Collaboration with a pan-European player in the DIY and home renovation market

International Hardware Fair Italy – 08th May 2025

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Agenda

1. **Japanese Excellence**
    a. Our Legacy of Reliability and Innovation
2. **Value Proposition**
    a. Tailored Weather Services for the Retail Industry
3. **Case Study**
    a. A pan-European player in the DIY and home renovation market
4. **Data Overview**
    a. Inputs and Sources Used for the POC
5. **Methodology**
    a. The Weathernews Approach to Weather Impact on Sales
6. **Model Summary**
    a. Key Insights and Findings
7. **Application Examples**
    a. Practical Use Cases
8. **Key Takeaways**
    a. What We've Learned

A journey through the strength of Japanese collaboration, the precision of our solutions, and the immense value we can bring to each customer. Together, we are paving the way for safer and optimized operations, and a sustainable future

“I want to protect the lives of sailors”

Ship Hits Breakwater; 7 Men Die

IWAKI, Fukushima Pref (Kyodo)—Seven persons were killed and eight others reported missing after an 11,463-ton Japanese freighter sank near a breakwater off stormy Onahama Port here Saturday, according to the Onahama Marine Safety Office.

The freighter Kuko Maru of Sanko Kisen Co. in Hyogo Prefecture started sinking at around 3 a.m. after losing its anchor cable and crashing into a breakwater. The ship sank four hours later after breaking into two.

Winds up to 25 meters per second and high waves were raging at the time because of the approaching low air pressure mass.

Nine out of 24 crewmen aboard the ship were rescued by a patrol boat and other freighters. Eight others reported missing and the Kuko Maru captain had died beforehand.

Founder
Hiroyoshi Ishibashi

January 1970, Fukushima, Japan - An explosive low-pressure system hit the local port of Onahama, Japan. The cargo vessel sank, and the lives of 15 crew were lost.

“This might have been prevented if truly useful weather information had been available”

Weathernews, Inc., was established in 1986 with a sense of responsibility and will of company founder Hiro Ishibashi. SInce then, our “Risk Communication Services” have been expanded and innovated to cover all business and lives.

“We want to protect people’s lives in times of emergency”

A Powerful Objective

We help retail and FMCG businesses anticipate weather-driven demand using advanced meteorology and analytics — improving forecasting, inventory planning, and supply chain decisions across markets and changing conditions.

This Partnership Matters

As a global leader in weather intelligence, Weathernews empowers retailers to respond to weather-sensitive demand through precise forecasting, sector-specific insights, and data science — improving flexibility, relevance, and performance.

Commitment to retail & FMG

We uncover weather-driven demand patterns to improve sales, reduce waste, and optimize product availability — enabling retailers and producers to adapt operations across regions, timeframes, and complex consumer behavior.

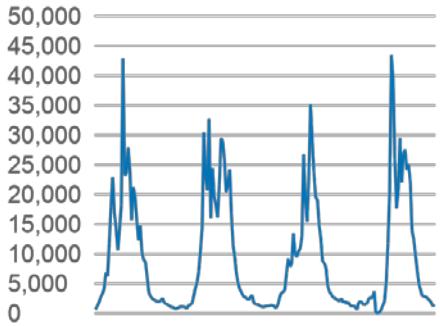
Weathernews for a Pan-European Player **in the DIY & Home Renovation Market**

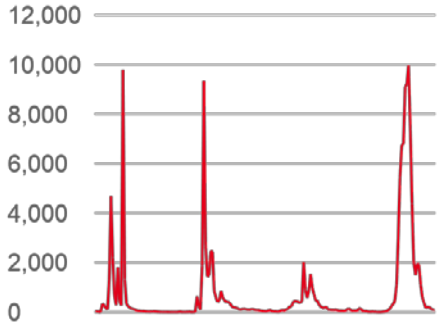
- **2 leading retail banners** in France specialized in home improvement and renovation
- **1 Sub-category**
  - Garden Furniture and Accessories, Gazebos and pergolas, Retractable Awning
- **9 Regions**

Retail Banner A' sales are much more erratic, with shorter seasonality patterns. A different type of supply chain model?

