

## Wide Format 2026: Consolidation, Chemistry, and the Software Layer

A vendor-neutral analysis of hardware OEMs, ink chemistries, RIP consolidation, and the regulatory deadlines reshaping large format printing.

---

**\$9.8–**

**20.7B** market size, depending entirely on who is counting

**3 deals** redrew the OEM map in eighteen months

**12 Aug** PPWR lands with no transitional period

# What Is In This Report

|    |                                                  |    |
|----|--------------------------------------------------|----|
| —  | Executive Summary                                | 3  |
| 01 | Market Sizing and the Definition Problem         | 5  |
| 02 | Where the Money and the Volume Actually Are      | 8  |
| 03 | Consolidation: Three Deals That Redrew the Map   | 10 |
| 04 | Hardware: Automation Is the Whole Pitch Now      | 12 |
| 05 | The Software Layer Is Where Differentiation Went | 15 |
| 06 | Ink Chemistry and the Regulatory Wall            | 17 |
| 07 | Strategic Implications                           | 20 |
| —  | Methodology, Sources, and What We Removed        | 22 |

## How to read this report

This is not a market research report in the conventional sense. It does not attempt to produce a single authoritative market size, because no such number exists and the firms that sell you one are quietly choosing a definition to get there.

What it does instead is show you where the published figures disagree, explain *why* they disagree, and separate the findings that change a purchasing decision from the ones that just fill a trade press headline. Where a number is soft, it says so. Where a widely-circulated statistic has been mis-scoped in secondary coverage, it says that too.

The test applied throughout: **does this change what a print shop should do on Monday?** If not, it is context, and it is labelled as context.

## A note on what was cut

Earlier drafts of this landscape circulated with a regional market share donut chart and an ink chemistry composition chart. Both have been removed rather than corrected, because neither was recoverable. Full detail is in the methodology section on page 22. If you have seen those charts in circulation, read that page before you cite them.

## EXECUTIVE SUMMARY

# Seven Findings That Matter

---

The 2026 large format market is mature, consolidating, and quietly reorganising itself around software and chemistry rather than print engines. The following seven findings are the ones that survive scrutiny.

## 1. The market has no single size, and the spread is a scope argument

Published 2026 valuations range from \$9.82 billion to \$20.7 billion. This is not measurement error. It is five firms drawing the boundary in five places — consumables in or out, CAD in or out, toner in or out, service contracts in or out. Every definition lands between 5.1% and 6.7% CAGR. **The growth rate is the reliable finding; the valuation is not.** When a vendor quotes you a market number, the only useful question is what they counted.

## 2. Three acquisitions made the same bet: own the stack or lose it

Epson bought Fiery for \$568.7M and now owns the DFE layer sitting in front of its competitors' presses. Roland DG went private at JPY 66bn to escape quarterly earnings pressure. Brother, having lost the Roland bid, took 88.01% of Mutoh for JPY 30.8bn to buy its way into sign and textile. Three different mechanisms, one thesis: **selling print engines is no longer a business.**

## 3. The ink supply chain is consolidating and almost nobody is watching

Nazdar's June 2026 acquisition of Fujifilm's analog screen and flexo ink business across the Americas received a fraction of the coverage of Brother-Mutoh. It is arguably more consequential for any shop running third-party ink. **Every consolidation in merchant chemistry is one fewer alternative when your OEM reprices consumables.** That repricing typically arrives twelve to eighteen months later.

## 4. Hardware innovation in 2026 is almost entirely about removing the operator

Canon's PAINT nozzle compensation, DynamicMotion Control, and TRIdrive self-steering belt. Mimaki's DAS2, which the company describes plainly as reducing the need for experienced operators. HP's recirculating white ink and zero-waste overcoat. Epson's user-replaceable printhead. **Almost none of these make the print better. They make it repeatable without a senior operator standing there.** That is the real product.

## 5. Published throughput is a marketing asset, not a planning input

HP publishes both figures for the Latex FS70 W: 162 m<sup>2</sup>/hr maximum, 91 m<sup>2</sup>/hr stabilized for high-quality indoor prints. That is a 44% gap, and HP deserves credit for disclosing it, because most vendors publish only the first number. **A payback model built on maximum throughput at a quality level you never sell overstates capacity by roughly the same margin.**

## 6. The widely-quoted 74% AI figure does not say what it is used to say

IDC found that 74% of organizations with 500+ employees had deployed at least one autonomous agent by early 2026 — across all industries, for any purpose. It is routinely recycled as "74% of large organizations have

deployed agentic AI in print.” The genuine print-specific finding is narrower and more useful: PSPs are delegating prepress, nesting, error prediction, and job scheduling to self-correcting systems, with reported service cost reductions of 10–15%.

## **7. PPWR is a market-access condition for some shops and a chemistry warning for all of them**

The 12 August 2026 PFAS limits apply to food-contact packaging, with no transitional period. Most sign and graphics shops are out of scope and should stop reading compliance content aimed at converters. But **the indirect effect reaches everyone**: ink suppliers are reformulating across entire product lines, and TPO photoinitiators are being phased out under reproductive toxicity pressure. Reformulated inks cure differently. This is the finding most likely to appear on your floor as an unexplained adhesion problem.

