



Tourism of Tomorrow

Data-Driven Destinations Hub

**EU Competence centre to support data management
in tourism destinations**

Outcomes of D3HUB

Final Event

Mallorca, September 24th 2026



Urska Starc-Peceny- ARCTUR: Supporting smarter interpretation through AI



Development of the forecasting model

Data Sources

- eTurizem daily guest-level accommodation data
- Historical records across multiple years
- External variables: holidays and major events

Forecasting Model

- Trained on historical tourism demand data
- Market-specific model adaptations
- COVID-19 period excluded



Development of the forecasting model

Accuracy & Performance

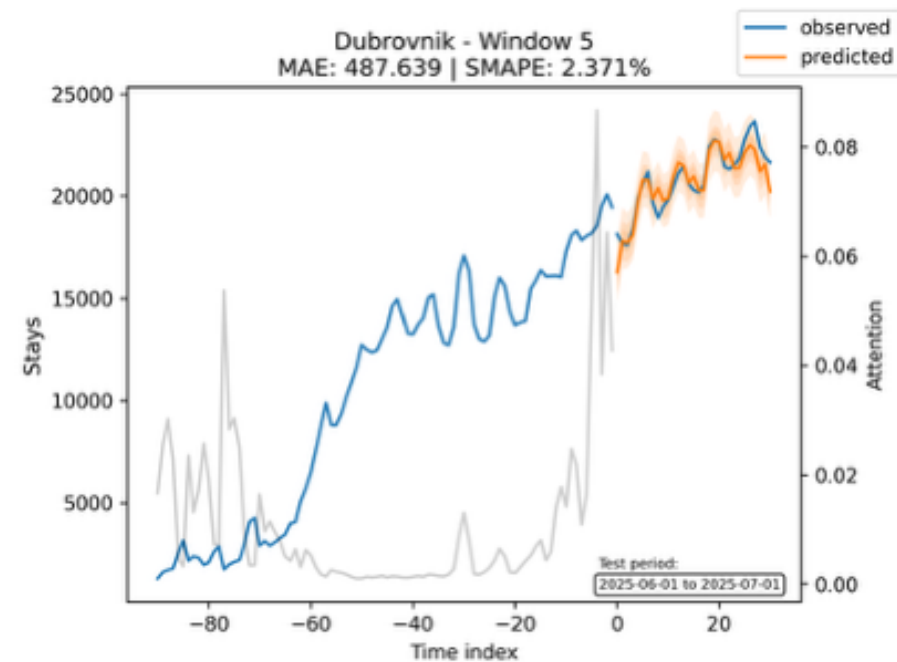
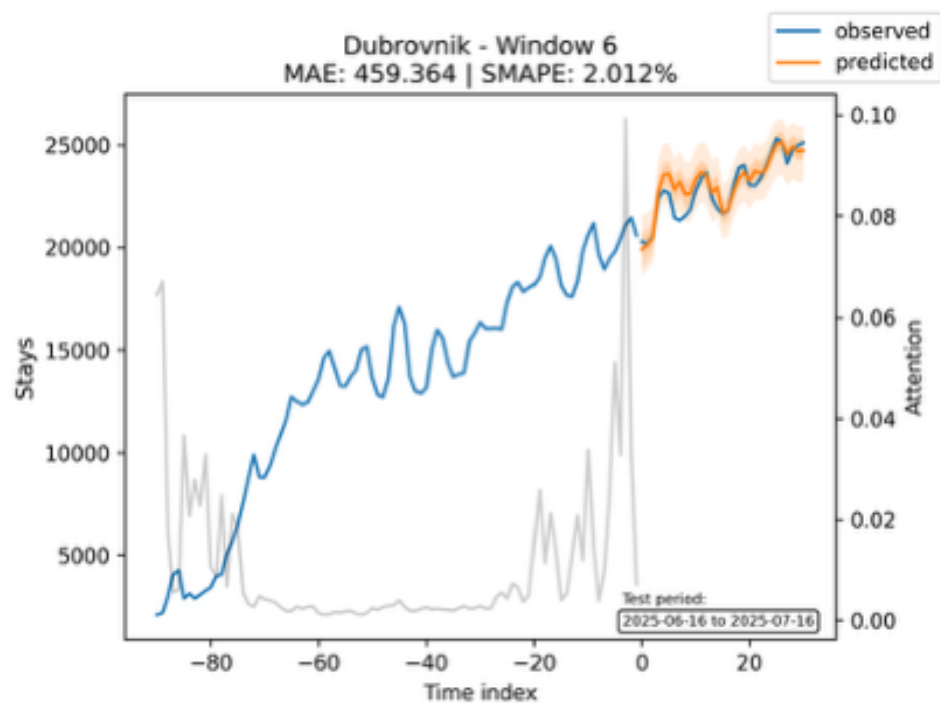
- Average forecast error: 5–10%
- Higher accuracy with longer time series
- Stronger predictability in summer season

