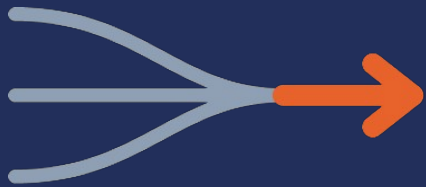


PICTURE BOOK · THE STUDY AND ITS DECISIONS ON TWELVE PAGES

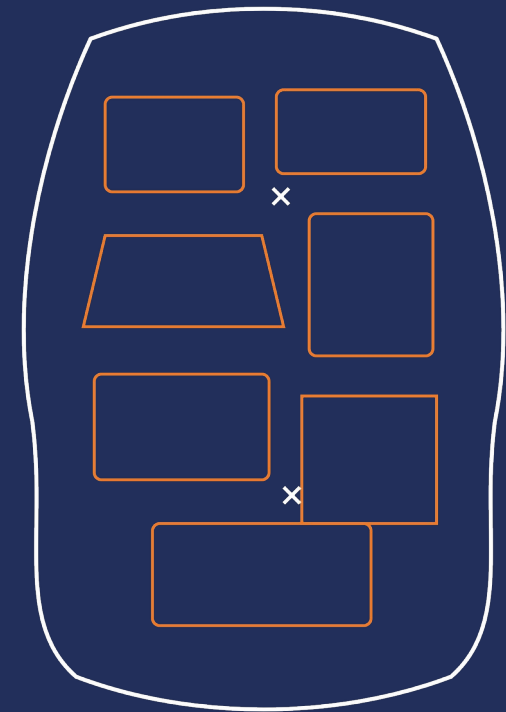


THREADS OF THE FUTURE

Footwear & Leather Technology Edition

What can European footwear and leather machine builders still own to 2045, and what should they decide now?

A study prepared for VDMA Textile Care, Fabric and Leather Technologies



VDMA
Textile Care, Fabric and
Leather Technologies

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Gherzi Germany GmbH

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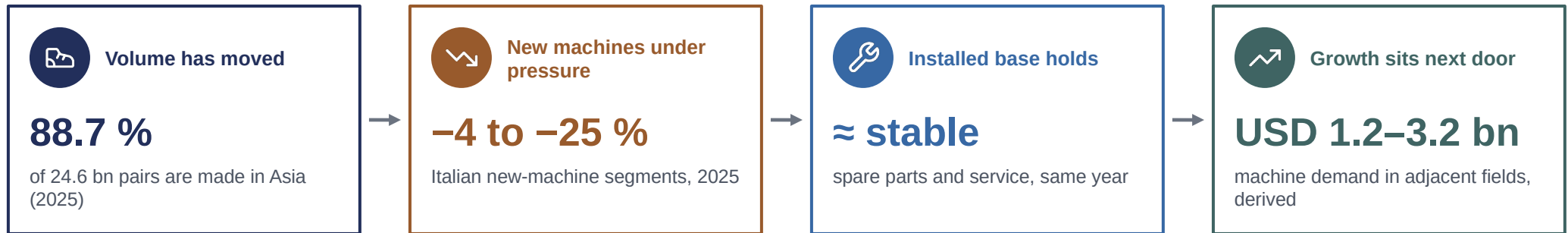
20 October 2026

Based on Main Report DOC 25205-002-MR, Version 6.1, 7 September 2026

Editorial cut-off 17 August 2026

THE ANSWER ON ONE PAGE

Europe will not recover volume shoe production by 2045. Its machine builders can keep the process steps they lead and earn more from machines already installed.



SIX DECISIONS FOR A MACHINE BUILDER



Most probable path to 2045: moderate transformation (page 11)

It needs no new technology and is already visible in the 2025 figures. Volume production stays in Asia; only the accelerated scenario makes part of it contestable in Europe and the nearshore ring. The decisions fall in the next few years.

All figures from Main Report DOC 25205-002-MR V6.1. M = measured, D = derived by Gherzi (at least ±50 %), A = assessment. Sources on each page.

1 · MARKET

Nine in ten pairs are made in Asia. The machines behind them form a small world market of EUR 2–3 bn.

