass production.

ABSTRACT “(EN) The present invention provides an automated process for producing knitted garments having a tailored look when worn by wearers with different body shapes. Through a combination of woven fibre tailoring techniques adapted to the field of knitted fabrics and an innovative approach to programming a three-dimensional seamless garment knitting machine to knit the garment in a new way, a knitted garment can be produced which adapts to different wearers having different body types, while following the wearer's anatomy and providing support where required, thus allowing the same garment to provide a tailored look to different wearers having different body shapes.”

IMPACT



- **Manufacturing Flexibility:** Works on all programmable high-tech knitwear platforms (Seamless, 3D Knit, WholeGarment).
- **Creative Control:** High-tech precision supports couture-level of fit and production accuracy.
- **Supply Chain Resilience:** 1,368 times less reliance on highly skilled labour compared to tailored cut-and-sew, rigid supply networks, or local production.
- **Customer-Centric Agility:** Enables on-demand or scaled production with full consistency.
- **Continuous Output:** Machines can run 24/7 with digital program files.
- **Traceable and Transparent:** Digitally documented at every stage for control and accountability.
- **Applications:** Apparel, Medical Wearables, Sportswear, Industrial Use.

A New Frontier: FOUNDATION FOR FULL-CHAIN PREDICTABILITY

The structured system, based on predictable results, enables the creation of **Advanced Monitoring and Forecasting Programmes** to provide complete transparency, cost control and real-time tracking from fibre selection to end-of-life recycling. **These programmes should be designed to reinforce the industry-transforming impact of such systematisation.**

SYSTEMATISATION:

Moving the industry: From → Reactive & Fragmented To → Predictive & Structured

Advanced Predictive Programming

How the Correlation Method Changes the Equation

The patented Correlation Method transforms reactive production into predictive control. With fit, structure and fibre usage pre-engineered and programmable, it eliminates overproduction and misallocation from the outset. This unlocks a data-driven future where every garment is designed for real demand and every stage – from manufacture to recycling – is optimised for measurable results.

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CASE STUDY PREVIEW: PREDICTIVE PROGRAMMING FOR HUMAN MORPHOLOGY AT SCALE

Among the system's most forward-looking applications is its ability to anticipate morphological diversity across global markets – a key barrier to both fit and inclusivity in traditional sizing models. With the Correlation Method already ensuring garments adapt across four sizes, the next step is refining these adaptations through predictive regional calibration.

C7 – Human Diversity & Regional Morphology Systems

These systems map the anatomical diversity across regions, ethnicities, and populations—ensuring garments engineered with the patented method adapt optimally to morphological differences across global markets. They guide fit calibration, pattern logic, and scaling across demographically distinct body structures.

C7.1 – Global Morphological Variance Mappers

Capture and classify body shape differences by region, ethnicity, and demographic group, informing scalable garment engineering.

SUBCATEGORY	L1	L2	L3	FUNCTION
1. Regional Body Structure Database				1. Established data on competing anthropometric variations by region, gender, and age.
2. Ethno-Anatomical Fit Adaptation Tool				2. Provides for morphological distinction into structural garment types and pattern size adjustments.
3. Population-Based Sizing Logic Simulator				3. Simulates diverse real-world market in virtual model design, value, volume, and profit.
4. Anatomical Zone Mapping Engine				4. Digitally defines key zones (torso, limbs, pelvis) for body types.
5. Anthropometric Variation Integration System				5. Adapts algorithmic body templates for true inclusivity in patterning logic.

C7.2 – Adaptive Scaling & Inclusion Tools

Translate diverse morphology into adaptive design rules that preserve comfort, movement, and garment integrity across body types.

SUBCATEGORY	L1	L2	L3	FUNCTION
1. Inclusive Pattern Scaling Model				1. Adjusts rules for pattern scaling that maintain self-adjusting integrity across a wide range of body shapes.
2. Global Morphotype Calibration Engine				2. Adapts morphological data with garment engineering constraints to maintain pattern behavior globally.
3. Cross-Population Fit Harmonizer				3. A harmonization engine that adjusts fit parameters for international markets (age, ability, activity).
4. Human Shape Variability Visualization Suite				4. Visualizes human shape variability across different body types, gender, and age groups.
5. Dynamic Torso Movement Incorporator				5. Dynamically adjusts garment design to accommodate torso movement and posture changes.
6. Anatomical Fit Memory Repository				6. Stores and retrieves data on individual body types to inform future garment design and production.

Further information is available on request

Link:

<https://patentscope.wipo.int/search/en/detail.js?docId=WO2024094577>

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Technological Landscapes of:

- Engineering & Computer Science (for programmable production)
- Apparel and Textile Engineering (for garment construction and mechanical movement)
- Garments, including Outerwear



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FURTHER READ:
PRESS RELEASE
+ 10 ANNEXES.



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