Technical Implementation

- Models and visualizations developed in Python
- Automated data pipelines for real-time forecasting
- User-ready forecast access once data is available

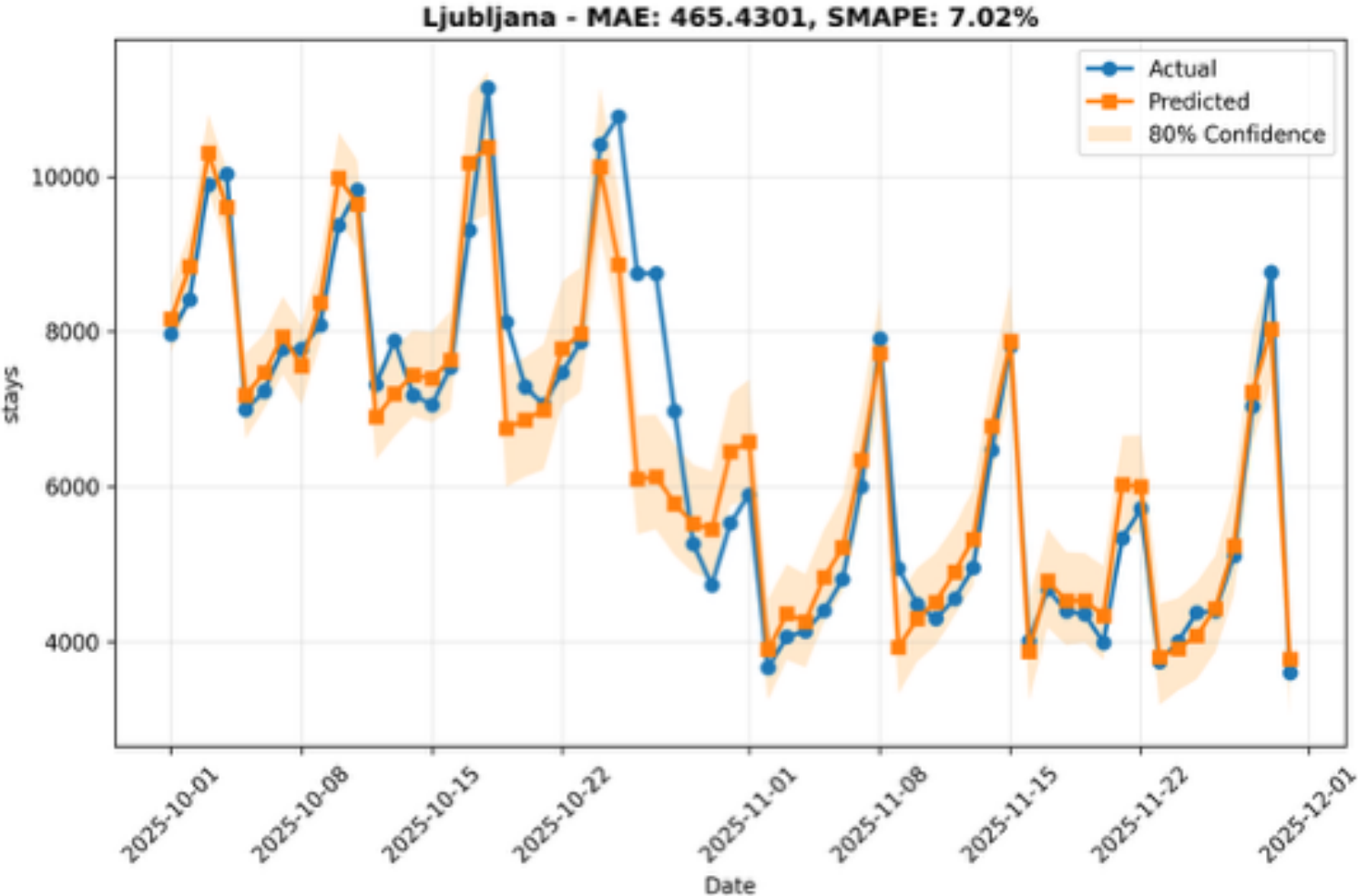


Dubrovnik



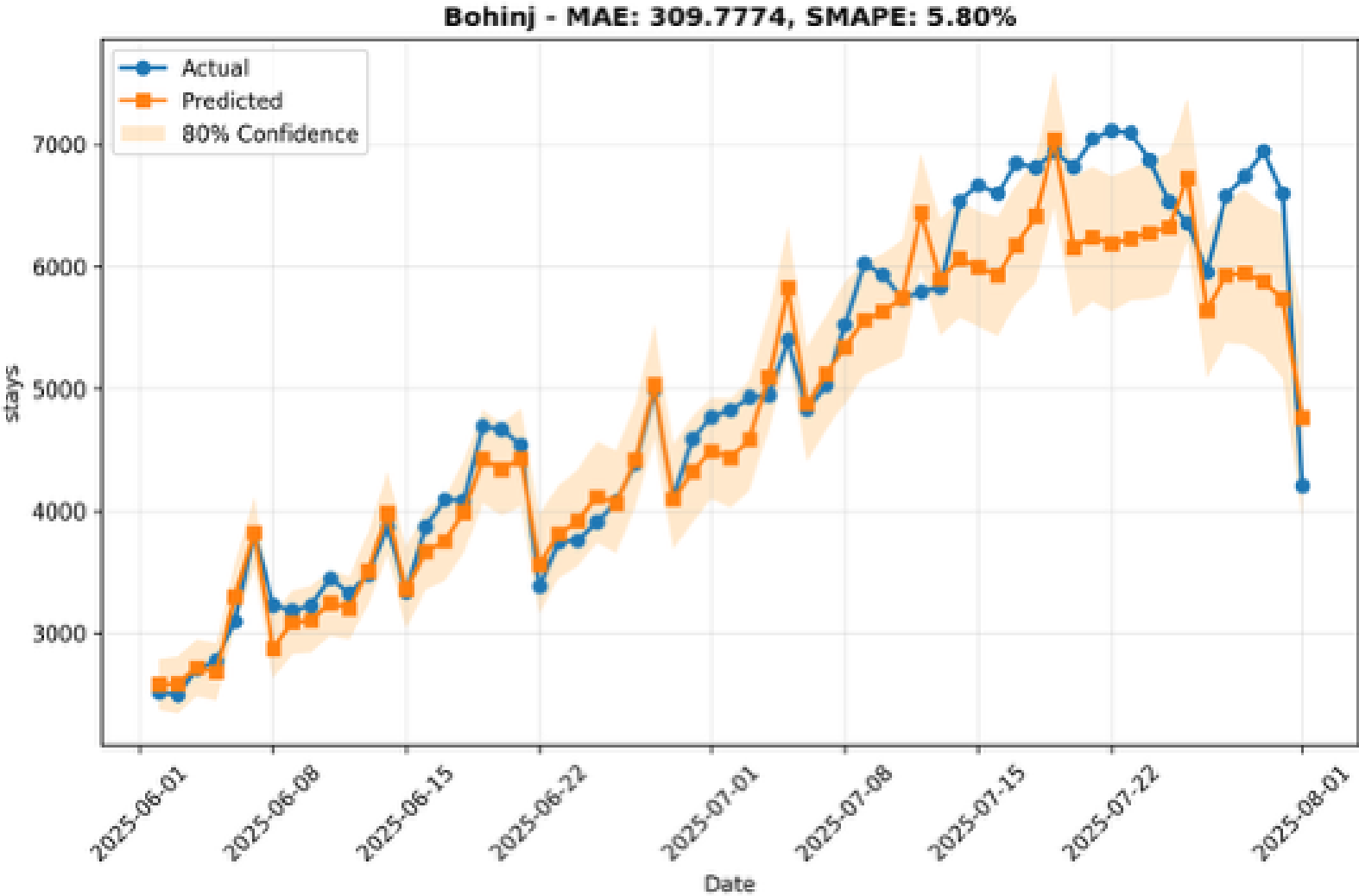


