

# PROTECT AND ENHANCE

Ensuring high-performance  
and long lasting **exterior  
joinery**



**WHITE PAPER**

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# INTRODUCTION

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Wood, a noble and living material, has stood the test of time while adapting to modern requirements. Appreciated for its warm appearance, thermal performance, and low carbon impact, it is currently enjoying a strong resurgence in architecture and design.

This momentum is driven by ecological transition and the rise of bio-based materials. Every year, nearly 20 million liters of paint are applied to exterior joinery alone, a figure that illustrates how essential finishing processes are for ensuring durability and perceived quality.

The wood joinery sector is composed mainly of small and medium-sized businesses, which face numerous challenges: maintaining competitiveness, complying with new regulations, and dealing with a shortage of skilled labor. In this context, robotization and automation are becoming key levers for performance and resilience.

This dynamic, however, takes place in an uncertain economic landscape. According to the *CSIL World Furniture Outlook 2025/2026*, international furniture trade, in which joinery is a major segment, fell by nearly 9% in 2023, followed by a slight rebound in 2024. Forecasts for 2025 remain cautious: global growth of only 2.8%, constrained purchasing power, and persistent trade tensions. The United States, Germany, the United Kingdom, and France are among the largest importing markets, confirming the strategic importance of Europe and North America for the entire wood industry.

In this evolving environment, delivering a high-quality finish is no longer just a technical requirement: it is a condition for durability, a differentiating factor in competitive markets, and a response to increasingly stringent environmental regulations. Every liter of paint saved, every defect avoided, and every minute gained in production becomes a competitive advantage.

This white paper offers a complete overview: understanding the technical, economic, and environmental issues related to wood finishing, identifying the right investment questions, and addressing the key challenges faced by joinery manufacturers.

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# KEY FIGURES OF THE WOOD MARKET

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**Wood holds a strategic position across many industries: construction, interior design, furniture, and decoration.**

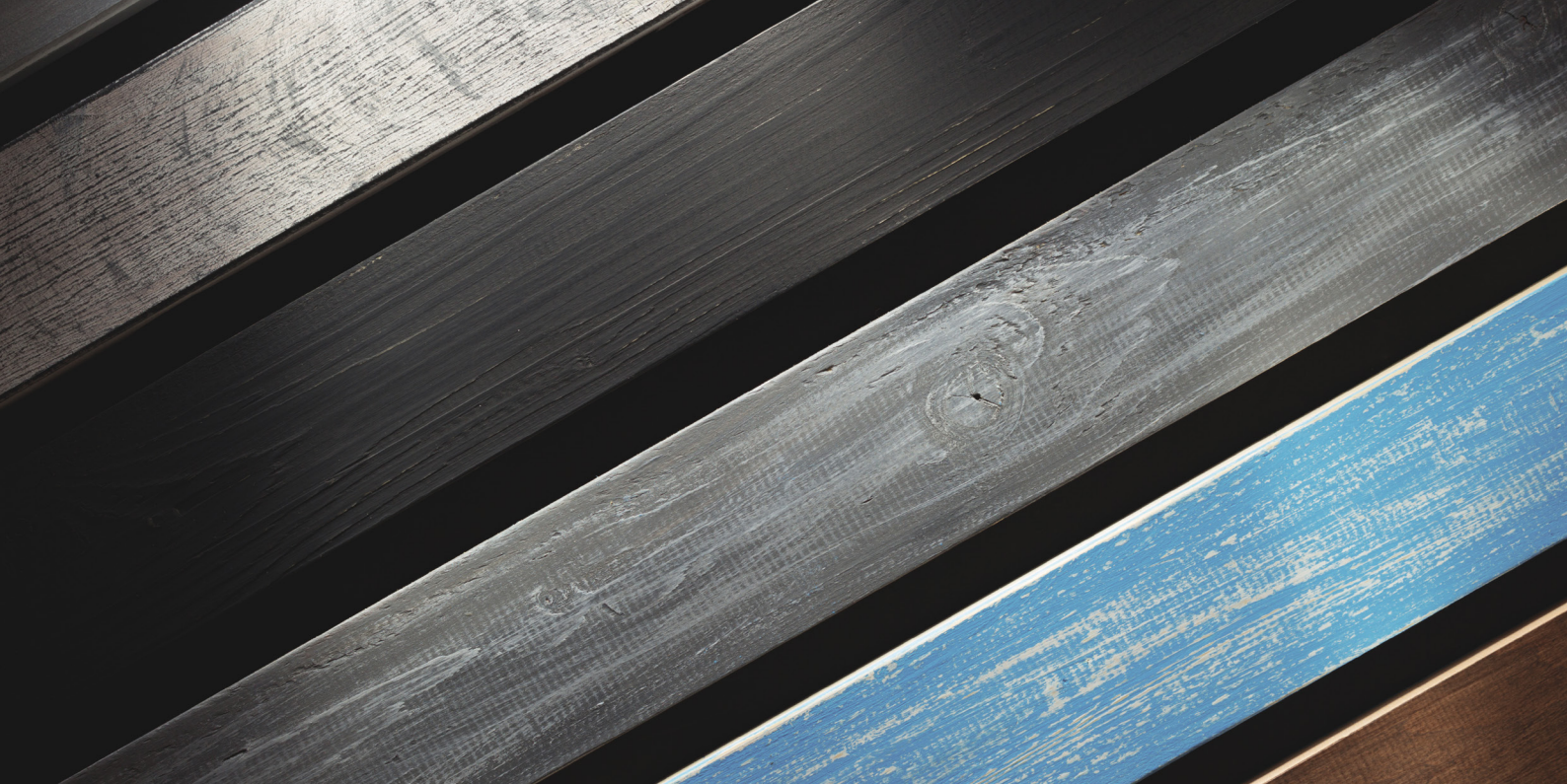
Its renewed appeal is driven by rising environmental awareness and public policies favoring bio-based materials.