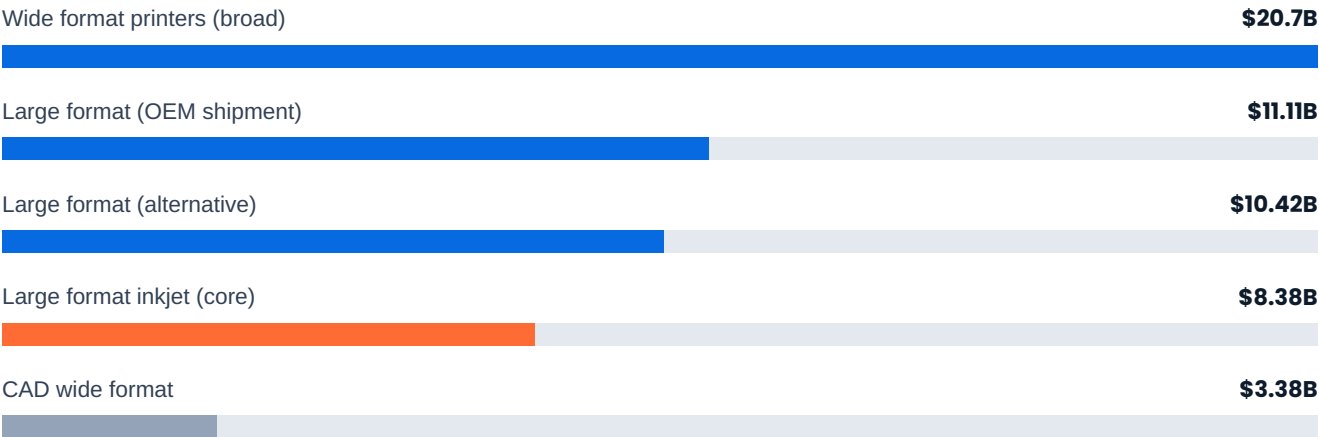
SECTION 01

# Market Sizing and the Definition Problem

The global print market is projected at \$834.3 billion in 2026, with digital printing climbing from 17.2% of it in 2021 to 21.6% today. Large format operations are a primary catalyst for that migration. Ask how big large format itself is, and the numbers stop agreeing.

| SEGMENT / PERSPECTIVE                        | 2025     | 2026     | FORECAST HORIZON | CAGR            |
|----------------------------------------------|----------|----------|------------------|-----------------|
| Wide format printers (broad)                 | \$19.4B  | \$20.7B  | \$34.7B by 2035  | 6.7% (2026–35)  |
| Large format printers (OEM shipment scope)   | \$10.57B | \$11.11B | \$16.51B by 2034 | 5.08% (2026–34) |
| Large format printers (alternative estimate) | \$9.82B  | \$10.42B | \$13.07B by 2030 | 5.8% (to 2030)  |
| Large format inkjet (LFP core)               | \$7.94B  | \$8.38B  | \$10.36B by 2030 | 5.5% (2025–30)  |
| CAD wide format                              | \$3.21B  | \$3.38B  | \$5.04B by 2034  | 5.1% (2026–34)  |

Sources: Research Nester; Fortune Business Insights; The Business Research Company; MarketsandMarkets; Intel Market Research. Figures as published.



2026 valuation, USD billions. Each bar is a different firm measuring a differently-drawn market.

The finding

These are not five measurements of one market. They are five definitions of where the market ends. “Wide format printers” at \$20.7B includes consumables, service, and CAD plotters. “OEM shipment scope” at \$11.11B counts hardware revenue at point of sale. “Inkjet LFP core” at \$8.38B strips out toner and CAD. **None is wrong. All get quoted interchangeably in vendor decks** — which is how one rep tells you the market grows 6.7% and a competitor’s rep says 5.08%, and both hand you a legitimate source.

## What the convergence actually tells you

The useful signal is not any absolute figure. It is that every definition, drawn by a different firm with different methodology, lands between 5.1% and 6.7% CAGR. Whatever you count, this market grows at roughly GDP plus a point or two.

**That is the definition of a mature market, and it has a hard operational consequence: growth will not rescue a shop with a structural cost problem.** In a 15% CAGR market you can outrun a bad cost base for a few years. At 5.5% you cannot. Every margin problem you have in 2026 is a problem you will still have in 2029, only larger. This single fact should shape capital allocation more than any hardware launch in this report.

## Demand-side context

---

**\$834.3B** — projected global print value, 2026

---

**21.6%** — digital share of global print in 2026, up from 17.2% in 2021

---

**76%** — of consumers who entered an unfamiliar store because of its physical signage

---

**68%** — who believe signage quality reflects the quality of the business itself

---

The consumer research is worth holding lightly. Signage-recall surveys are frequently commissioned by signage industry bodies, and the finding that signage matters is not a surprising result from a signage association. Treat it as directional support for a proposition you already believed, not as independent evidence.

## The CAD segment: concentrated and procurement-driven

CAD wide format is the most concentrated vendor landscape in industrial print. Canon, HP, and Epson command the majority of global revenues; the top five manufacturers hold roughly 60–70% of the market. According to IDC's Worldwide Industrial Printer Tracker, HP and Canon combined account for nearly three-quarters of worldwide CAD shipments.

That concentration is not a technology story. It reflects long enterprise procurement cycles, extended replacement windows, and deep brand entrenchment in engineering and construction workflows. Global construction output is projected to rise 3.5% annually through 2028, and inkjet continues to lead over laser on colour accuracy, maintenance, and cost per technical drawing.

At scale the economics are unambiguous: HP's PageWide XL 8200 series outputs 30 D-size prints per minute and becomes highly economical once daily volume exceeds 500 m<sup>2</sup>. Below that threshold it is an expensive way to print drawings. Environmental procurement is now a live factor — low-energy LED and aqueous platforms are projected to take an additional 25% of CAD share by 2030, driven by green building certifications and corporate ESG requirements rather than by print quality.

**Two structural notes that rarely make the trade press**

In March 2026, HP announced a restructuring of its graphic arts division, including shutting down Boise operations and fully exiting Idaho by the end of its 2027 fiscal year to consolidate engineering and operational overhead.

Separately, gray market diversion continues to compress vendor margins in peripheral territories, particularly through transit hubs such as Dubai, where unauthorized distributors exploit regional price arbitrage. If you have ever wondered why identical hardware carries wildly different list prices across markets, this is a large part of the answer — and it is why your local distributor's pricing flexibility is narrower than you think.