Ljubljana





Bohinj





Data sources – Frontrunners

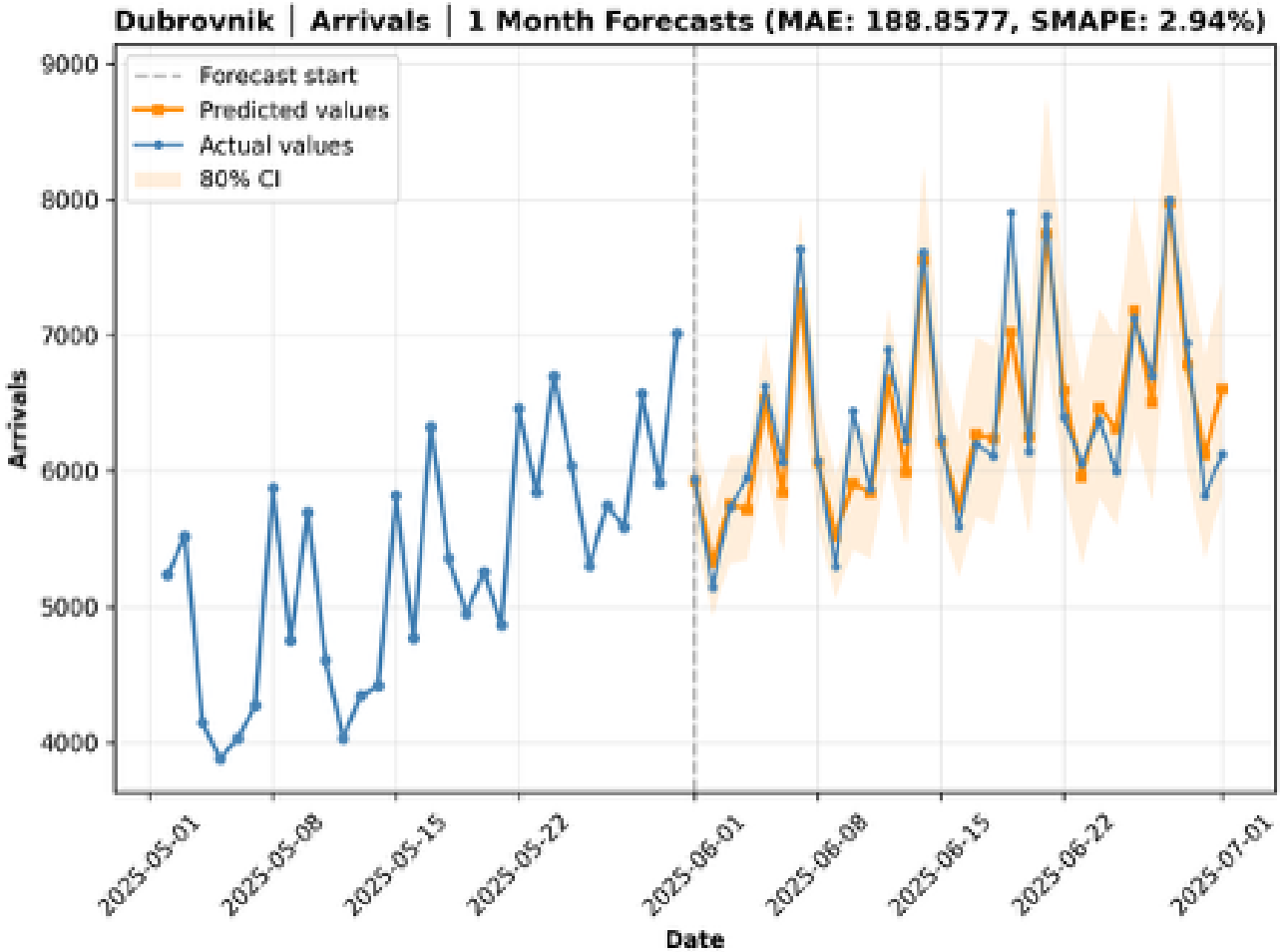
	Ljubljana	Dubrovnik	Tromso
Historical daily guest data	2019 – 2026 (COVID-19 period excluded)	2024, 2025	2022 - 2025
Summer holidays	For statistically known significant key markets	For population-wise major EU countries	For population-wise major EU countries
Major event	YES	NO	NO



Dubrovnik

Only 2 years of data (2024, 2025) → high month-to-month variability in forecast error (model didn't have enough data to learn complex data trends)

