

CASE STUDY · DATA SCIENCE & AI

DROP PLANNER

How many pieces to make for a launch, and where to send them.

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AT A GLANCE

A limited edition is still sized on recent sales. It should be sized on the events to come.

When a house launches a limited edition, it must decide how many pieces to make, then how many to send to each boutique. Today that volume follows the sales of the last few weeks: it ignores the launch, the show or the pop-up that are coming.

4%

gap between the planned volume and actual demand on the launch of La Beauté Louis Vuitton, against 21% for the volume set on recent sales.

+€89k

of estimated margin over the six weeks replayed, €88,980 or 21% more, at €85 per set sold and €45 per unsold set.

+€148k

of estimated revenue, €148,260: 1,059 more sets sold, at the retail price of €140.

WHAT THE SYSTEM DOES

- **It reads the house's news** every morning, with its sources, and places each event: the world, a country, a city.
- **It measures the effect of each type of event**, week after week, on past sales.
- **It forecasts the volume** to make and each boutique's share, events included.
- **It leaves the decision to the planner**, with the reason behind each figure, boutique by boutique.

WHY IT CAN BE TRUSTED

- **Every plan is replayed** on six weeks already past and compared, in euros, with today's method.
- **The model reads the effect of events** more accurately for each of the eight houses tested: an error more than halved at Louis Vuitton.
- **Every idea is tested out of sample** before it is kept: the model only learns from the past.
- **Gemini reads, the model measures, the code decides**: no figure comes from a language model.

Events, sources, boutiques (OpenStreetMap) and prices are real. Sales and stock are synthetic, with a hidden effect of events the model has to find on its own: the amounts show the method, a pilot on real data will give the real value.

The spreadsheet carries the past forward. Demand follows events.



LV Rouge · La Beauté Louis Vuitton · €140 · © Louis Vuitton

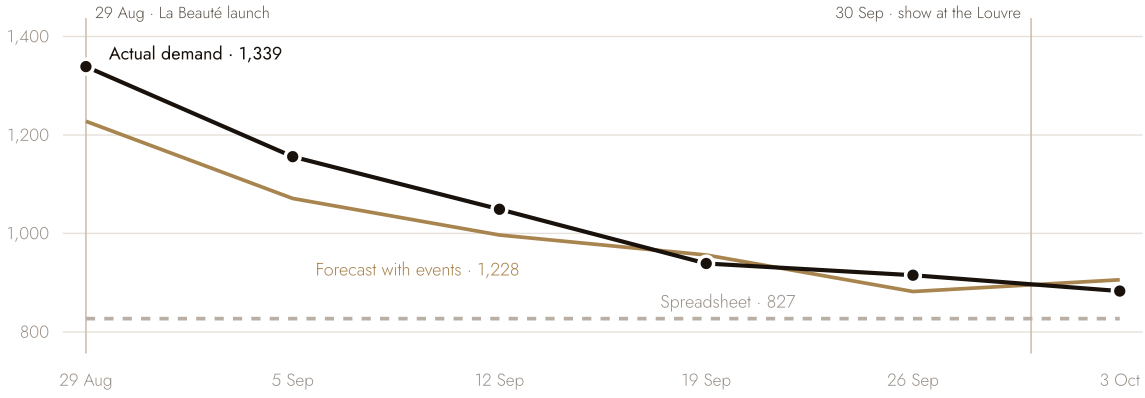
THE CASE REPLAYED · 25 AUGUST 2025

4,960 pieces for 62 boutiques. Four days later, La Beauté Louis Vuitton launches worldwide; on 30 September, the Spring-Summer 2026 show is held at the Louvre. The spreadsheet expects 827 pieces a week; in the first week, customers ask for 1,339.

The events to come are missing. A global launch lifts every boutique for several weeks, a show in Paris mostly Paris. They are known long in advance, and the spreadsheet does not read them.

The starting point is skewed. The average of the last 13 weeks still carries last month's launch, carried forward as if every week were one. Over two years, the volume set on recent sales was 10.4% off what sold, on average.