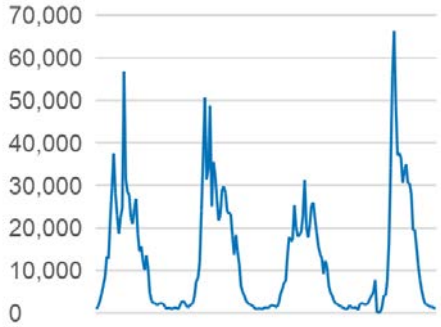
ACCESSORIES

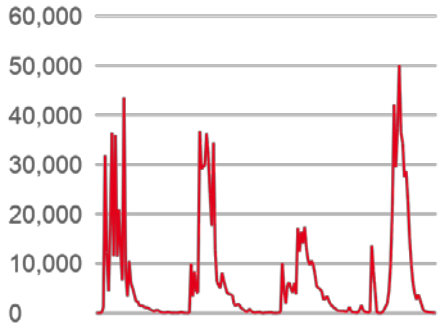
Retail Banner A



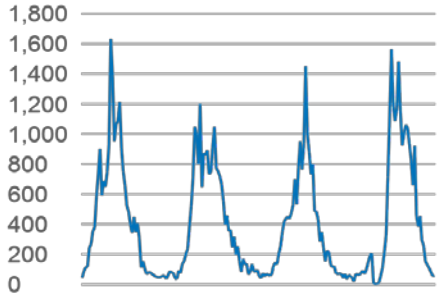


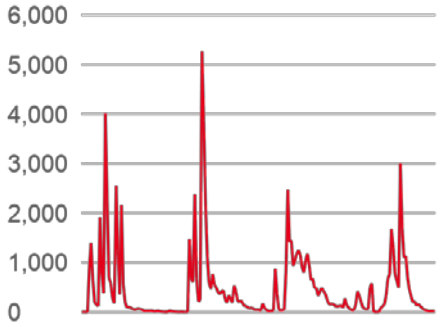
RETRACTABLE AWNING



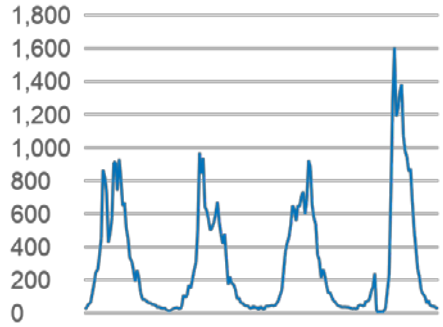


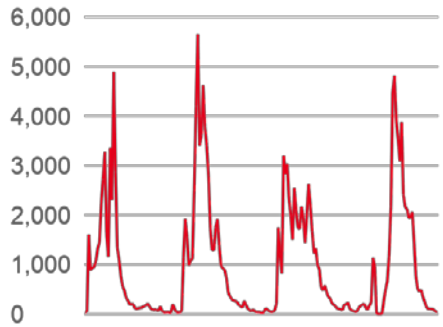
GARDEN FURNITURE





GAZEBOS AND PERGOLAS





Retail Banner B

Methodology

Data Collection

- Observations from
  - service provision & proprietary infrastructure
  - supporter information
  - worldwide official sources
- Business data from customers

Weather Analysis and Forecasting

- Original weather forecast models
- Monitoring
- Verification

Data Analysis and Content Creation

- Synthesize data, specialized forecast for risk analysis
- Technology for market- and situation- specific content

Risk Communication

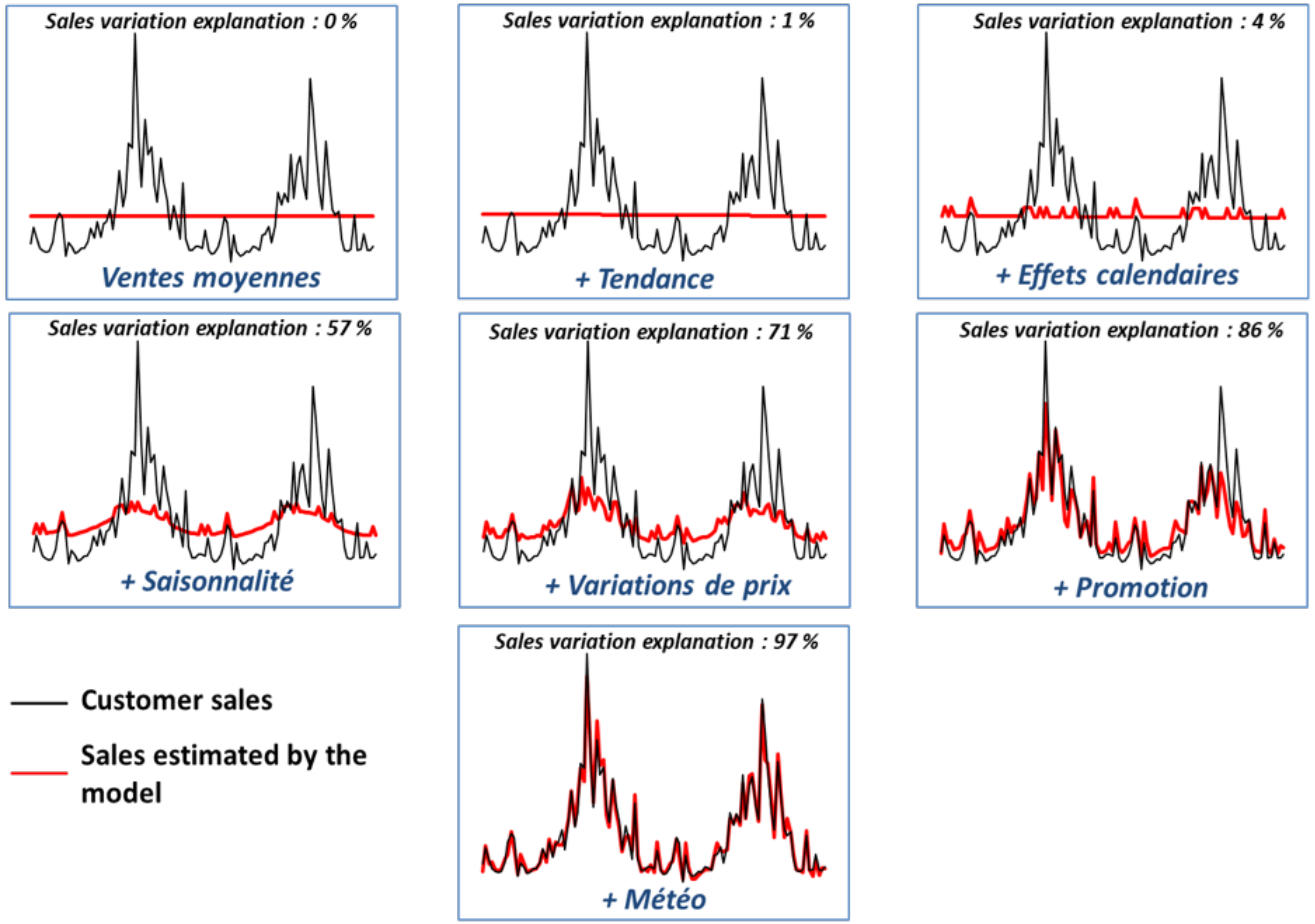
- Providing countermeasure responses based on needs
- Addressing weather risks to a specific market

Service Feedback & Improvement

- Quantitative evaluation
- Service review meetings with customers

Data | **Forecast** | **Community**

We Evaluate a Wide Range of Explanatory Variables to Identify Those **that Best Capture the Drivers of Sales Variation**.