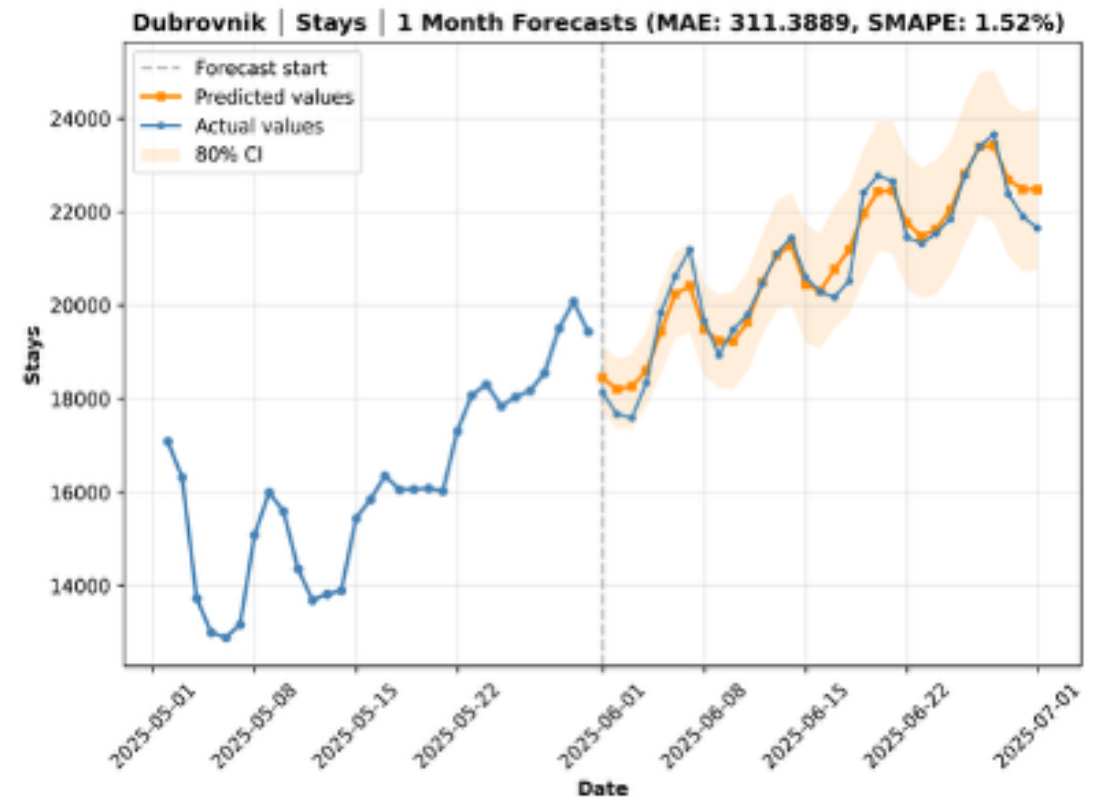
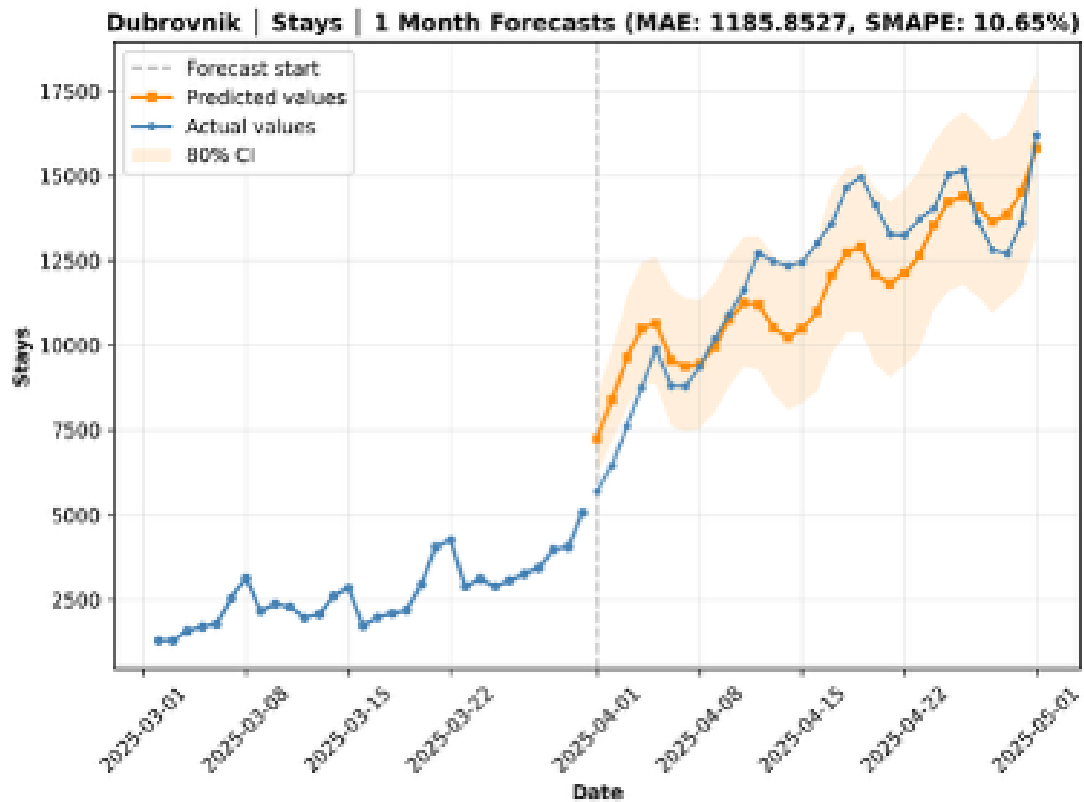
	Error
stays	4 - 18 %
arrivals	5 - 19 %