A · WHERE 100 PAIRS ARE MADE

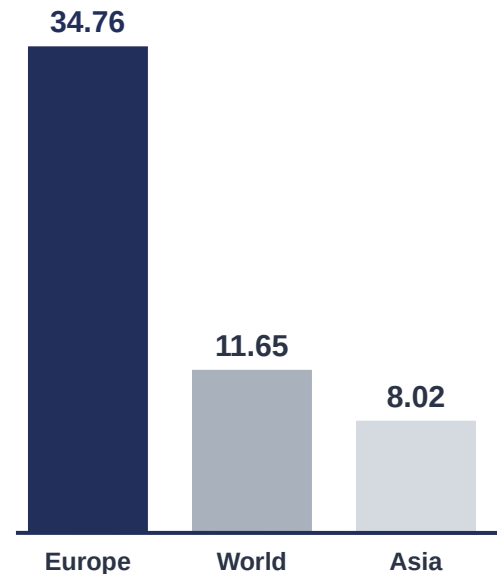
M measured



Rest of world includes Europe: 2.3 % of world production (2024).

B · PRICE PER PAIR, USD

M measured



Europe $\approx 3 \times$ world average. Partly re-exports via EU hubs.

C · SIZE OF THE MACHINE MARKET

D derived



Italian machine exports **EUR 338 m**

$\div$ Italy's share of world trade 27 %



World trade $\approx$ **EUR 1.25 bn**

+ machines sold in their home country



World market

EUR 2–3 bn

of which Europe EUR 350–550 m



Syndicated "USD 23.3 bn": about twenty times what observable trade supports. Not used.



WHAT IT MEANS

Machine volume follows shoe volume to Asia. A market of EUR 2–3 bn is held by position in process steps, not won by scale.



DECIDE

- Use EUR 2–3 bn as the market size in plans; do not quote the syndicated USD 23.3 bn.
- Serve Asian volume through yield, certification and service.

Sources: World Footwear Yearbook 2026 (APICCAPS, 2025 data; Europe 2024 share from the 2025 edition); Assomac Centro Studi 2026; Arsutoria Studio 2026. C derived, at least ± 50 %. MR V6.1, Sections 4.1, 4.4, Annex A1.

2 · COMPETITION AND OWNERSHIP

China leads the broad machinery market, Italy the dedicated leather machines. Comelz, sold to a Chinese group in 2026, had a tenth of the turnover the EU review requires.

A · TWO MEASURES OF ONE MARKET

M measured

Share of world trade, wide basket, 2025



Exports of leather machinery (HS 8453.10), USD m, 2023



C · EU REVIEW THRESHOLD, TO SCALE

M measured

Foreign Subsidies Regulation, Art. 20: target's EU turnover, EUR m

EUR 500 m

EUR 53.6 m Comelz revenue 2024, sold to Jack Technology, 2026

Below 500: only the Commission's call-in power or national screening; rules differ by member state.

B · OWNERSHIP CHANGES 2005–2026

M measured

To Chinese groups



To European owners

- 2025 DESMA Schuhmaschinen → NAME & MAWI Partners · direct soling
- 2026 schoen + sandt punching assets → Ring Group, German family group

The Chinese buyers acquired technology, software and integration capability.



WHAT IT MEANS

Europe leads where the machine is dedicated and specified high. Ownership decides where standards, data and know-how go.



DECIDE

- Concentrate on dedicated process machines rather than general sewing and cutting volume.
- VDMA: one specific, evidenced submission on the screening threshold gap.

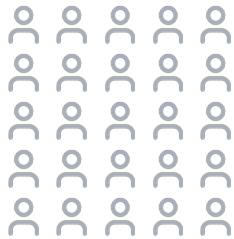
Sources: Assomac 2026 (basket definition not published); UN Comtrade via WITS; Salzgitter AG; Jack Technology filings; Il Sole 24 Ore; Reg. (EU) 2022/2560. Comelz signing date differs inside the MR and is not shown. MR V6.1, Sections 4.3, 4.5, 7.2–7.3, Table 7.

3 · THE AMERICAN CASE

High tariffs and an automated flagship plant did not bring shoe production back to the US. Europe still has the supplier network the US lost.

A · US FOOTWEAR JOBS

M measured



1940s ≈ 250,000

2025 ≈ 11,000

one figure = 10,000 jobs

B · TARIFFS ON FOOTWEAR, %

M measured

67.5 regular schedule, max.