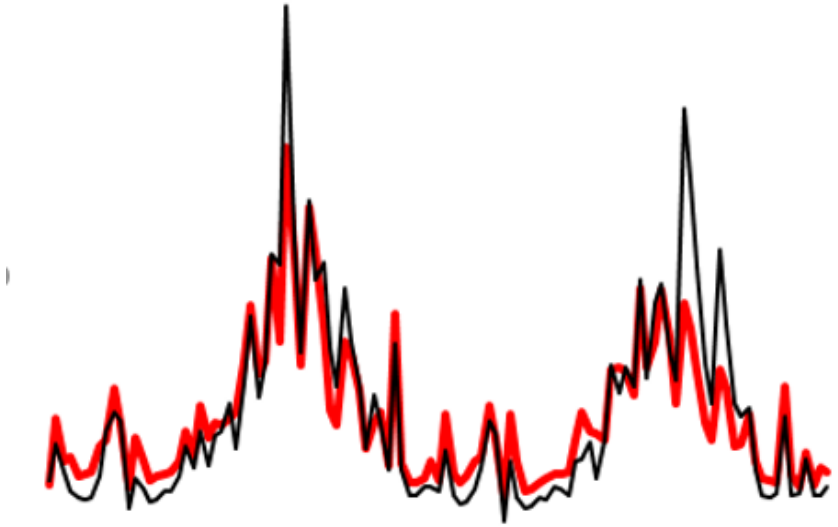
EXAMPLE

STEP 1: BUILD THE BASELINE MODEL

- The first model is built using all available explanatory variables (seasonality, trends, calendar, promotions…) **except weather.**

- With these variables, we can explain x% of sales. The closer this number is to 100%, the better the model captures and reflects what really happened.

- For each week, there's always a portion that the model cannot explain — this is what we call **the residual**.

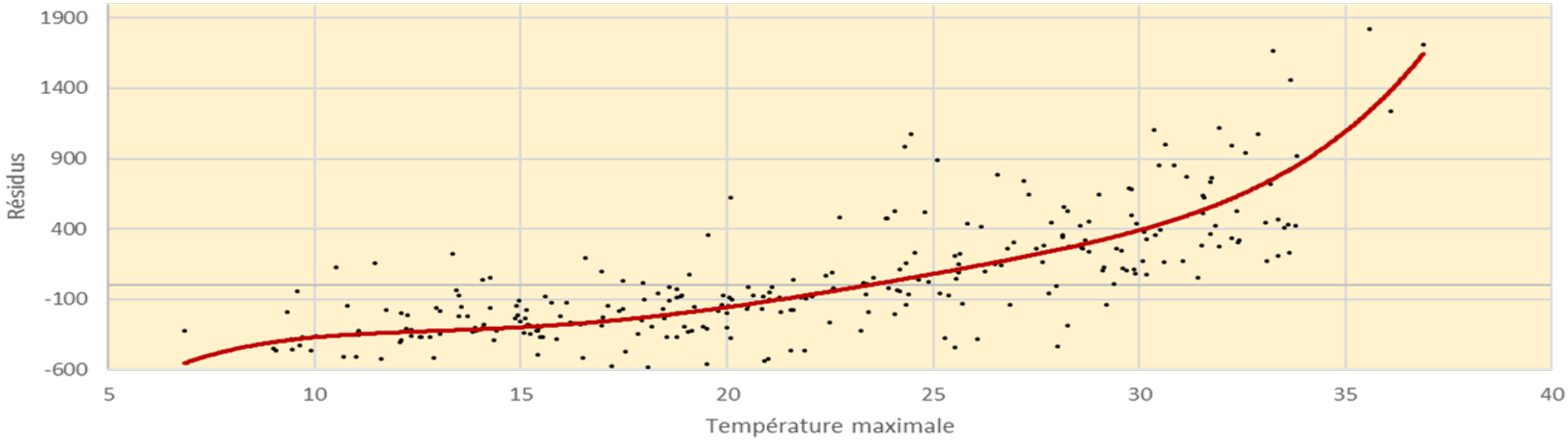


Black line = Actual sales
Red line = Estimated sales from the model
The difference between actual and estimated sales is called the "residual."

STEP 2: MEASURING THE WEATHER IMPACT

- By cross-referencing the residuals from the previous model with the weekly observed temperatures, we identify a relationship between weather conditions and sales.
- We can repeat this process using all available weather parameters at our disposal.

- 📊 Example: residuals plotted against maximum temperature show a non-linear relationship.