Dubrovnik

Stronger predictability in summer season

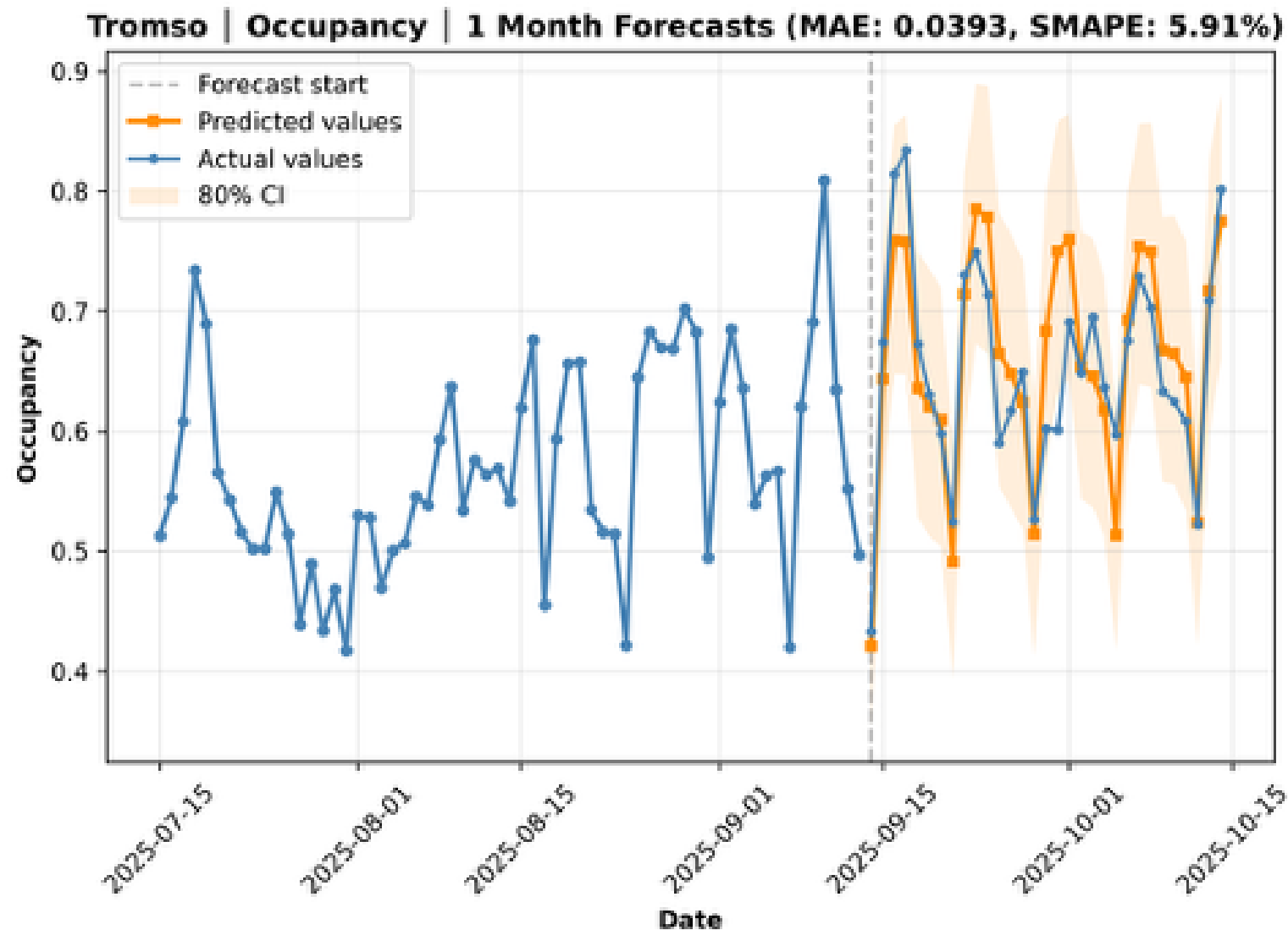




Tromso