## Key figures include:

- The global wood products market is valued at over **\$500 billion**, with annual growth of 4-5%.
- In France alone, **the wood joinery sector includes around 6 000 companies**, 85% of which are small or medium-sized enterprises.
- Approximately **20 million liters of paint are used each year** for exterior wood joinery.
- **80% of new timber constructions** use water-based or low-VOC finishes (ADEME).

The market is therefore dynamic yet highly competitive. Cost control, perceived quality, and compliance with new environmental standards are becoming decisive.





## WHY SURFACE COATINGS ARE CRITICAL FOR WOODEN JOINERY

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Wood coating is far more than a decorative step. It plays several essential roles :

- **Protection against moisture, UV exposure, insects, and mold**
- **Aesthetic enhancement** : a key factor in perceived quality
- **Extension of the product's lifespan**, especially outdoors
- **Uniformity** : masking natural wood defects while showcasing its grain

In joinery, the quality of the coating is often the first thing customers notice. A poor or deteriorated finish can undermine the perceived value of the entire product.

### Moreover, the challenges are extensive :

- Wide variety of wood species (pine, oak, larch, etc.)
- Complex shapes (shutters, moldings)
- Adhesion constraints depending on substrates and coatings
- Strict requirements for exterior performance (e.g., EN 927)

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# KEY NUMBERS TO REMEMBER :

## TANGIBLE GAINS WITHIN REACH

Here are real-world improvements observed among our industrial clients:

Objective	Result
Reduced paint consumption	Up to <b>-35%</b> thanks to better transfer efficiency
Increased productivity	<b>+20 to +30%</b> through faster application and optimized cleaning
Less waste	Up to <b>-40%</b> during color changes
Customer conformity rate	<b>Up to zero defects</b> at line output, even on complex series
Return on investment	Often <b>&lt; 18 months</b> , depending on line configuration

**Bjorn Palmqvist**  
Wood Application Expert

*“A good application system becomes invisible: it no longer draws attention. Material savings are obvious, but the real gain is peace of mind.”*

*“Switching to water-based paint with **Sames** was a real turning point. Less maintenance, more production, and a cleaner process exactly what we needed”*

**Customer testimonial – Elitfönster**

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# THE 4 ESSENTIAL QUESTIONS TO ASK BEFORE APPROACHING PAINT APPLICATION

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Before optimizing or modernizing your finishing line, it is crucial to analyze your specific context. These four strategic questions will guide your technological and organizational choices:

## 1 > HOW OFTEN DO YOU CHANGE COLORS OR EFFECTS ?

For workshops working in small batches or offering high customization:

- Fast rinsing capability
- Flexible dosing systems
- Optimized organization to reduce losses

## 2 > WHAT AESTHETIC EFFECTS ARE EXPECTED ?

Deep matte? High gloss? Transparent finishes to enhance grain?