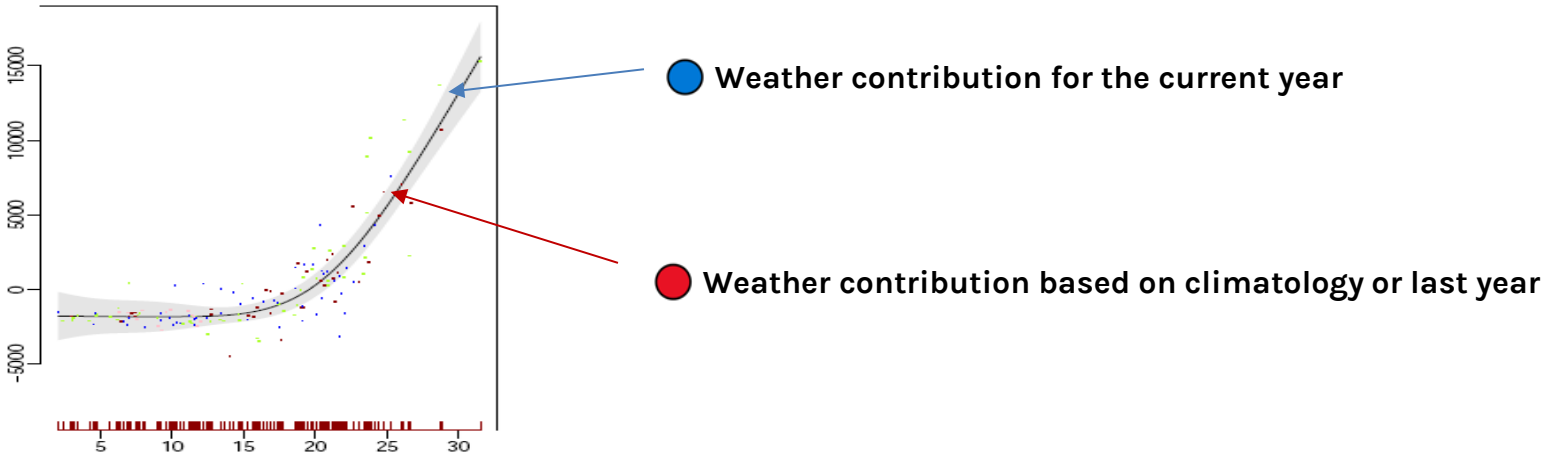


STEP 3: WEATHER IMPACT CALCULATION

We calculate the weekly impact of weather on sales.

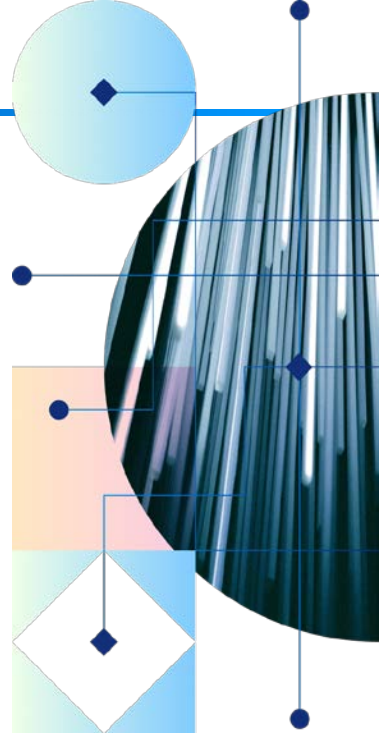
To do so, we use the mathematical relationships identified between weather parameters and sales variations.

🔵 **Weather contribution for the current year**
🔴 **Weather contribution based on climatology or last year**
The **weather impact** is the **difference between the two contributions.**



Which products are **weather-sensitive?**

Are there differences between products, regions, or retail chains?



Which products are **weather-sensitive?**

Retail Banner A

- ✅ Accessories
- ✅ Garden furniture
- ✅ Gazebo and pergola
- ✅ Retractable awning

Retail Banner B

- ❌ Accessories
- ❌ Garden furniture
- ❌ Gazebo and pergola
- ✅ Retractable awning

For all product categories, in both retail chains, the main weather parameters impacting sales are sunshine and the current week's temperature.

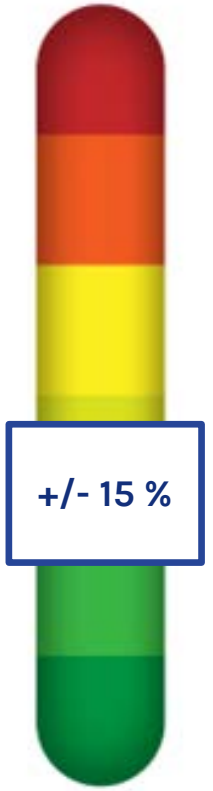
How to interpret the result?

National Weather Sensitivity*

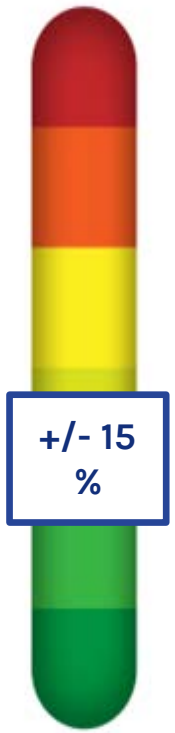
- 🔴 +86% – Maximum Weekly Impact
  - Strongest positive weather impact observed in one week across all of France over the past 10 years.

- ⬛ +/- 15% – Average Weekly Impact
  - Average weekly weather impact across France over the last 10 years.

- 🔵 –26% – Minimum Weekly Impact
  - Strongest negative weather impact observed in one week across all of France over the past 10 years.



National Weather Sensitivity*



+86% – Maximum Weekly Impact

- Strongest positive weekly weather impact observed across France in the past 10 years.