145 IEEPA, April 2025

150–220 stacked on Chinese shoes

Import share: ≈ 99 %, held through 2025.

C · ADIDAS SPEEDFACTORY

M measured

409 m pairs: adidas output 2018

≈ 1 m pairs capacity: ≤ 0.25 %

Two plants, 2016–2019. Built before learning-based robot control and without a local supplier base.

D · WHAT TRANSFERS TO EUROPE

A assessment

	United States	Europe
Volume production	⊗ ≈ 1 % of consumption made at home	⊗ also lost
Machine engineering	⊗ disappeared with the base	✓ retained in Italy and Germany
Luxury and tanning	⊗ never large	✓ strong; moving back to Italy and France
Nearshore ring	⊗ none comparable	✓ Türkiye, North Africa, Balkans
Policy response	⊗ high tariffs	✓ quality, documentation, traceability



WHAT IT MEANS

Tariffs and a single flagship plant did not bring volume back. Suppliers, toolmakers and engineers are what Europe still holds.



DECIDE

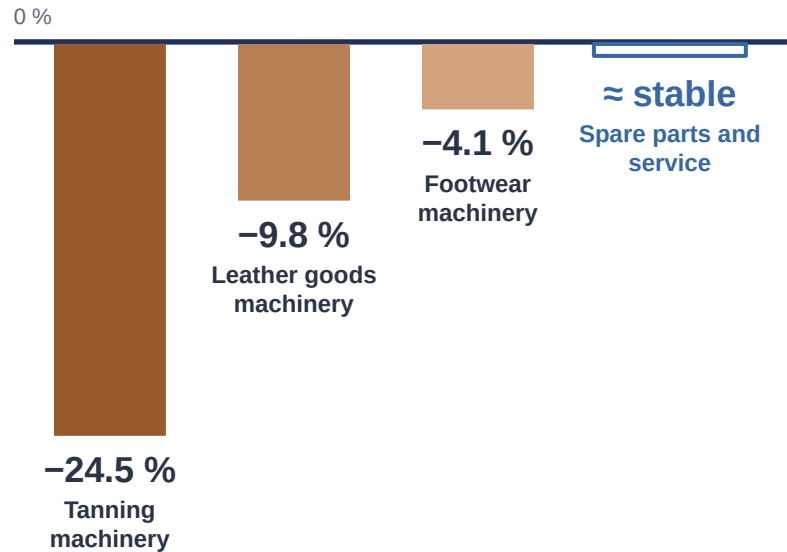
- Base no plan on tariffs or on one automated flagship plant bringing volume back.
- Treat European suppliers, toolmakers and skills as an asset to maintain.

Sources: AEI 2019; BLS NAICS 3162; USITC; FDRA 2025; adidas annual reports 2018–2019; Pisano and Shih (HBR 2009, 2012). Speedfactory output never published; 1 m pairs is capacity, an upper bound; the sliver is drawn wider than scale. MR V6.1, Sections 5.2–5.3, Table 5.

4 · INSTALLED BASE

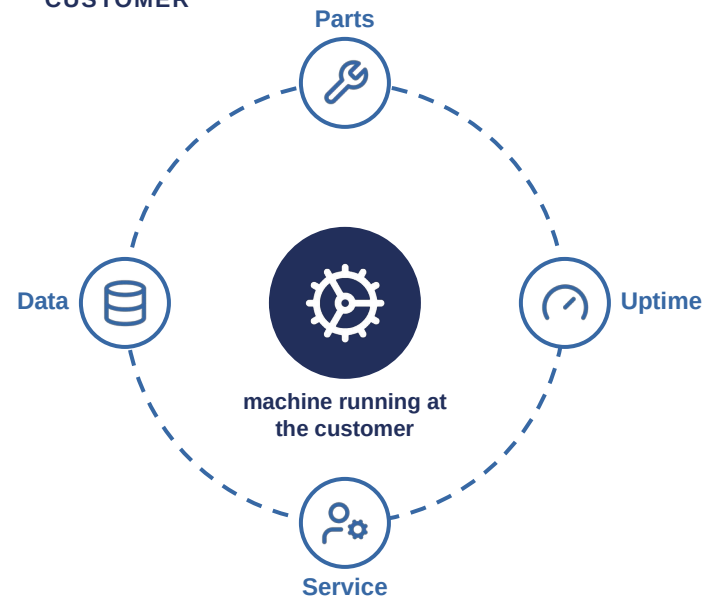
In 2025 every new-machine segment fell, while spare parts and service held. The customer's running machine is the position that still protects the business.

