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CASE STUDY · MARLUC SYNOPSIS

Posti parcel locker forecasting

IMPLEMENTED 2021–2025 · TRANSPORT AND LOGISTICS · FINLAND · BAND D · CLAIMED ONLY

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Finland's postal operator replaced a fixed-average locker capacity estimate with machine learning forecasts that route parcels to lockers likely to have space. Posti built the models itself, started using the routing system across Finland in November 2021 and added forecasts for parcel arrival and shelving in 2025. It reports forecast accuracy, not delivery or cost results.

ABOUT THIS SYNOPSIS

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Facts and figures are as reported by the sources listed below, which may be incomplete, self-reported or out of date. Check the original source before relying on any figure.

The impact band, proof marker and SEAM view are MarLuc's opinion. The organisation is not a MarLuc client and has not reviewed or endorsed this synopsis. Names and trademarks belong to their owners.

NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

AI used: Machine learning forecasting models for parcel routing, built by Posti's own staff.

Implemented: 2021–2025. Grade: band D, Task support, Claimed only.

Headline result, as reported: Posti's AI predicted which parcels would be collected from lockers within 24 hours with 96% accuracy at launch in 2021, by its account; 2025 models forecast arrival and shelving too

1 · The case

The facts, as reported by the 3 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Posti Group. Finnish postal and logistics group that runs parcel lockers across Finland. Staff numbers: Not reported in the sources opened. Canvas block: 4. Operations and process. Also 6. Data and technology, 3. Customers and proposition.

Business challenge

The challenge. By Posti's account, hundreds of parcel lockers become completely full every day or on several days a week, and popular lockers cannot always be enlarged because they sit in limited spaces such as shops.

Who implemented it

In-house (In-house): Posti: Developed the routing AI with its own staff, by its account..

Technology (SEAM pillar E)

SEAM types: T8 Predictive / ML models. Deployment: Not reported. Vendors and products: Not reported.

Where it was built in: Forecasts feed Posti's parcel routing and parcel control system, using advance shipment data (EDI messages) from online retailers; the 2021 release says Posti's own staff developed the routing AI.

What changed

Before: locker capacity estimated from average utilisation rates, so lockers sometimes stayed full despite incoming parcels, causing delays and redirection. After: parcels are routed using locker-specific forecasts, by Posti's account. [1] [2] [3]

What it cost

Not reported

What it saved

Not reported. Posti says the aim is less unnecessary driving and fewer emissions, but gives no figure. [1] [2] [3]

Governance and control

Named Posti leads describe the routing system and the data and automation work. Testing, review of forecasts and monitoring for drift: Not reported.

S2 · Accountable owner · Claimed
Named Posti leads speak for the parcel routing system (the project manager) and for data and automation; accountability for outcomes is not otherwise described. [1] [2]

A1 · Safe use · Not reported
Not reported.

A2 · Human in the loop · Not reported
Not reported.

A3 · Monitoring and assurance · Not reported
Not reported.

A4 · Vendor AI · Claimed
Posti says the routing AI was developed fully by its own staff, so no vendor model is reported. [1]

A5 · Agent controls · Not reported
Not reported.

A6 · Standards and regulation · Not reported
Not reported.

What worked, what did not, what is unproven

WORKED

– By Posti's account, the AI predicted with 96% accuracy which parcels would be collected from a locker within 24 hours, at the 2021 launch.

– By Posti's account, shelving-time predictions reached 91% accuracy against a goal of 95% (2025).

– Posti reports the forecasts have been extended from locker pickups to several stages of the delivery chain.

DID NOT

– Not reported

UNPROVEN

– Effect on delivery speed, parcels redirected, driving distance, cost or emissions: Not reported.

– How accuracy is measured and on what data: Not reported.

– Whether the arrival and shelving models are used in routing decisions at all sorting centres, and when customers will see predictions in the app: Not reported.

Timeline

Nov 2021 Posti starts using a dynamic parcel routing system across Finland, with AI forecasting locker pickups [1]

Nov 2021 Trade press reports the system anticipating locker capacity with 96% accuracy [3]

May 2025 Posti reports models forecasting parcel arrival at sorting, shelving time and customer pickup, with shelving accuracy at 91% [2]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: D, Task support. Proof: Claimed only. Level of change: Task support.

Task support (Level 1, band D). The forecasts do change how parcels are routed, but only forecast accuracy is published. A process-level result (Level 2, band C) would need figures on delivery speed, redirects or cost.

The forecasts feed live parcel routing, so work does run differently, but Posti publishes only forecast accuracy. No result on speed, cost, redirects or emissions is reported, so this is graded as task support until the effect on delivery is shown.

The SEAM view and lessons learnt

A forecast sits at the join between planning and the physical network: it only helps if routing, drivers and lockers act on it. Posti shows where it feeds routing, which is the right place to look. It publishes accuracy rather than outcomes, so the benefit to customers and cost is stated as an aim. The 2021 and 2025 figures describe different models and should not be merged.

1. Replace fixed averages with forecasts at the level where capacity is actually constrained.
2. Report the operational result, not only forecast accuracy.
3. Build in-house machine learning skills where the data is your own.

Evidence

Score 1 of 4. Self-reported: Posti's own news releases and one trade press report repeating the 2021 release.

Evaluation method. Self-reported company figures: two company news releases and a trade press report; baseline and method not published, no evaluation of results.

Sources disagree. The 2021 release says 96% accuracy in predicting which parcels will be collected from a locker within 24 hours. Parcel and Postal Technology International describes 96% as the accuracy of anticipating lockers' available capacity. The 91% figure in 2025 is for a different model, shelving time.

Status. Ongoing: forecasting extended in 2025; later results Not reported.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/posti-parcel-locker-forecasting

[1] Posti: Posti's smart Parcel Lockers predict the filling rate of lockers (8 November 2021)
https://www.posti.com/en/postis-smart-parcel-lockers-predict-the-filling-rate-of-lockers

[2] Posti: Smart parcel lockers take logistics to the next level (9 May 2025)
https://www.posti.fi/en/for-businesses/latest-news/20250509-smart-parcel-lockers-take-logistics-to-the-next-level

[3] Parcel and Postal Technology International: Posti uses AI to improve parcel routing efficiency (11 November 2021)
https://www.parcelandpostaltechnologyinternational.com/?p=17786

Posti Group website: https://www.posti.com

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