## SECTION 02

## Where the Money and the Volume Actually Are

Revenue concentration and unit volume are two different maps. Most regional charts published this year quietly merge them. They cannot be merged.

| REGION         | FIGURE | METRIC                           | YEAR          | DRIVER                                                          |
|----------------|--------|----------------------------------|---------------|-----------------------------------------------------------------|
| North America  | ~35%   | Global revenue share             | 2026          | Commercial networks, DOOH, vehicle wraps, event branding        |
| Asia-Pacific   | 42.4%  | Printer <i>unit volume</i> share | Forecast 2035 | Urbanization in China and India; 6% CAGR in CAD for AEC         |
| Germany        | 24%    | Share of <i>European</i> market  | 2026          | Circular economy mandates, energy-efficient platform transition |
| United Kingdom | 21%    | Share of <i>European</i> market  | 2026          | As above                                                        |

Note the Metric and Year columns. They are the entire point of this table.

### Why there is no pie chart in this section

You cannot put these figures in one pie. North America's 35% is revenue in 2026. Asia-Pacific's 42.4% is unit volume in 2035. Germany's 24% is a share of Europe, not of the world. Europe's share of the *global* market is not reliably published anywhere in the source literature. **Adding these numbers produces a chart that looks authoritative and means nothing.** If you see a regional donut for this market that sums neatly to 100%, at least one slice was invented to close the gap.

### The interpretation that actually matters

North America leads on revenue while Asia-Pacific leads on units. That divergence is the finding, and it is not a contradiction — it is a description of two different businesses wearing the same name.

North American revenue per unit is high because the work is high-mix and short-run: wraps, event graphics, DOOH refreshes, one-off displays. Asia-Pacific unit growth is driven substantially by CAD deployment into AEC projects, which is high-volume, low-margin, technically undemanding output. **A machine sold into each market is not the same business at all.**

The practical consequence for a European or North American shop: do not read Asia-Pacific volume growth as competitive pressure on your work. It is not addressing your customers. The competitive pressure on high-mix short-run work comes from web-to-print automation and from shops in your own market that have taken labour out of finishing — not from unit shipments in Shenzhen.



## Europe: regulation as a purchasing driver

Germany leads Europe at 24% of continental share, with the UK at 21%. Both markets are shaped heavily by circular economy mandates that push PSPs toward energy-efficient platforms and sustainable chemistries.

This is worth stating precisely, because it is easy to dismiss as ESG theatre. It is not. In these markets, a corporate client's procurement department increasingly requires carbon footprint reporting as a condition of the contract. That makes the substrate and chemistry decision a *sales* decision rather than an environmental one. A shop that cannot document a PVC-free, recyclable workflow is losing multi-year contracts to one that can — regardless of what either of them thinks about the underlying policy.

## SECTION 03

## Consolidation: Three Deals That Redrew the Map

In eighteen months, one OEM bought the industry's dominant digital front end, one went private to escape quarterly scrutiny, and one bought its way into sign and textile after losing a hostile bid. These are not unrelated events.

### 2 DECEMBER 2024

#### Seiko Epson acquires Fiery, LLC — \$568.7M

Approximately JPY 85.3 billion, completed after all regulatory approvals. Fiery software ships in over two million DFEs worldwide. Fiery becomes a specified subsidiary within the Epson Group but keeps its independent corporate identity, offices, and structure under CEO Toby Weiss — and continues serving competitor OEMs that depend on its platforms.

### MAY 2024

#### Roland DG goes private — JPY 66bn management buyout

Led by US investment firm Taiyo Pacific Partners, which raised its tender offer to JPY 66bn and prompted Brother to withdraw a JPY 64bn counter-proposal. Funded by a JPY 47.12bn MBO loan from Resona Bank via Solsticia Corporation, a special-purpose entity wholly owned by Taiyo Unleash Acrux Holdings, LP.

### 30 MARCH 2026

#### Brother Industries completes Mutoh acquisition — JPY 30.8bn

Approximately \$230M USD for an 88.01% stake, all cash from internal reserves. Mutoh delisted from the Tokyo Stock Exchange, followed by statutory squeeze-out of minority shareholders. Brings roll-to-roll, eco-solvent, and flatbed hardware plus VerteLith RIP, AMP SPEED UV-LED curing, and eco-solvent and dye-sublimation formulations.

### 25 JUNE 2026

#### Nazdar acquires Fujifilm North America's analog ink business

Screen and flexographic ink business across the United States, Canada, and Latin America. Strengthens Nazdar's industrial formulation capacity and lets Fujifilm concentrate R&D on proprietary digital inkjet.

## One thesis, three mechanisms

Epson bought the software layer. Roland bought its own freedom from the public markets. Brother bought a product line it could not build fast enough. Different instruments, identical conviction: **the standalone print engine is no longer a defensible business.**

Brother's medium-term plan, CS B2027, states the ambition explicitly — JPY 1 trillion in corporate revenue by 2027, with 40% of that volume from industrial and professional printing. Mutoh is how Brother gets there, and it gets there by buying an installed base and a chemistry portfolio rather than by out-engineering anyone.

Epson's Fiery deal is the most elegant of the three and deserves closer reading. Epson now owns a colour management and RIP layer installed in front of its *competitors'* presses. Fiery continues to serve rival OEMs. That means Epson earns revenue from a Canon or HP sale it did not make. It is a toll booth, not a product line, and toll booths are considerably better businesses than printer factories.

**What this means when you buy your next printer**

Hardware, RIP, and ink are converging into single-vendor bundles with single-vendor warranties. **That is genuinely good for uptime and genuinely bad for your negotiating position at renewal.** Both are true simultaneously, and the trade is worth making for some shops and not others. What is not defensible is making the trade without noticing you made it. Price the lock-in as a line item, because it is one.

**The unglamorous deal that matters most**

Nazdar-Fujifilm received a fraction of the coverage of Brother-Mutoh. For anyone running third-party ink, it is arguably the more consequential transaction of the four.