A · ITALIAN SECTOR, CHANGE 2025 VS 2024 M measured



Sector production about EUR 512 m: -11 % after -12 % in 2024.

B · WHAT KEEPS THE CUSTOMER A assessment



C · THREE TESTS A assessment

	Input Same material, energy, labour price?	Weak
	Transformation How fast can a copier win approval?	Eroding
	Access Cost for the customer to switch?	Holds

The tests multiply: a weak score on one cannot be offset by the others.



WHAT IT MEANS

A new machine competes on price against subsidised suppliers. Parts, uptime and service on installed machines are hard to replace.



DECIDE

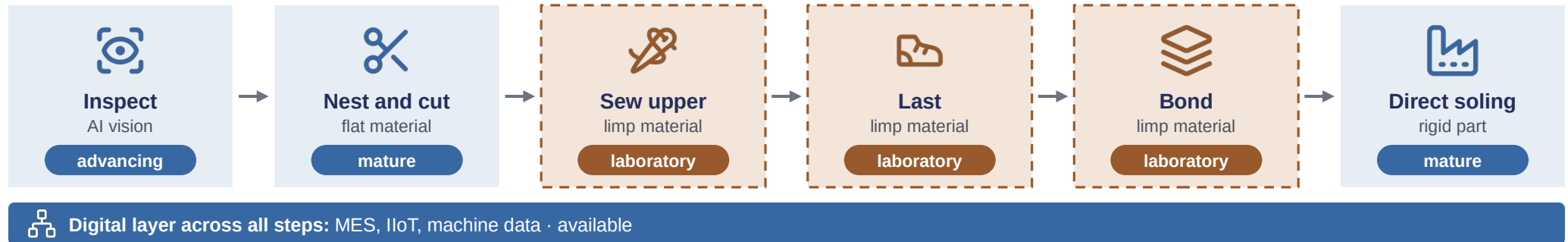
- Shift revenue to parts, uptime and service, priced on measured results.
- Rate each product line on the three tests; where one is absent, build it or leave the segment.

Sources: Assomac Centro Studi, General Assembly, June 2026 ("stable" is Assomac's wording; no growth figure published). B and C: Gherzi framework applied to the sector. Bars to scale. MR V6.1, Section 4.2, Figure 3; Sections 12.1–12.2, Tables 12–13.

5 · TECHNOLOGY

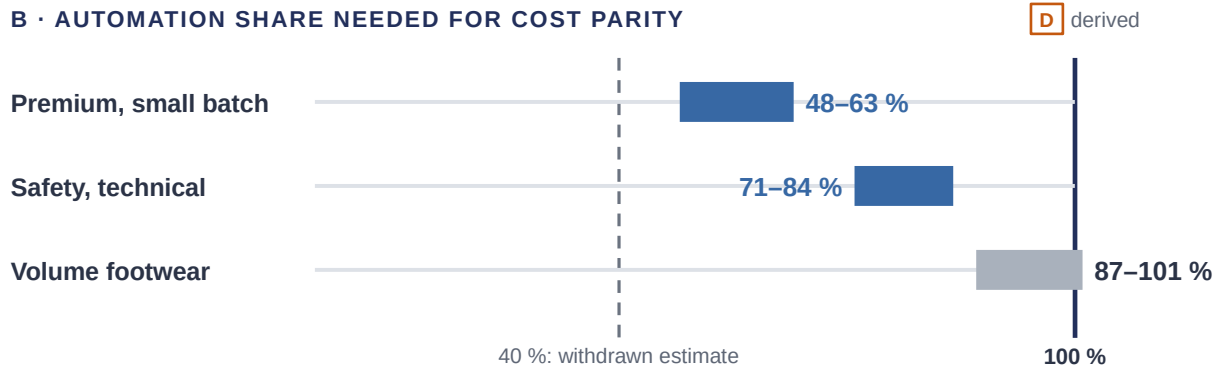
Four technologies are in industrial use; joining soft material is not. How much automation is needed to match Asian cost depends on the product.