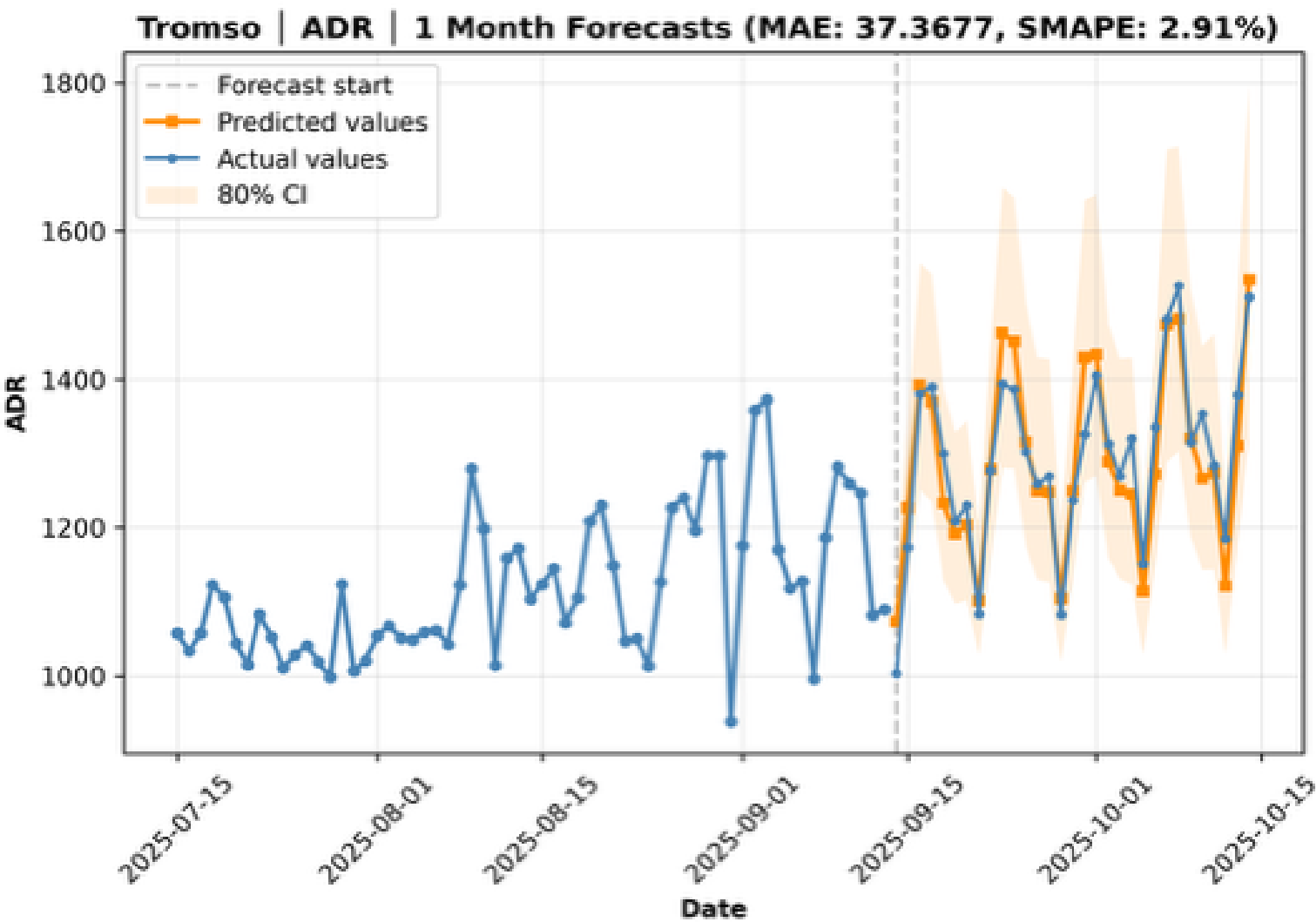
- Different targets:
hotel occupancy and ADR instead of stays and arrivals
- 4 years of data (2022-2025)