+/- 15% – Average Weekly Impact

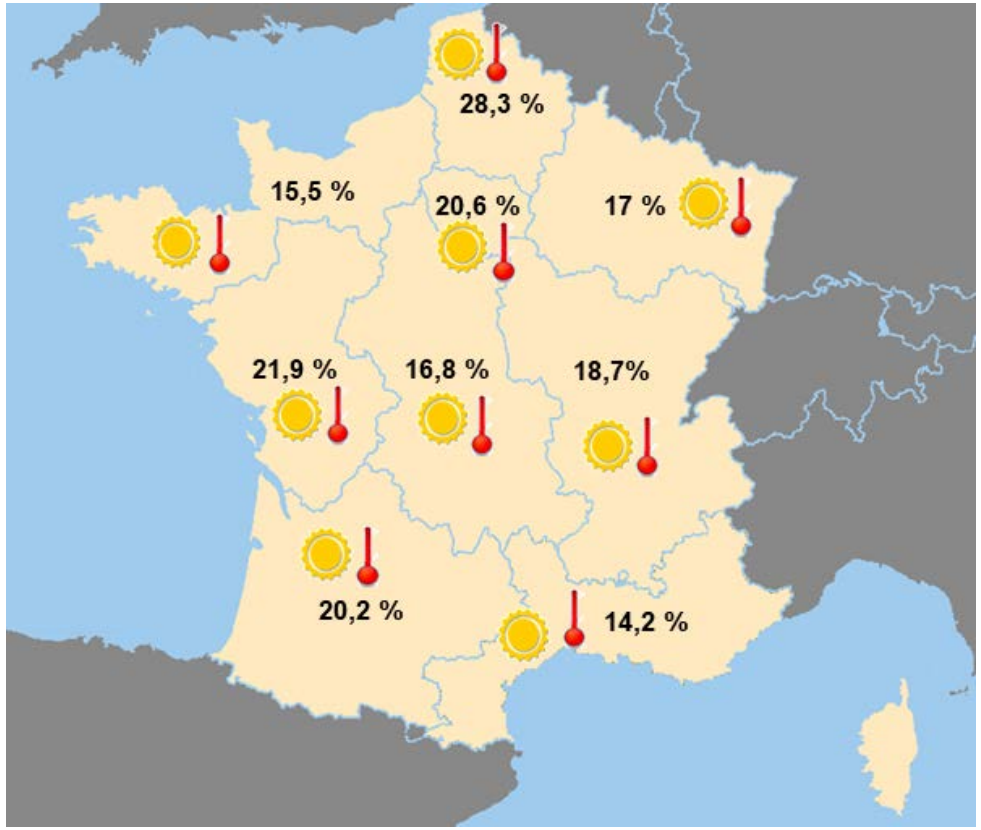
- Average weather-related variation in weekly sales over the past 10 years.

–26% – Minimum Weekly Impact

- Strongest negative weekly weather impact observed across France in the past 10 years.

(*) Calculated based on the last 10 years during seasonal periods.

Average Weather Sensitivity by Region



Sunshine considered in the model
Max temperature considered in the model

National Weather Sensitivity*

+44% – Maximum Weekly Impact

- Highest positive weather-related impact on weekly sales observed across France over the past 10 years.

+/- 8% – Average Weekly Impact

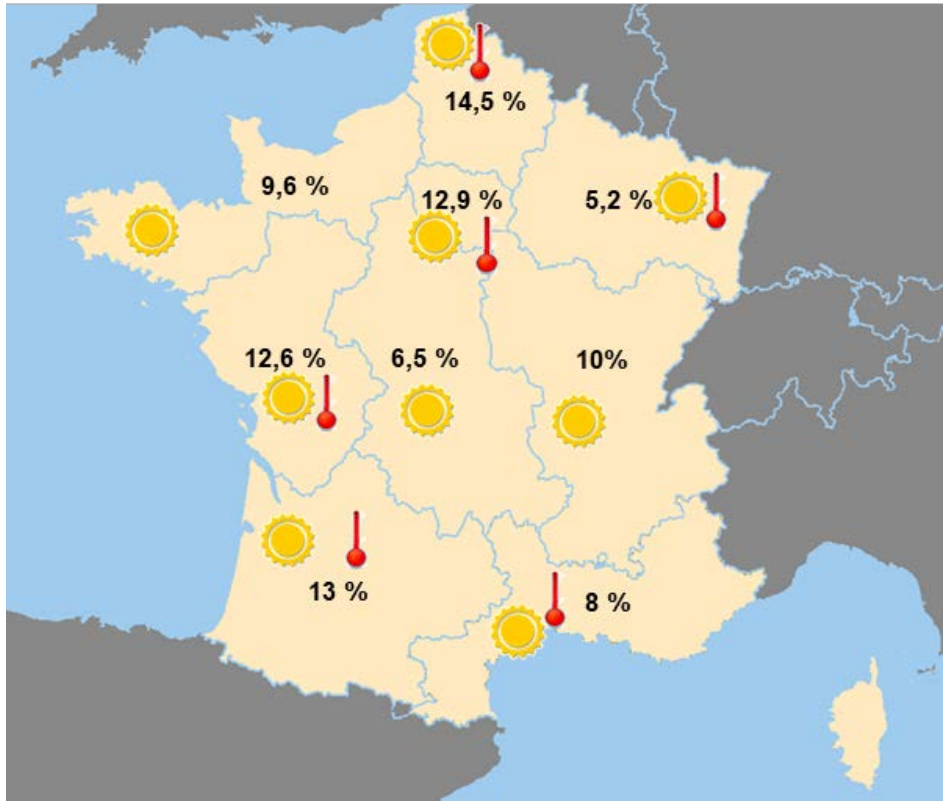
- Average weekly impact due to weather over the past 10 years, nationwide.

–14% – Minimum Weekly Impact

- Highest negative weather-related impact on weekly sales over the past 10 years.

(*) Calculated based on the last 10 years during seasonal periods.

Average Weather Sensitivity by Region



Sunshine considered in the model
Max temperature considered in the model

National Weather Sensitivity*

+32% – Maximum Weekly Impact

- Highest positive weekly weather-related impact observed nationwide over the past 10 years.