The logic is simple and it has held for thirty years. Merchant ink suppliers are the only structural constraint on OEM consumable pricing. When a merchant supplier consolidates, the constraint weakens. When the constraint weakens, consumable prices rise — not immediately, and never announced as a price rise, but as a reformulation, a new SKU, a discontinued line, or a warranty condition that quietly requires OEM chemistry.

**Watch the ink supply chain, not the printer launches.** Printer launches are announced at trade shows with a stage and a countdown. Consumable repricing arrives in an email from your distributor eighteen months later, and it will cost you more than the printer decision did.

## SECTION 04

## Hardware: Automation Is the Whole Pitch Now

---

Read the 2026 spec sheets in sequence and the pattern is unmistakable. Almost none of the headline features make the print better. They make it repeatable without a senior operator standing there.

### Canon Colorado XL series — UVgel at 3.4 metres

Canon scaled its proprietary UVgel technology to the 3.2m graphics market. The 3.4m modular platform is available in roll-to-roll and hybrid configurations and handles flexible substrates and rigid board up to 52mm (2 inches).

- **UVgel 850 printheads** — 4,544 nozzles each, with Piezo Acoustic Integrated Nozzle Technology (PAINT) automatically detecting and compensating for nozzle performance in real time.
- **DynamicMotion Control** — high-resolution machine vision tracks media micro-movement and recalibrates drop placement on the fly, eliminating alignment error on difficult substrates.
- **FullBeam curing** — decouples curing using a 3.4m stationary LED array paired with a mirror array for uniform UV dose across the full width. Eliminates UV banding and cures up to five high-density ink layers in a single pass.
- **UVgel TRIdrive vacuum belt** — self-steering multi-zone transport that automatically corrects media position, skew, and wrinkle.

Read that list again and note what is absent: nothing about colour gamut, nothing about resolution, nothing about image quality. Four flagship subsystems, and every one of them exists to stop a human having to notice something and intervene.

### HP Latex FS70 W — and the number HP was honest about

Successor to the Latex 3X00 series, targeting high-volume industrial environments with odorless water-based inks.

- **162 m<sup>2</sup>/hr maximum** throughput; **91 m<sup>2</sup>/hr stabilized** for high-quality indoor prints.
- **6L white ink system** with automatic recirculation preventing sedimentation and head clogging.
- **Automated overcoat printhead** engineered to reduce overcoat waste to zero on laminated production.
- **10L bulk colour cartridges** to minimise changeover downtime.
- **Latex Productivity Kit** — modular upgrade for existing FS50 and FS60 platforms, upgrading internal electronics and ink delivery for roughly 30% more speed.

### The number nobody puts on the stand

Every quoted throughput figure is a maximum under ideal conditions. HP publishes both — 162 m<sup>2</sup>/hr max and 91 m<sup>2</sup>/hr stabilized for quality indoor work — and deserves credit, because that **44% gap is the honest one**. Most vendors publish only the first number. When you build a payback model on a maximum-throughput figure, you have built a payback model on a marketing asset. **Ask for the stabilized rate at the quality level you actually sell, on your actual substrate, in writing, before you sign.** A vendor who will not put it in writing has answered the question.

The Latex Productivity Kit deserves separate attention because it runs against the industry's commercial instinct. It extends the life of hardware HP already sold rather than replacing it. For a PSP, a 30% throughput increase without a new chassis is one of the highest-return capital decisions available in this market — and it is precisely the kind of option a salesperson on commission has no incentive to lead with. Ask about it specifically.

### Epson SC-S9100 and the DTF platforms

The SureColor SC-S9100 is a 64-inch eco-solvent platform for signage, vehicle wraps, and wallpaper. It delivers 119.4 m<sup>2</sup>/hr single-pass, a 9% productivity increase over the SC-S80600 it replaces, with an 11-colour configuration including newly added green for gamut extension.

The feature that matters is not the 9%. It is the **user-replaceable PrecisionCore Micro TFP printhead**. Your operator swaps it. You do not wait three days for a service engineer. Anyone who has costed unproductive machine hours knows which of those two numbers is larger, and it is not close. Supporting changes follow the same logic: low-profile flat-top design, transparent lid for media monitoring, integrated media lifter for roll changes. Every one is a reduction in operator friction.

On the DTF side, the SureColor G9000 series builds on the G6000 with a wider 64-inch print width and a new printhead with double the bandwidth, delivering more than twice the productivity. It adds automated maintenance cycles, automated white ink circulation against sedimentation, and deep integration with inline shakers and cutters — positioning it as a digital alternative to analog screen-printing workflows.

Automated white ink circulation is worth pausing on. White ink sedimentation and head clogging is the single most common failure mode in DTF, and it has been since the technology existed. Both HP and Epson are now shipping recirculation as a headline feature on their respective platforms. **When two competitors independently productize a solution to the same problem in the same cycle, that is confirmation the problem was real and endemic** — not that either vendor is being clever.

### Agfa, Durst, and Roland DGA

- **Agfa Jeti Bronco H3300 HS** — 3.3m high-speed hybrid UV, EDP Award 2026 for productivity-to-cost ratio. The Jeti Tauro MAX automation ecosystem enables fully continuous, unmanned pallet-to-pallet sheet loading. The Jeti Condor RTR5200 extends to 5.2m industrial roll-to-roll.
- **Durst P5 350 CORE** — mid-market configuration with automated vacuum belt. The **P5 350 HSI** adds Digital Substrate Alignment (DSA) to automate substrate edge alignment. The **P5 SMP** (Super-Multi-Pass) uses multi-head architecture for up to 1,940 m<sup>2</sup>/hr at 1200 dpi across 3.5m — the highest published throughput in this report.
- **Roland VersaOBJECT LO-640-F3** — UV flatbed for high-mix, low-volume industrial customization. 9.5-inch clearance, 220.5 lb weight capacity, 332 ft<sup>2</sup>/hr — triple the CO-640i it replaces.