A · THE SHOE-MAKING CHAIN AND ITS READINESS



Flat or rigid parts follow fixed programs. Leather and textile stretch, fold and shift, so each cycle needs sensing and adaptive control.

B · AUTOMATION SHARE NEEDED FOR COST PARITY



How to read B

Share of manual labour that automation must remove so that European cost matches Asian cost plus freight, duty and inventory.

At 100 % or more, automation alone cannot close the gap.

Volume footwear: 87–101 % at Romanian or Bulgarian wages, 93–101 % at Portuguese or Italian wages.



WHAT IT MEANS

The gap is smallest for premium, small-batch and certified products, the segments in which Europe already produces.



DECIDE

- Sell inspection, cutting, direct soling and the digital layer now; the limit is sales capacity.
- Fund soft-joining research jointly, aimed at premium and safety footwear first.

Sources: Gherzi readiness assessment and parametric model (Annex A2); BLS labour share 30.9 % (2023); Eurostat 2025; USITC 2024; capital charge 10–30 %; wage input not footwear-specific. MR V6.1, Sections 6.1–6.4, Figures 8–9.

6 · PROOF IN OPERATION

Five reference cases show what today's technology delivers: about 15 % less leather, five points more yield, 75 % recurring revenue.

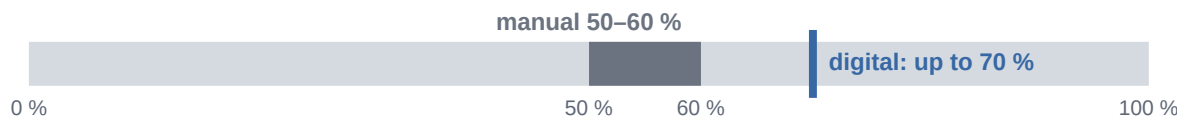
A · FIVE REFERENCE CASES

M measured



B · SHARE OF A HIDE THAT ENDS UP IN PARTS

M measured



Lectra: one point of yield ≈ EUR 100,000 a year in an automotive cutting room (vendor statement).

What the working cases share

- ☐ flat material or rigid parts
- ☒ planned demand
- ☒ often a captive buyer



WHAT IT MEANS

Leather yield and fewer scarce hand-cutters are proven. The 40 % output gain of the furniture plant rests on one plant.



DECIDE

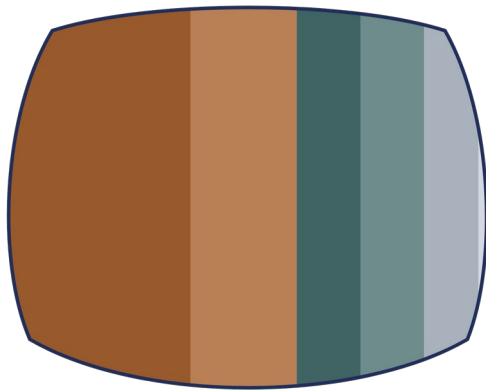
- Sell on the customer's measured saving; use these cases as references.
- Offer soft joining as joint research, not as a product promise.

Sources: BMW PressClub, 8 Mar 2023; ABB, Engelbert Strauss; Lectra results, 11 Feb 2026; DESMA and ABB vendor statements; Elamvazuthi et al. 2013; Leather International, 22 Oct 2020. Company and vendor figures, not audited. MR V6.1, Sections 4.8, 6.5, 6.7.

7 · ADJACENT MARKETS

The same cutting and joining competence serves other industries. They add USD 1.2–3.2 bn of machine demand to a USD 2.2–3.3 bn core.

A · EU LEATHER BY END USE M measured



Footwear 37.8 % Leather goods 22.3 %
Car interiors 13.4 % Furniture 13.3 %
Garments 11.4 % Other 1.8 %

Lectra and Zünd sell one leather-cutting platform into all four main uses.