WEEKLY DEMAND OF THE NETWORK, SIX WEEKS AFTER THE LAUNCH



Each dot is one week of demand, from the launch on 29 August; the decision is taken four days earlier, on 25 August. The forecast follows demand because it knows a launch fades over several weeks; the spreadsheet stays flat.

Four steps, a volume with its figures.

01	READ	Every morning, Gemini searches the house's news with Google Search; an article without a source is dropped. It draws the type of event and its reach: the world, a country, a city. 13 LOUIS VUITTON EVENTS OUT OF 13 PLACED RIGHT
02	MEASURE	For each past event, the lift in sales is measured week after week against the permanent collection. The model learns the curve of each type of event, drawing on the events of all eight houses. AN ERROR MORE THAN HALVED: 11 POINTS INSTEAD OF 25
03	FORECAST	The forecast first removes the effect of past events from the starting point, then adds, week by week, the curve of each coming event where it lands. MORE ACCURATE IN 14 NETWORKS OUT OF 15
04	CHECK	Every plan is replayed on six weeks already past; the forecast is replayed every fortnight over two years, to know its error. 2,294 PERIODS REPLAYED FOR LOUIS VUITTON



The Louvre, Cour Carrée, venue of the 30 September 2025 show · King of Hearts, CC BY-SA 3.0

The volume is decided weeks before the sale.

A workshop gets its order well before the product goes on sale. So the question is not only "how many", but "how many, and how far ahead". With events, the forecast stays accurate at every lead time, and it helps most when the workshop starts production.

LOUIS VUITTON · WEEKS BEFORE THE SALE	SET ON RECENT SALES	WITH EVENTS
At launch	10.4%	9.9%
2 weeks	10.2%	10.3%
4 weeks	9.7%	10.6%
8 weeks	10.9%	11.1%
12 weeks	12.1%	10.4%

Mean gap between the total volume and what sold, over the 37 fortnights of the history, 29 of them with an event. Replayed every fortnight over two years.

TWELVE WEEKS OUT

When the workshop starts production, the gap falls from 12.1% to 10.4%: 14% less error.

A STABLE FORECAST

Between 9.9% and 11.1% at every lead time: the volume can be decided early without losing accuracy.

TO REFINE IN A PILOT

Between two and eight weeks, both approaches hold; real history and the house's internal calendar will go further.

TO STUDY, TO CHALLENGE · THE BUSINESS THRESHOLD

An idea to explore in a pilot: rather than a statistical threshold, taken on a ROC curve or at the maximum F1, set the safety margin by costs, a lost sale against an unsold piece, what is known as the newsvendor problem. On the simulated data, the forecast already captured most of the gain; on real history and with the house's real costs, what this threshold adds deserves to be measured. Both costs already price every plan.

RESULTS

The same limited edition, two ways to prepare it.



LOUIS VUITTON NETWORK · 62 BOUTIQUES	SENT	SOLD	LOST	UNSOLD	MARGIN
Spreadsheet	4,960	4,954	1,327	6	€420,820
Forecast	**6,042**	**6,013**	**268**	**29**	**€509,800**

Actual demand: 6,281 sets. The spreadsheet expects 21% fewer, the forecast 4%. Margin = sets sold × €85 − unsold × €45. Synthetic sales.

THE SAME CALCULATION FOR EIGHT HOUSES

−65%

of losses from stock-outs and unsold pieces, across the boutiques of the eight houses.

95%

of demand served, against 83% with the spreadsheet.

8/8

houses for which the model reads the effect of events more accurately.

At a multi-brand retailer, the volume is more accurate too; the split between stores then becomes the next lever.

COST IN PRODUCTION

On Louis Vuitton's infrastructure, the project only costs its calls.

At Louis Vuitton, GCP, Dataiku and the data visualisation tools are already in place and already paid for: the project plugs into them, with no new platform. What it adds comes down to the news watch's Gemini calls and a few minutes of computing per forecast.

≈ 5 € / month

about €60 a year for Louis Vuitton, however many planners look at the plans.