## Mimaki — the automation thesis, stated out loud

- **UJV200-160 / UJV200-130** — UV-LED roll-to-roll with Dot Adjustment System 2 (DAS2), automating image quality adjustment on coloured and transparent substrates. Mimaki's own stated benefit is *reducing the need for highly experienced operators*. No other vendor in this report says the quiet part this plainly.
- **UJ330H-160** — Best Flatbed/Hybrid, EDP Awards 2026. Automated vacuum tables and front-and-rear lock rollers for heavy substrates including 4x8 aluminium composite panels up to 2 inches.
- **JFX600-2513 / JFX600-2531** — 16 industrial printheads, up to 200 m<sup>2</sup>/hr, with Mimaki Device Language (MDL) commands complying with Industry 4.0 standards for integration with third-party robotic media handlers and automated production lines.

### What the automation trend is really telling you

The industry is engineering around a labour shortage it has stopped expecting to end. Every one of these features assumes the experienced operator who used to catch the problem is not going to be there.

That has a strategic implication most shops have not priced. **If automation genuinely removes the skill premium from running the machine, then machine ownership stops being a differentiator** — because your competitor's inexperienced operator now produces the same output as your good one. The differentiation moves to what you do that the machine does not: estimating accuracy, finishing, scheduling, client relationships, and knowing which jobs to decline. Shops that respond to this cycle by buying a more automated printer and changing nothing else have bought a cost reduction their competitors can buy too. That is not a strategy. It is a treadmill.

SECTION 05

# The Software Layer Is Where Differentiation Went

As print engines commoditize, differentiation has moved to workflow and automation. The standalone RIP has been absorbed into integrated business platforms connecting e-commerce, prepress, colour matching, and hardware telemetry. The RIP you buy in 2026 is a business system that happens to rasterize.

| RIP / DEVELOPER                        | TARGET ARCHITECTURE                                                                        | TRACEABILITY & AUDIT                                                | INTEGRATIONS                                                              |
|----------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------|
| ONYX Thrive 25<br>Onyx Graphics        | Multi-device production networks; dual Adobe PDF Print Engines                             | Decimal-refined ink usage tracking; live printer status in ONYX Hub | G7+ calibration; ONYX Align cloud quoting; QuickBooks sync                |
| CalderaRIP v19<br>Caldera              | High-volume industrial wide-format, multi-brand                                            | Job-level trace logging linking source assets to RIP results        | PrimeCenter prepress automation; X-Rite i1Prism Profiler                  |
| SAi Flexi COMPLETE<br>SA International | Sign design, print, direct vinyl cutting — installed in ~75% of active sign shops globally | Phone and email support; automated cloud updates                    | Native gradient/transparency engine; 3M Traffic Edition with 3M and Canon |
| SmartRIP Hybrid<br>Software Helix      | High-speed industrial inkjet OEMs and system integrators                                   | Real-time performance monitoring and error logging                  | First GPU-native RIP; SmartDFE and Mako Core                              |

SAi's ~75% installed base in active sign shops is the most underrated number in this report. It is a bigger moat than any printhead.

## On the “74% agentic AI” figure

You will see this quoted as “74% of large organizations have deployed agentic AI in print.” That is not what the research says.

IDC found that **74% of organizations with 500 or more employees had deployed at least one autonomous agent by early 2026** — across all industries, for any purpose, including a single chatbot in an HR department. It is a cross-industry adoption statistic that has been narrowed to print in secondary coverage and repeated until it acquired authority it never had.

The print-specific claim underneath it is softer and considerably more credible: PSPs are increasingly handing complex prepress, nesting, error prediction, and job scheduling to self-correcting systems, supported by software architectures that compile and process metadata across the production floor, with reported service cost reductions of 10–15%.

**That is a real and useful finding. It does not need the borrowed 74% to be interesting.** And shops that buy on the inflated version will be disappointed by the real one — which is how a genuinely valuable technology acquires a reputation for over-promising.

## Durst's tell

Durst acquired callas software in April 2025 and, under CTO Wolfgang Knotz, pivoted to open software ecosystems explicitly to eliminate isolated siloes. At FESPA 2026 the company demonstrated its Kyveris Sandbox: an open, cloud-connected production platform built on **real production data rather than static presentation templates**.

That detail is the whole story. Demoing on live data is operationally risky — live data misbehaves in front of an audience, which is exactly why trade show demos almost never use it. A hardware company accepting that risk is a hardware company that has decided the software is the product and needs you to believe it works. When you see an OEM do that, believe the pivot.

## The one genuinely new thing

In November 2025, Hybrid Software Helix launched **SmartRIP, the first GPU-native Raster Image Processor** for industrial inkjet systems. It is a fundamental departure from CPU-based RIP architecture, using GPU acceleration for high-speed rendering across label, packaging, and commercial presses. It builds on Helix's SmartDFE platform, which took Pinnacle Awards for Mako Core and PACKZ Max in 2025 and 2026.

Everything else in this section is an incremental improvement on an architecture that has been in place for twenty years. Moving rasterization onto the GPU is a genuine architectural change, and it targets a real bottleneck: variable data processing at the print engine.

Whether it matters to a 64-inch sign shop is a different question, and the honest answer is probably not yet. Whether it matters to industrial label and packaging lines running variable data at speed is not really in doubt. Keep the distinction clear when a salesperson brings it up.

## Two software developments with immediate commercial consequences

**SAi Flexi COMPLETE – 3M Traffic Edition.** Developed with 3M and Canon Production Printing for print-regulated and non-regulated retroreflective traffic signage, managing strict colour-mapping profiles and G7 compliance across 3M Diamond Grade sheeting. This is the clearest example in the report of the alliance strategy: a hardware vendor, a media manufacturer, and a software developer jointly locking a regulated vertical behind a warrantied bundle. If you do traffic signage and you are not inside that bundle, you are now competing against a warranty you cannot offer.