+/- 6% – Average Weekly Impact

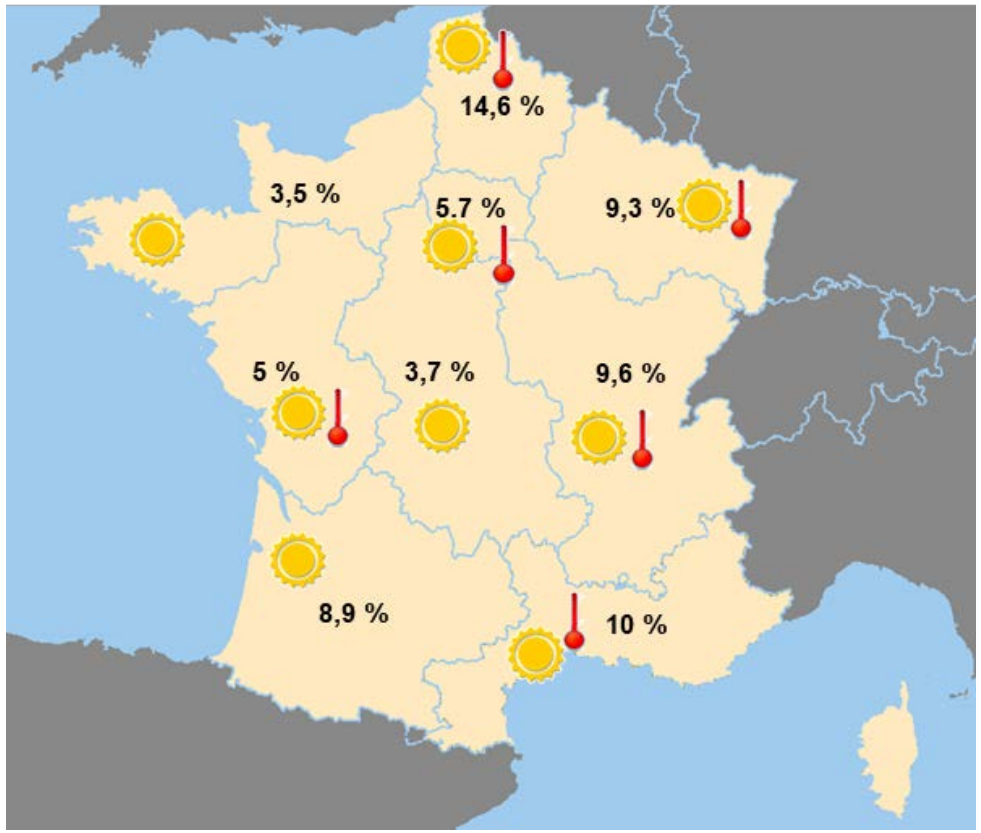
- Average weather impact per week over 10 years, at national level.

–10% – Minimum Weekly Impact

- Strongest negative weekly weather-related impact observed over the past 10 years.

(*) Calculated based on the last 10 years during seasonal periods.

Average Weather Sensitivity by Region



Sunshine considered in the model
Max temperature considered in the model

National Weather Sensitivity*

+42% – Maximum Weekly Impact

- Highest positive weather-related impact observed over a one-week period across France in the past 10 years.

+/- 9% – Average Weekly Impact

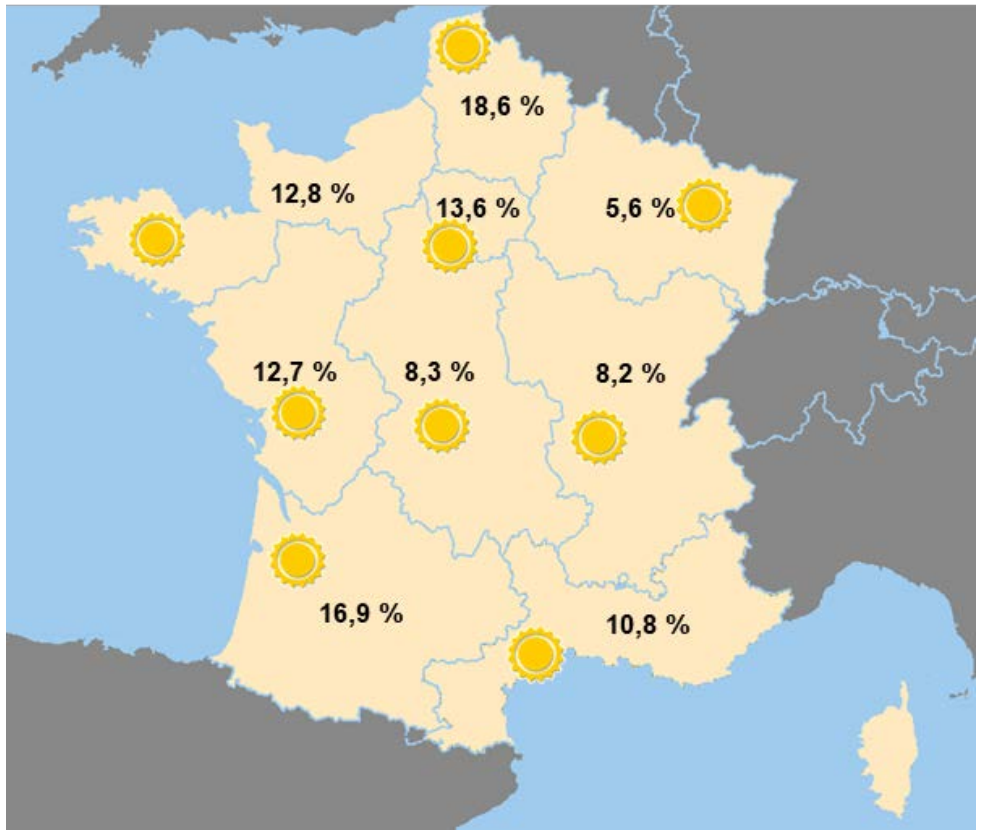
- Weekly average impact observed nationally during the relevant season over 10 years.

–18% – Minimum Weekly Impact

- Strongest negative weekly weather-related impact in the last 10 years.

(*) Calculated based on the last 10 years during seasonal periods.

Average Weather Sensitivity by Region



Sunshine considered in the model

National Weather Sensitivity*

+92% – Maximum Weekly Impact

- Highest positive weather-related impact observed over a one-week period across France in the past 10 years.