	Average Error
occupancy	5 - 15 %
ADR	4 - 12 %





Tromso





Ljubljana

Flows
v. 2024.6

Dashboard

Data

Accommodations

Arrivals and stays

Guest profile

Hotel occupancy

Attractions

Museums

TIC visitors

MOML visitors

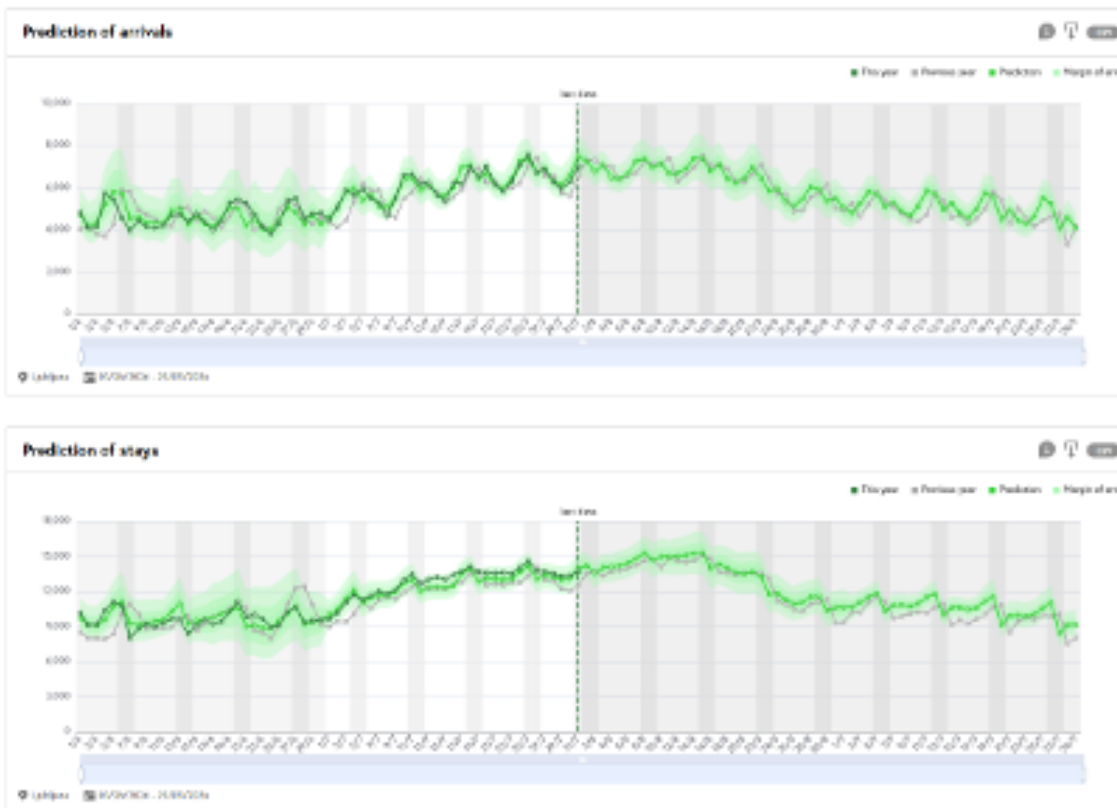
Flows AI

Events

+ Data

Users

Flows AI





What affects model performance?

Data factors (Improvable)

- Data quality (consistent, minimal errors and gaps)
- Data length (more years of data → more)
- External data sources:
 - concerts, festivals or other major events
 - tourist profiles (so we can include public and school holidays from key source markets)

Destination factors (Inherent)

Some destinations are naturally harder to predict than others, due to:

- seasonality,
- event-driven demand,
- few source markets,
- small tourist volumes, etc.



Thank you