WHAT THE PROJECT ADDS	ASSUMPTION	€ / MONTH
Gemini news watch with Google Search	10 searches a day, €0.013 each	4.00
Classifying articles	30 articles a day, Gemini Flash-Lite	0.30
Computing a forecast	in memory, under a minute	< 0.10
BigQuery reads	a few GB per training	< 1.00

Unit costs measured on the live version, which runs today for about €3 a month. Cost follows the number of markets watched, not traffic.

CAP

A daily cap on Gemini spend in the code, which cuts off at once, then a budget with alerts.

TRACEABILITY

A label per project and a log per call: model, tokens, cost. The cost of each forecast can be read in BigQuery.

RESTRAINT

No service left running; Flash-Lite to classify, Flash to search.

NEXT STEPS

A twelve-week pilot, then what comes next.

W1–3	**FRAME**	Choose two past limited-edition launches with the planners and the supply chain. Gather sales, stock, the launch calendar and production lead times. DELIVERABLE · A SIGNED-OFF FRAMING NOTE
W4–7	**REPLAY**	Compare, in volume and in euros, the forecast with what was actually made and allocated, several weeks ahead. DELIVERABLE · THE GAIN MEASURED, WITH ITS CALCULATION
W8–12	**PILOT**	A launch under way, one region, control cities that keep today's method. The gap between the two groups is read every week. DELIVERABLE · THE DECISION TO SCALE

WHAT IT TAKES AT LOUIS VUITTON

DATA

Weekly sales and stock per boutique, the history of limited-edition launches, their volumes and their allocations.

TEAM

A lead planner to sign off the plans, an AI engineer to connect the data, run and monitor the model.

PLATFORM

The GCP project and Dataiku already in place. To add: model monitoring, cost tracking and MLOps, retraining, versions and drift alerts.

The same method, from the workshop to the boutique.

Once the pilot is measured, the same foundation answers other decisions in supply chain, merchandising and client relations: each one compared with today's method, in euros.

SUPPLY CHAIN & PRODUCTION

WORKSHOP CAPACITY

Minimum runs, capacity and production lead times in the recommended volume.

SAFETY STOCK

Sizing the gap that remains, about 10%, in stock or flexible capacity.

PERMANENT COLLECTIONS

The same forecast for each boutique's replenishment.

TRANSFERS AND HUBS

Rebalancing during the sale between boutiques and regional warehouses.

MERCHANDISING & OFFER

ASSORTMENT PER BOUTIQUE

Which references in which boutique, given its clientele and its space.

SLOW STOCK

Spotting early the pieces that will not sell, and moving them in time.

LOCAL SEASONS

Chinese New Year, Golden Week, the Gulf season, tourist flows.

BEYOND BEAUTY

Capsules, collaborations, limited leather goods.

CLIENT & OMNICHANNEL

CLIENT VALUE

For a loyal client, a missed sale costs more than the margin.

ONE STOCK

E-commerce, online reservation, in-store pickup.

INTERNAL CALENDAR

PR and ambassador plans, known before the announcement.

TRACKING THE GAIN

A dashboard where planners follow the gain, launch after launch.



THE AUTHOR

Maxime Cousseau

Senior Data Scientist. Six years in supply chain, operations and omnichannel, at Bouygues Telecom, Crédit Agricole and Ardian. Dataiku certified, on GCP and BigQuery.

I designed and built this project end to end: the business question, the models, and the architecture that runs them in production on GCP, from the data to the API, with the daily news watch and its cost safeguards.

It is how I work: start from a business decision, put a figure on it against today's method, build what makes it run, and make it readable to the people who take it.

FRAME

A precise business decision, a costed case that technical and business teams discuss together, and whatever does not hold, dropped.

DELIVER

Models compared with today's method, in euros, and the architecture that puts them in production on GCP, ready to hand over to data engineers.

BRING THE BUSINESS ALONG

A model only counts if it is used: train the planners, explain each plan, leave them the decision and improve the tool with their feedback.

LIVE DEMO

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Independent project, not affiliated with Louis Vuitton or LVMH. Synthetic sales and stock; real events and boutiques (OpenStreetMap). Cover and product © Louis Vuitton.