+/- 11% – Average Weekly Impact

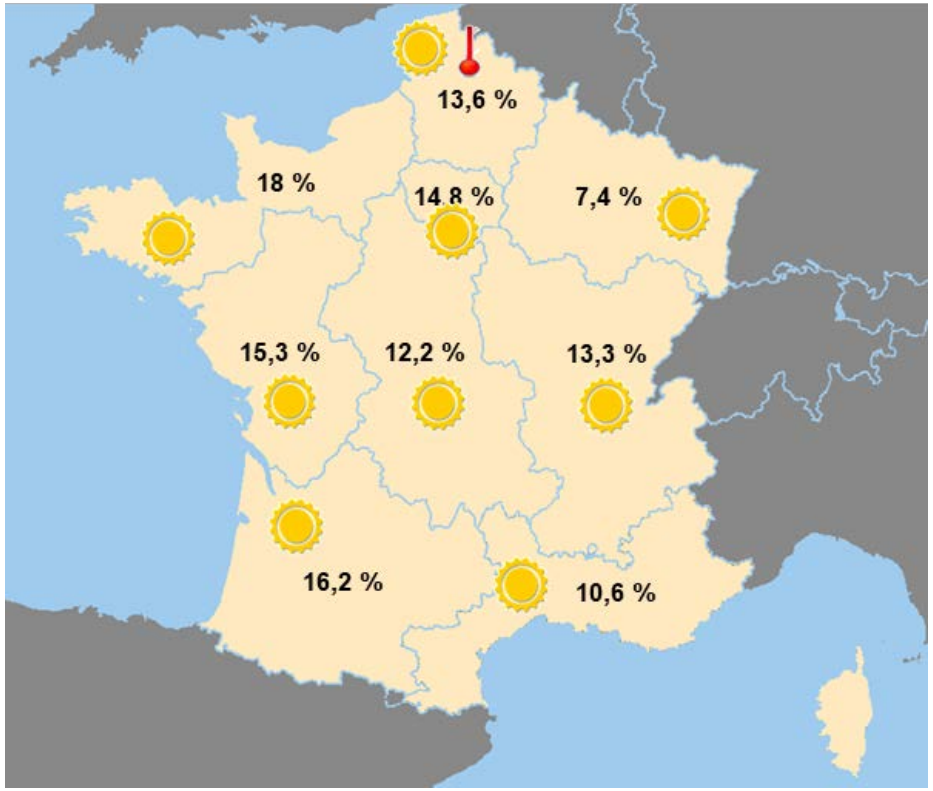
- Average national weekly impact observed during the seasonal period over the past 10 years.

–40% – Minimum Weekly Impact

- Strongest negative weekly weather-related impact observed in the past 10 years.

(*) Calculated based on the last 10 years during seasonal periods.

Average Weather Sensitivity by Region



Sunshine considered in the model

The relationships between sales and weather parameters are dynamic. Sometimes, only sunshine matters. Sometimes, it's just the maximum temperature. When both parameters influence sales at the same time, their combined weight is not always consistent.

Temporal Variability

- *25°C in May in Lyon* → **+57%** on accessory sales
- *25°C in July in Lyon* → **–11%** on accessory sales

Spatial Variability

- *20°C with sunny weather in April*

→ **+46%** on garden furniture sales in the **North**
→ **–12%** on garden furniture sales in the **South-East**

Product Variability

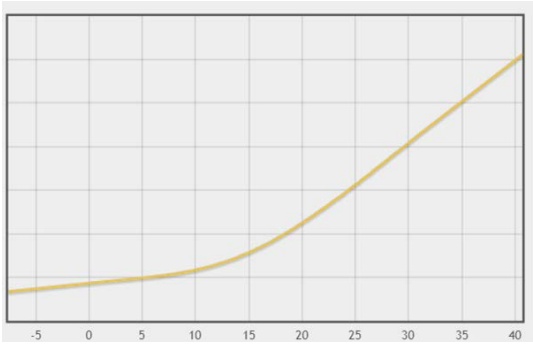
- *Heatwave in June 2019 – Paris area*

+73%

+43%

Non-linearity

Going from **10°C to 15°C** has less impact than going from **20°C to 25°C**



HOW HAVE OTHER RETAILERS USED OUR INSIGHTS? WHAT COULD KINGFISHER GROUP HAVE DONE WITH THEM?

Real use cases in Retail & Distribution

Weather conditions strongly influence consumer behavior, product demand, and in-store traffic. By integrating weather sensitivity into sales forecasting and supply chain processes, companies can improve accuracy, reduce stock-outs, and optimize logistics.

Example 1 — (Food Retail)

- Weekly weather correction indicators for each store & product category.
- Integration of weather-driven data into sales forecasting system.
- Improved stock management and reduced shortages in sensitive categories (food & non-food).

Example 2 — Sports Equipment Retailer (Seasonal Products)

- Monthly weather risk reports with 6-month sales projections per category.
- Simulation of best, worst, and most probable scenarios based on past 15 years of weather data.
- Quantified business impact to adjust procurement strategy (+3% to +31% sales impact depending on scenario).

Weather-driven forecasts are now a key element in retail operational management, helping companies anticipate demand variability and improve customer service.

pan-European player in the DIY and home renovation market

Simulation — Week 26, 2019

Following an exceptionally warm and sunny forecast in Northern France (+6.5°C above seasonal average and 90+ hours of sunshine), a significant sales peak was observed in Week 26 at one of the key banners (Banner A) within the home improvement retail sector.

Outcome:

+100% increase in accessory sales compared to a typical end of June.

Business value:

- Anticipate demand spikes driven by weather conditions
- Optimize stock allocation at store level
- Reduce lost sales and enhance customer satisfaction

What are the main lessons learned **from the POC?**

For the **Garden Furniture and Accessories** category, **sunshine** during the current week is the factor that has the **greatest impact on sales**

All subcategories analysed are weather-sensitive at Retail Banner A, while **only the blinds category is weather-sensitive at Retail Banner B**.

Retail Banner B is more weather-sensitive than Retail Banner A when it comes to blinds.