**Each effect requires specific choices:**

- Gun
- Nozzle
- Pressure
- Application method

## 3 > WHAT IS THE TECHNOLOGICAL MATURITY OF YOUR LINE ?

**Possible setups include:**

- Manual booth
- Semi-automatic conveyor
- Fully robotized line

Each configuration has strengths and constraints.

## 4 > WHAT ARE YOUR PRODUCTION VOLUMES AND CYCLE REQUIREMENTS ?

- High throughput requires consistency and repeatability
- Single-unit production requires flexibility, quick adjustments, and agility

**These questions must also be paired with broader considerations about the work environment, customer expectations, and future evolution of the company.**

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# THE 4 MAJOR TECHNICAL CHALLENGES OF WOOD COATING



## CHALLENGE N°1

Delivering consistent quality despite natural material variations



## CHALLENGE N°2

Meeting regulatory and environmental requirements



## CHALLENGE N°3

Reducing costs without compromising quality



## CHALLENGE N°4

Adapting to product diversity and customer expectations

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# CHALLENGE N°1

## Delivering consistent quality despite natural material variations

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Wood is irregular: knots, variable porosity, differences between species.

### You need :

- Precise application
- Stable control of flow rates and pressure
- Technologies able to compensate natural variability



# CHALLENGE N°2

## Meeting regulatory and environmental requirements

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- VOC regulations, environmental and health standards (REACH, EN 927, etc.)
- Increasing pressure on solvent-based products
- Transition to water-based and bio-based paints

### This requires :

- Equipment suited to more sensitive coatings
- Guaranteed long-term resistance performance

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# CHALLENGE N°3

## Reducing costs without compromising quality

- Every liter of misapplied paint is a direct loss
- Production stoppages for cleaning or color changes are costly

### Objective :

- Maximize transfer efficiency
- Reduce purges
- Automate cleaning cycles



# CHALLENGE N°4

## Adapting to product diversity and customer expectations



**Christophe Denis-Bosio**  
Wood Market Manager

*“The right settings are when operators stop asking questions. They know the output will be good.”*

- Doors, windows, shutters, paneling... each piece has its own constraints

### Therefore, systems must be :

- Modular
- Fast to adjust
- Simple to operate

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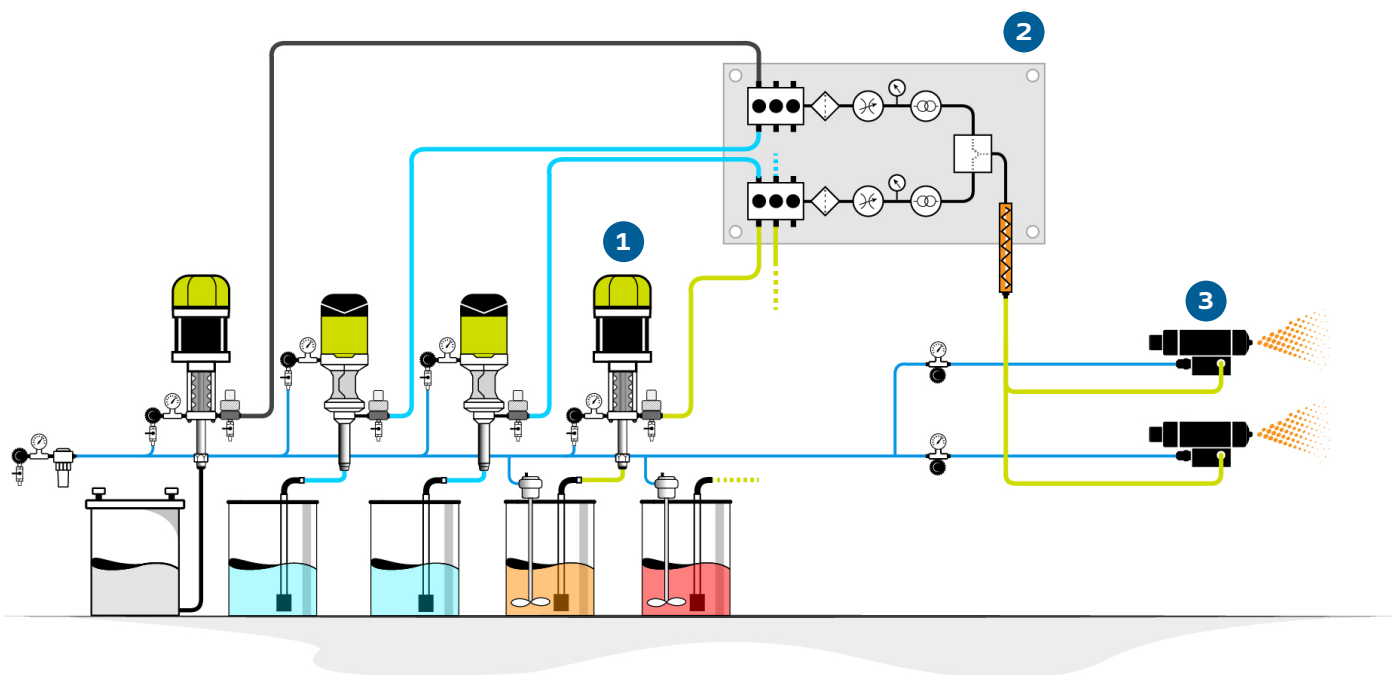
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# HOW SAMES MEETS THE REQUIREMENTS OF THIS MARKET