B · MACHINE DEMAND, USD BN PER YEAR

D derived

FIELD	MARKET	MACHINE DEMAND	
 Technical textiles converting share 20–30 %	215.6		0.43–1.29
 Protective equipment material share 25–35 %	90.4		0.23–0.63
 Automotive interiors full material value	44.9		0.45–0.90
 Upholstered furniture covering share 15–25 %	77.0		0.12–0.39
 Aircraft seat upholstery full value	1.13		0.01–0.02
+ All adjacent fields			1.2–3.2
 Core market today footwear, leather goods, tanning			2.2–3.3

0 1 2 3 USD bn



WHAT IT MEANS

Car interiors, furniture, technical textiles and protective equipment can add about half to about the full size of today's core machine market.



DECIDE

- Pick two or three named fields, each with a qualification path; avoid a general widening of the catalogue.
- Size each case on machine demand, never on the downstream market value.

Sources: COTANCE and industriAll Europe 2020 (EU-28 industry data 2019); Grand View Research 2026; CSIL 2026; Fortune Business Insights 2026. B = market × share × machine intensity 1–2 % a year, at least ±50 %; core EUR 2–3 bn at USD 1.10/EUR. MR V6.1, Sections 4.7, 8.1–8.7, Table 9.

8 · REGULATION, DATA, CIRCULARITY

EU rules create dated demand, but deadlines move. The Data Act already decides where service revenue can sit.

A · KEY DATES, STATUS 17 AUGUST 2026

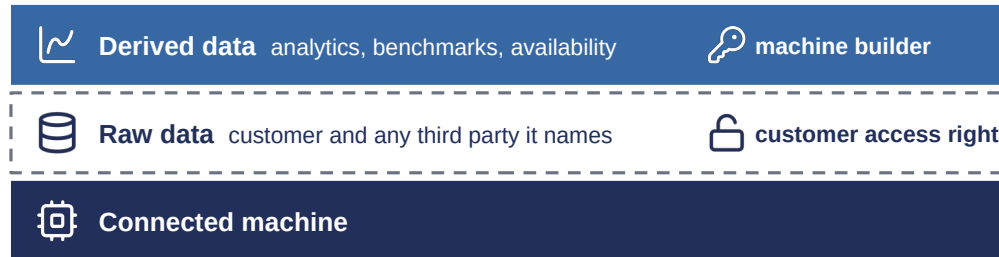
M measured

▲ reaches the machine builder ▼ reaches the customer



B · WHO CONTROLS WHICH DATA LAYER

M measured



C · CIRCULAR ECONOMY, TWO TIME FRAMES

A assessment



Now

Cleaning, grading, resoling, repair records with existing lasting and stitching know-how. Shoe repair ≈ USD 1.4 bn.



Later

Disassembly of bonded shoes: no mature product yet. Pilots on homogeneous streams.



WHAT IT MEANS

Plan against adopted, dated law. Repair and collection stay in Europe because used material is heavy and cheap per tonne.



DECIDE

- Use regulatory demand to fund capability you need anyway.
- Standard data interface on every new machine (OPC UA, umati); charge for derived data and availability.

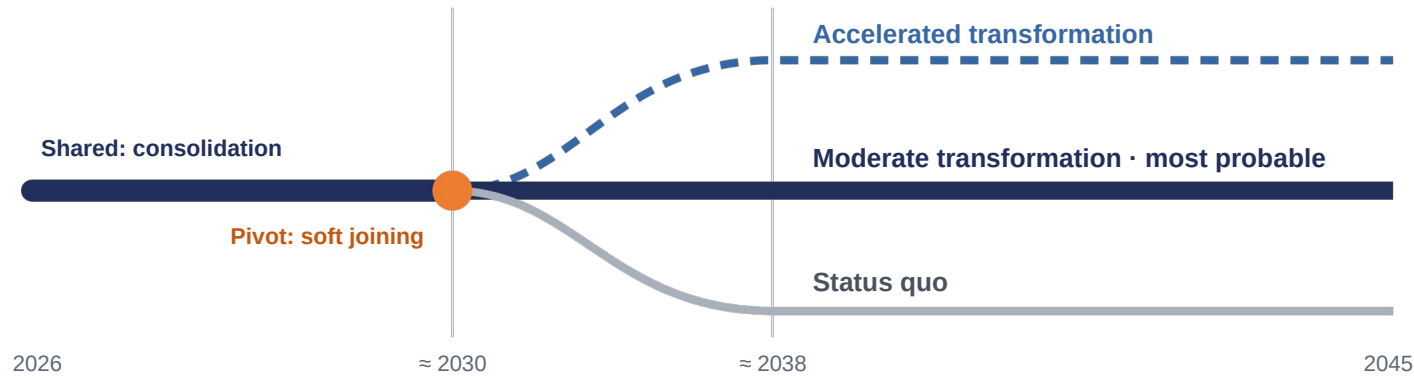
Moved since 2025: EUDR postponed, footwear out of the first ESPR work plan, CSDDD employee threshold raised fivefold. Sources: Reg. (EU) 2023/2854 (Data Act), 2024/1781 (ESPR), 2023/1115 (EUDR), 2023/1230 (Machinery), 2024/2847 (CRA); Directive (EU) 2025/1892, 2026/470; Fact.MR 2025 (repair, third-party estimate). No legal advice. MR V6.1, Sections 9.1–9.4, 10.3–10.5.