Accessories are the most weather-sensitive items.

The North of France is generally more weather-sensitive than the South. For some sub-categories, East/West differences can also be observed.

CLIMATE CHANGE AND EXTREME WEATHER

weathernews

Flash Floods and Cloudbursts

- Increase in intense, localized events, especially in urban areas (e.g. Milan, Palermo, Genoa).
- Impact: damage to basements, electrical systems, furnishings, and disruption of essential services.

Severe Hailstorms

- Rise in events with hailstones exceeding 5 cm in diameter (e.g. Lombardy, summer 2023).
- Impact: broken rooftops, windows, solar panels, outdoor vehicles.

Strong Winds and Tornadoes

- More frequent even in areas historically less exposed (e.g. Pantelleria 2021, Lazio 2023).
- Impact: fallen trees, damaged roofing, blackouts, structural failures.

Prolonged Heatwaves

- Summers 2022–2023: record temperatures, exceeding 45°C in Sardinia and Sicily.
- Impact: thermal discomfort, high energy consumption for cooling, health risks for vulnerable groups.

Sudden Snow Falls or Late Frosts

- Less frequent but still impactful events affecting roads and fragile structures.

Direct damages

- According to ANIA (Italian Insurance Association), over €3 billion in annual losses from catastrophic events, with a growing share affecting residential buildings.

Growing demand for insurance coverage:

- Requests for “weather-related events” policies have increased, but still less than 10% of Italian homes are insured.

Indirect effects:

- Extraordinary maintenance costs, need for protective upgrades (windows, roofing, pumps, air conditioning), temporary loss of habitability.

Most affected areas:

- North Italy (Lombardy, Veneto, Emilia-Romagna): hail & floods
- South & Islands: heatwaves & droughts
- Central Italy: wind and spring instability

In recent years, Italy has experienced a significant increase in extreme weather events, with growing impacts on residential buildings.

The most relevant phenomena include:

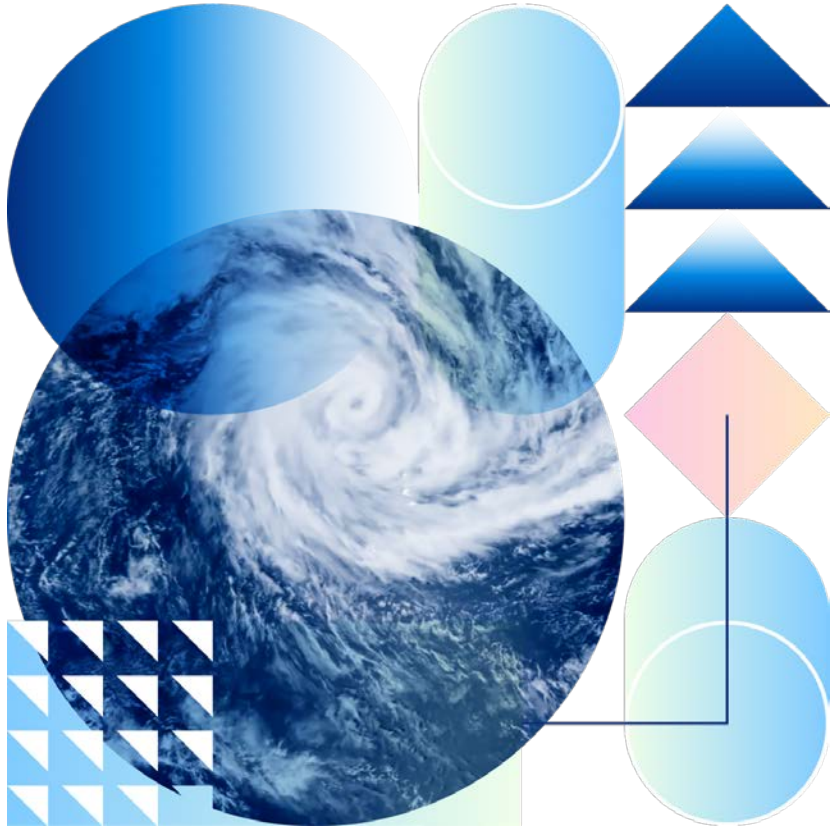
- **Urban floods and cloudbursts**
- **Severe hailstorms**
- **Strong winds and tornadoes**
- **Heatwaves**
- **Late frosts and sudden snowfalls**

In recent years, Italy has experienced a significant increase in extreme weather events, with growing impacts on residential buildings.

The most relevant phenomena include:

- **Urban floods and cloudbursts**
- **Severe hailstorms**
- **Strong winds and tornadoes**
- **Heatwaves**
- **Late frosts and sudden snowfalls**

- Floods: **€1.2 billion**
- Hail: **€800 million**
- Winds: **€500 million**
- Heatwaves: **€350 million**
- Snow/frost: **€200 million**



- Flood: **€8,000 – €15,000**
- Hail: **€5,000 – €12,000**
- Winds: **€4,000 – €10,000**
- Extreme heat: **+15–25%** electricity costs, need for new cooling systems
- Snow/frost: **€1,000 – €3,000**

Managing risk, not just optimizing operations

Feedback from recent customer interviews confirms a key message:
Risk management is central.

Companies invest in weather services when the risk becomes real – that's when they are willing to pay for high-value solutions that help mitigate impact and support critical decisions.

Main weather-related risks for CPG & Retail:

- Transport and logistics: sticky snow, icy roads, low river levels, blackouts
- Production stoppages: floods or extreme events in factories
- Upstream supply chain issues: delays from suppliers
- Customer risks: lightning, strong winds, violent storms
- Crop-related risks:
- Operational → too much/little rain, cold snaps, heatwaves
- Strategic → need to re-locate crops due to climate change

A weather-informed strategy must include both operational and strategic risk management.

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