**ONYX Thrive 25 ink usage tracking.** Decimal-refined ink consumption tracking sounds like a footnote and is not. Most shops estimate ink cost per job from a coverage assumption and a cartridge price, and most shops are therefore wrong about their ink cost. Per-job actuals at that resolution turn estimating from an argument into a measurement. That is worth more to a typical shop's margin than any hardware feature in Section 04.



SECTION 06

# Ink Chemistry and the Regulatory Wall

Three regulatory deadlines are reshaping formulation. One has passed, one lands in weeks, one closes at year end. Chemical suppliers must now balance substrate versatility and cure speed against a tightening net of global environmental regulation.

| REGULATION                                           | STATUS                                                  | REQUIREMENT                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Swiss Ordinance<br>SR 817.023.21                     | Transition ended<br><b>31 Jan 2026</b>                  | Non-listed ink substances must not migrate into food above the detection limit. All CMR (carcinogenic, mutagenic, reprotoxic) substances banned outright. Widely referenced as a de facto standard well beyond Switzerland.                                                                                                                                               |
| EU PPWR<br>Regulation (EU) 2025/40, Article 5        | Applies<br><b>12 Aug 2026</b><br>No transitional period | PFAS in food-contact packaging: 25 ppb any individual PFAS by targeted analysis (excluding polymeric); 250 ppb for the sum of targeted PFAS (excluding polymeric); 50 ppm total fluorine including polymeric PFAS. Below 50 ppm total fluorine, compliant without further testing. Heavy metals (Pb + Cd + Hg + Cr VI combined) capped at 100 mg/kg across all packaging. |
| German Ink Ordinance<br>Bedarfsgegenständeverordnung | Extended to<br><b>31 Dec 2026</b>                       | Originally due to close December 2025, extended by one year. Gives ink manufacturers until year end to move non-listed substances onto the formal positive list of safe compounds.                                                                                                                                                                                        |

Before you panic: does PPWR actually apply to you?

For most sign and graphics shops, **no**. PPWR Article 5 governs food-contact packaging. A vehicle wrap, a banner, an exhibition graphic, and a backlit sign are not food-contact packaging. If that is your entire output, this deadline is industry news, not an action item, and a great deal of the compliance content currently circulating is not addressed to you.

It bites if you print packaging, POS or display work that contacts food, food-service items, or anything a converter laminates into a food-contact structure. And it bites everyone indirectly, which is the part that matters and the part nobody leads with.

## The compliance mechanics, if you are in scope

Self-declarations from suppliers do not satisfy PPWR. The regulation embeds a documented-proof principle: you must hold Certificates of Analysis from accredited laboratories, per packaging type — per material and supplier combination, not per SKU. **If your technical documentation lacks PFAS test results for a food-contact packaging type, that type is non-compliant regardless of what is actually in it.**

The Commission’s March 2026 guidance sets out a cascade: total fluorine screening first; if TF is below 50 ppm the material can be considered compliant with no further testing. Above that, differentiate organic from inorganic fluorine, then run targeted analysis against the 25 ppb and 250 ppb thresholds. There is no harmonised PPWR-specific test method, which means identical samples can return noticeably different results across laboratories — a genuine problem the regulation has not solved.

Practical note on scale: test each unique material and supplier combination, not each SKU. One paperboard tray from one supplier across twenty products is one test. And there is no grandfathering — packaging placed on the market on or after 12 August must comply regardless of manufacturing date.

### The indirect effect, which reaches everyone

Your ink suppliers are reformulating across entire product lines to hit these limits. **The chemistry in products you already run is changing whether or not the regulation names you.** Expect adhesion and cure-window shifts on reformulated SKUs. That is the part that will actually cost you a Tuesday.

## TPO is on the way out, and your cure window will move

Raw material constraints are driving the phase-out of TPO (trimethylbenzoyl diphenylphosphine oxide) as a photoinitiator and VCL (vinylcaprolactam) as a reactive monomer. TPO is under severe regulatory threat from reproductive toxicity classification. Manufacturers are engineering replacement photoinitiator packages that cure under narrow-band LED-UV light between 365nm and 395nm.

**This is the single change in this report most likely to show up on your floor as an unexplained problem.**

A reformulated UV ink with a new photoinitiator package cures differently. It may need a different lamp power, a different belt speed, or a different dwell. If adhesion goes strange on a substrate that has been fine for three years and nothing in your process changed — check whether the ink did. Then check the batch number, then call your supplier and ask directly whether the photoinitiator package changed. They will usually tell you. They rarely volunteer it.

## Where the chemistry market is going

**\$117M → \$338.2M** — PFAS-free release inks for flexible packaging, 2026 to 2036, at 11.2% CAGR. Sun Chemical (DIC Group), Siegwerk, Flint Group, Hubergroup, and INX International are reformulating to replace fluorine-based leveling agents and slip additives with silicon or hydrocarbon alternatives.

**\$227.9M → \$389.4M** — dye-sublimation inks, 2025 base to 2035, at 5.5% CAGR. Driven by soft signage, custom apparel, and home décor, with recycled-polyester compatibility becoming a procurement requirement rather than a marketing claim.

**32%** — water-based share of the **global printing inks market**. Read the scope carefully: this figure is dominated by packaging and labels, not large format. It is frequently misquoted as a large format share.

### On ink chemistry share within large format

No credible public breakdown of eco-solvent versus UV-LED versus latex versus dye-sublimation share *within large format* exists in the source literature. Anyone showing you one — including in chart form, including with a citation — has built it from assumptions. This report does not include one, because building it would have required inventing three of the four numbers.