9 · SCENARIOS TO 2045

All three scenarios start with consolidation to 2030. Moderate transformation is the most probable path; in 2045 the sector sells capability with service.

A · ONE ROAD, ONE FORK: SOFT JOINING

A assessment

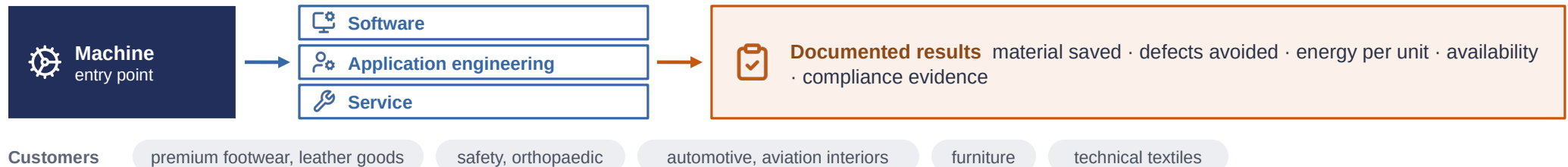


Why moderate is most probable

- ✓ needs only technology already on sale
- ✓ already visible in the 2025 figures
- ✓ no falsifying indicator observed

B · THE OFFER IN 2045 ON THE MODERATE PATH

A assessment



WHAT IT MEANS

Volume stays in Asia unless soft joining is solved. Entering adjacent fields improves the position in all three scenarios.



DECIDE

- Start the actions on page 12 now; none waits for a breakthrough.
- Treat joint soft-joining research as the option on the accelerated path.

Sources: Gherzi scenario framing; three-stage path from internal short study 25205-005. Scenarios are development spaces, not forecasts; the sketch shows order and timing only. MR V6.1, Sections 14 and 14.1.

10 · ACTIONS

Eleven actions that can start now

Selected from the 14 recommendations of the Main Report, Tables 15–16

Machine builders

-  Price and sell **measured results**: yield, defects, energy, uptime.
-  **Standard data interface on every new machine**, on VDMA data semantics.
-  Scale material-efficient cutting and AI inspection now.
-  Earn recurring revenue on **derived data**: analytics, benchmarks, availability.
-  Build compliance records into the machine as standard output.
-  Enter **two or three named adjacent fields**; repair and refurbishment is one candidate.

VDMA

-  Convene **four multi-member pilot consortia**, soft joining first.
-  Publish pilot results as reusable reference architectures.
-  Deliver an **OPC UA companion specification** under umati.
-  Raise the **screening gap** in Brussels; same compliance rules for imports.
-  Work with COTANCE, CEC and Assomac to defend the European customer base.

 **Timing**: consolidation is under way. The decisions that set the path to 2045 fall in the next few years.

SOURCE

Main Report DOC 25205-002-MR, Version 6.1 (external), 7 September 2026; editorial cut-off 17 August 2026. All figures in this book are taken from it.

EVIDENCE TYPES

M measured, named source. **D** derived by Gherzi from disclosed inputs (Annex A1, A2), at least ±50 %. **A** assessment by the authors.

DISCLAIMER

Orientation and decision support, not legal, investment or transaction advice. Scenarios are development spaces, not forecasts. Confidential until released by the VDMA.