For more than 100 years, **Sames** has supported wood industry manufacturers in France and worldwide. Our goal: help you paint **better, faster, and with less waste**, while meeting quality and environmental requirements.

## A range designed for every need :

- **Electrostatic manual guns** : ideal for complex shapes with excellent wraparound effect
- **Airmix® manual and automatic guns** : best-in-class transfer efficiency with outstanding finish quality
- **Cyclomix® Evo** : precise dosing for two-component paints, fast cleaning cycles
- **Viscobell®** : rotating bell for high-end applications (design furniture, premium interior joinery)



### **Informative Layout Diagram**

Automatic paint application for flat machines (primers, 1K or 2K solvent-based or water-based coatings)

(1) Flowmax® 16F240 bellows paint pump, (2) Cyclomix® Evo, (3) Automatic spray gun

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**Doug Leroux**  
Director of the Canadian Subsidiary

*“In North America, even small workshops want automation. What they’re looking for is a simple, reliable solution that takes the pressure off.”*

**Sames** goes beyond supplying equipment. We support you through every stage of your project to ensure smooth integration, optimal performance, and quick adoption by your teams.

From the outset, a technical diagnosis helps identify your specific needs. Demonstrations and tests on your own parts validate performance. A detailed ROI study allows you to estimate potential savings

before investing. Once the solution is selected, your teams receive full training and our experts support commissioning for a smooth and sustainable ramp-up.

## Case Study : Exterior Joinery in Canada

### **Objective :**

Switch from solvent-based coatings to water-based products without sacrificing quality.

### Proposed solution :

Airmix® line + Cyclomix® Evo dosing

### **Results:**

- -38% paint consumption
- +25% productivity
- 0 customer complaints in 6 months

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# CONCLUSION

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In a fast-growing wood market where end-user expectations continue to evolve, offering high-quality finishing is no longer just a technical matter, it is a value promise. Aesthetic enhancement, lasting protection, compliance with environmental standards... every detail matters to stand out and improve customer satisfaction.

Throughout this white paper, we've shared key insights, field feedback, best practices, and concrete solutions to help you meet your production challenges. The testimonials highlight how the right coating system can transform daily operations, reduce costs, and boost competitiveness.

**Sames** is ready to support you on this journey. Our ambition: to provide sustainable, high-performance solutions tailored to the realities of your business.



## BOND • PROTECT • BEAUTIFY

With our manual guns, automatic and robotic applicators, supplied by our wide range of pumps & machines for fluid handling, dosing, mixing & dispensing **Sames** provides industrial solutions for production increase, quality improvement, material & cost savings.

We are designers and manufacturers of process equipment that is divided into 4 ranges:

### sames **G**kremlin

Liquid paint application solutions



+



+



#### Airspray

Coating technology that guarantees the highest finish.

#### Airmix®

The perfect mix between finishing quality and productivity.

#### Airless®

Most productive application technology to protect surfaces.

### sames **G**intec



Sealant and adhesives application solutions

### sames **G**nanocoat



Liquid coating application solutions for rotating bells, with and without electrostatic

### sames **G**inocoat



Powder coating application solutions

Learn more about **Sames** : [www.sames.com](http://www.sames.com)

Any questions ?



13 chemin de Malacher - CS 70086  
38243 MEYLAN Cedex - FRANCE  
Phone: +33 (0)4 76 41 60 60