Notable 2026 ink platforms

| SERIES                                        | BASE                        | APPLICATION                                         | CORE FEATURE                                                                                  |
|-----------------------------------------------|-----------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Streamline<br/>Toccata</b><br>Sun Chemical | Aqueous                     | Blue-back poster paper,<br>corrugated board         | Quick-drying, high-vibrancy, crack-resistant<br>through post-processing. Low VOC, water-safe. |
| <b>Xennia<br/>Sapphire</b><br>Sun Chemical    | Water-based<br>pigment      | High-production roll-to-roll textile                | Dry-heat-only fixation — removes the post-print<br>wash-off stage entirely                    |
| <b>AquaHeat</b><br>Sun Chemical               | Bio-based low-<br>migration | High-temperature packaging,<br>food-contact pouches | Bio-based resin vehicle with migration control                                                |
| <b>ELS-170</b><br>Mimaki                      | UV-LED curable              | General graphics, outdoor<br>signage                | SVHC and CMR substance-free; approved for 3M<br>MCS Warranty                                  |
| <b>Reggiani<br/>ecoTERRA</b><br>EFI           | Water-based<br>pigment      | Non-elastic woven textile                           | Eliminates pre-treatment, steaming, washing, and<br>stentering                                |

The pattern across every row: removing process steps, not improving output.

Xennia Sapphire and Reggiani ecoTERRA are the same argument made twice. Both sell by deleting stages from the workflow — wash-off in one case; pre-treatment, steaming, washing, and stentering in the other. Neither claims better colour. Both claim fewer things that can go wrong.

**Textile only scaled when it became predictable.** That has been true for a decade and it is why these two products exist. Every stage you remove is a stage that cannot introduce variability, cannot need a trained operator, and cannot fail at 4pm on a Friday. The environmental benefit is real and it is also, commercially, a secondary argument. The primary argument is that the process gets shorter.

Broader context: water-based formulations are favoured in e-commerce corrugated and labelling for low VOC emissions, operator safety, and absence of odour, and have improved substantially in drying speed, adhesion, and colour strength through resin and additive advances. In digital textile, high-speed industrial sublimation is increasingly integrating with polyester fabrics made from recycled fibre, letting brands meet circular economy objectives while holding durable colour reproduction.

## SECTION 07

## Strategic Implications

---

Strip out the noise and this landscape produces a short list of decisions worth making in the next two quarters.

### For print service providers

- **Establish PPWR scope before you act on it.** If you touch food-contact work, collect Material Composition Declarations and accredited-lab PFAS reports from paperboard and vinyl suppliers now — testing turnaround is four to eight weeks and there is no grandfathering. If you do not touch food-contact work, you are out of scope. Stop reading compliance content aimed at converters and spend the attention somewhere it pays.
- **Price modular upgrades against a new chassis before you price a new chassis.** HP's Latex Productivity Kit buys roughly 30% throughput on an existing FS50 or FS60. Canon offers field-upgradable colour configurations on the Colorado platform. Both preserve capital that a new engine consumes, and neither will be the first thing a salesperson mentions.
- **Re-quote your ink before your OEM re-quotes it for you.** Nazdar-Fujifilm removed one more independent option. Consolidation in merchant chemistry shows up as consumable pricing twelve to eighteen months later, never announced as a price rise.
- **Build every payback model on stabilized throughput.** The published gap is 40%+ where vendors disclose both. Where they disclose only one number, assume it is the maximum and discount accordingly until they put the stabilized rate in writing.
- **Move away from PVC where your clients report carbon footprint.** CEPI-certified recyclable alternatives such as Drytac's PaperTac are increasingly a condition of multi-year corporate contracts in Germany and the UK. This is a sales requirement wearing an environmental costume.
- **Fix your ink cost measurement.** ONYX Thrive 25's decimal-refined tracking exists because most shops estimate ink cost from a coverage assumption and are wrong. This is worth more to your margin than any hardware decision in this report, and it costs a fraction as much.

### For equipment buyers

- **Ask what happens at renewal, and price the answer.** Single-vendor hardware-ink-software bundles are excellent for uptime and terrible for leverage. Both are true. Make the trade deliberately.
- **Weight user-replaceable subsystems heavily.** Epson's replaceable PrecisionCore head and HP's recirculating white system are downtime reductions, and downtime is where the money actually goes. A spec sheet will not tell you this; your last twelve months of unproductive hours will.
- **Check the RIP before the printer.** With SAI in roughly 75% of sign shops and Epson now owning Fiery, your software choice constrains your hardware options more than the reverse. Most shops run this decision backwards.
- **Get the stabilized rate in writing** at your real quality level, on your real substrate, before signing anything.

## For hardware OEMs

- **Value creation has moved to the data layer.** Invest in open architectures and connected production systems — Durst's Kyveris and HP's PrintOS Production Hub are the reference points — enabling end-to-end integration with third-party ERP and MIS. Closed ecosystems will lose the integration argument in mid-market.
- **Design user-replaceable subsystems.** Follow Epson's SC-S9100 and HP's FS70 W. Bypassing the on-site service call is a larger customer benefit than most speed increases you can engineer.
- **Build alliances into regulated verticals.** The Canon / 3M / SAi traffic signage collaboration is the model: lock a vertical behind a fully warrantied hardware-ink-software bundle that an unaligned competitor cannot assemble.

## For ink and chemistry suppliers

- **PFAS-free is a market-access requirement, not a sustainability story.** The segment goes \$117M to \$338.2M by 2036. Shops will not pay a premium for it. They will simply stop being able to buy anything without it. Price accordingly.
- **Get ahead of the TPO transition publicly and specifically.** Customers will experience reformulation as a cure or adhesion problem and blame the printer, the substrate, or the operator — in that order, over about three weeks, before anyone thinks to check the ink. Tell them what changed and what to adjust. The support cost you avoid exceeds the marketing discomfort.
- **Standardize compliance documentation.** Verified declarations of conformity and chemical screening metrics for REACH, Swiss Ordinance, and PPWR. Your customers cannot self-declare their way through an audit, and neither can you.
- **Scale bio-based and dry-heat-set lines.** The commercial argument that works is process-step removal, not environmental benefit. Lead with the stage you delete.

### The one thing to take from this report

This is a 5–6% CAGR market consolidating into vertically integrated stacks, where hardware innovation is aimed at removing the operator and the real cost movements are happening in chemistry and software. **Growth will not fix a structural cost problem, automation you can buy is automation your competitor can buy, and the number that will hurt you next year is on a consumables invoice, not a printer spec sheet.**

## METHODOLOGY

## Sources, Method, and What We Removed

### Method

This analysis synthesizes publicly available market research, OEM technical documentation, regulatory texts, and industry reporting current to July 2026. It is editorial analysis, not primary research. No survey was conducted, no proprietary dataset underlies it, and no vendor reviewed, sponsored, or was given advance sight of any part of it.

Market sizing draws on Research Nester, Fortune Business Insights, MarketsandMarkets, The Business Research Company, Intel Market Research, and IDC's Worldwide Industrial Printer Tracker. Where these disagree, the disagreement is reported rather than resolved — the divergence is itself the finding, and any single reconciled number would be a fabrication dressed as rigour.

Regulatory figures for the EU PPWR are taken from Regulation (EU) 2025/40 and the European Commission's March 2026 guidance document, cross-checked against EuPIA's April 2026 information note on PFAS and printing inks. Hardware specifications are as published by manufacturers. **Throughput figures are vendor-stated and have not been independently verified on a production floor.** Where a vendor publishes both maximum and stabilized rates, both are given.

### What we removed, and why

Earlier drafts of this landscape circulated with two charts that are not in this version. Both were cut rather than corrected, because neither was recoverable.

#### The regional share donut

It combined North America's 35% *revenue* share in 2026 with Asia-Pacific's 42.4% *unit volume* share forecast for 2035, then added Europe at 18% and "Other" at 4.6% — neither of which appears in any source — to force the total to 100%. Two metrics, two time horizons, two invented values. There is no version of this chart that can be repaired, because the underlying figures do not describe a single divisible whole.

#### The ink chemistry composition chart

It presented water-based at 32%, eco-solvent at 28%, UV-LED at 25%, and dye-sublimation at 15% as a large format market breakdown. The 32% is a real figure — for the *global printing inks market*, which is dominated by packaging and labels rather than large format. The other three appear in no source consulted. They were constructed to sum to 100%.

A third correction is retained in the body text rather than removed: the widely-circulated claim that 74% of large organizations have deployed agentic AI *in print*. The underlying IDC finding is cross-industry deployment of at least one autonomous agent among organizations with 500+ employees. The print-specific finding is real but narrower, and is reported as such in Section 05.

These notes are included because a market report that quietly drops its errors is less useful than one that says what it dropped. If you have seen those charts elsewhere, this is why they are not here.

## Principal sources

- **Market sizing:** Research Nester (Wide Format Printers Market, to 2035); Fortune Business Insights (Large Format Printer Market, to 2034); MarketsandMarkets (Large Format Inkjet Printers, 2025–2030); The Business Research Company (Large Format Printers Global Market Report 2026); Intel Market Research (CAD Wide Format Printer Market 2026–2034)
- **Shipments and concentration:** IDC Worldwide Industrial Printer Tracker
- **M&A:** Seiko Epson corporate disclosures (Sept and Dec 2024); Print Monthly; Packaging Impressions; WhatTheyThink; World Imaging News; Apparelist
- **Regulatory:** Regulation (EU) 2025/40 (PPWR); European Commission PPWR Guidance Document, 30 March 2026; EuPIA Information Note on PFAS and Printing Inks in the Context of Article 5(5) PPWR, April 2026; EuPIA Good Manufacturing Practice guideline, 5th revised edition; Swiss Ordinance SR 817.023.21
- **Hardware and software:** Manufacturer technical documentation and press materials from Canon, HP, Epson, Agfa, Durst, Roland DG/DGA, Mimaki, Onyx Graphics, Caldera, SA International, Hybrid Software Helix; EDP Awards 2026; FESPA 2026 exhibitor materials
- **Chemistry:** Sun Chemical, EFI, Mimaki product documentation; Future Market Insights (PFAS-free release inks); Spherical Insights (dye sublimation inks); DataM Intelligence (printing ink trends)

## About the author

**Kjell Karlsson** has spent 30+ years in large format printing and 10+ years specializing in DTF, including early DTF ink experimentation at Marabu in 2012 — predating commercial DTF printers. His background is ink chemistry and manufacturing rather than the production floor, which shapes what this report is good at and what it is not: it is stronger on chemistry, supply chain, and vendor behaviour than on the lived ergonomics of running a specific machine all day. Where a claim depends on floor experience he does not have, it is attributed to the vendor rather than asserted.

He writes Printing TLDR, a vendor-neutral intelligence brand for large format and DTF printing professionals.

### A standing offer

If you find an error in this report, tell me and I will correct it and say so. That is the entire basis on which vendor-neutral analysis is worth reading. [hello@printingtldr.com](mailto:hello@printingtldr.com)

### Run the numbers on your own floor

Market reports tell you where the industry is going. They do not tell you whether your next machine pays for itself.

Free calculators for cost per square foot, UV vs latex TCO, latex vs eco-solvent TCO, and DTF printer payback: [printingtldr.com/tools](https://printingtldr.com/tools)

The DTF Printing Profit Blueprint — 122 pages and 8 Excel templates: [printingtldr.com/dtf-printing-profit-blueprint/](https://printingtldr.com/dtf-printing-profit-blueprint/)

© 2026 Printing TLDR · Kjell Karlsson · [printingtldr.com](https://printingtldr.com)  
Vendor-neutral analysis. No sponsored placements. Last reviewed July 2026.