



NAECO BLUE

Simplify Energy Forecasting

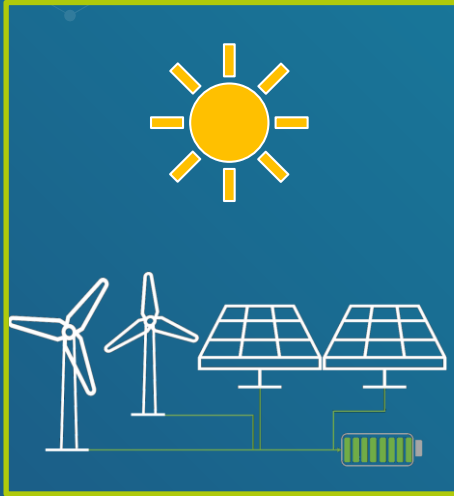


Mai 2022

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Herausforderung



Viel Energie

?

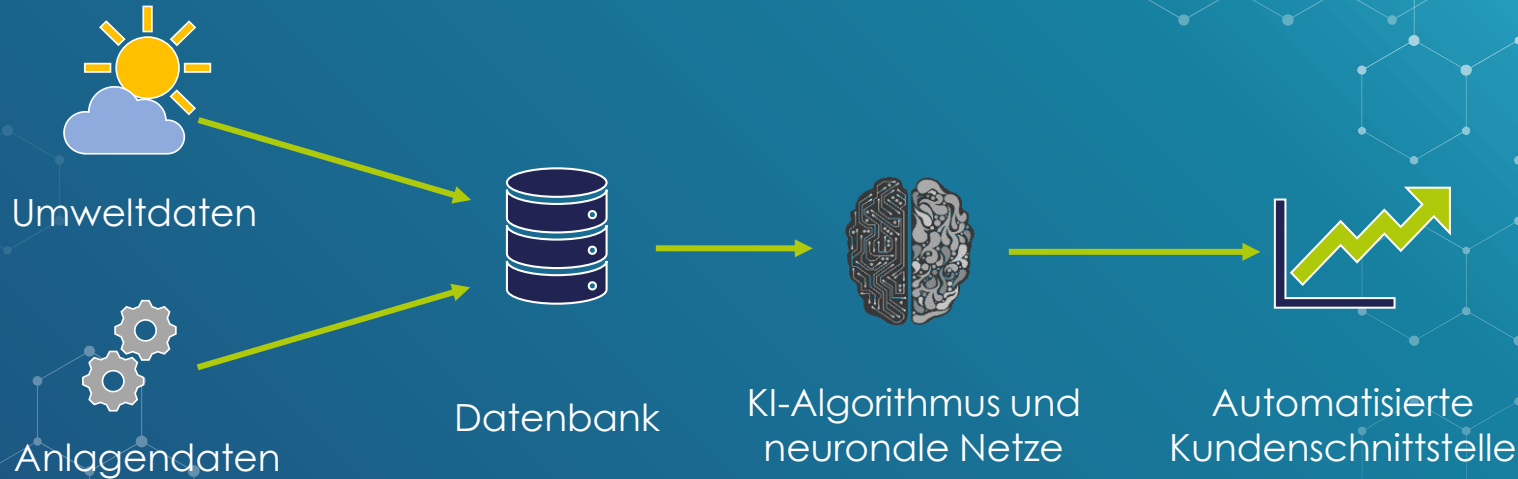


Kaum Energie

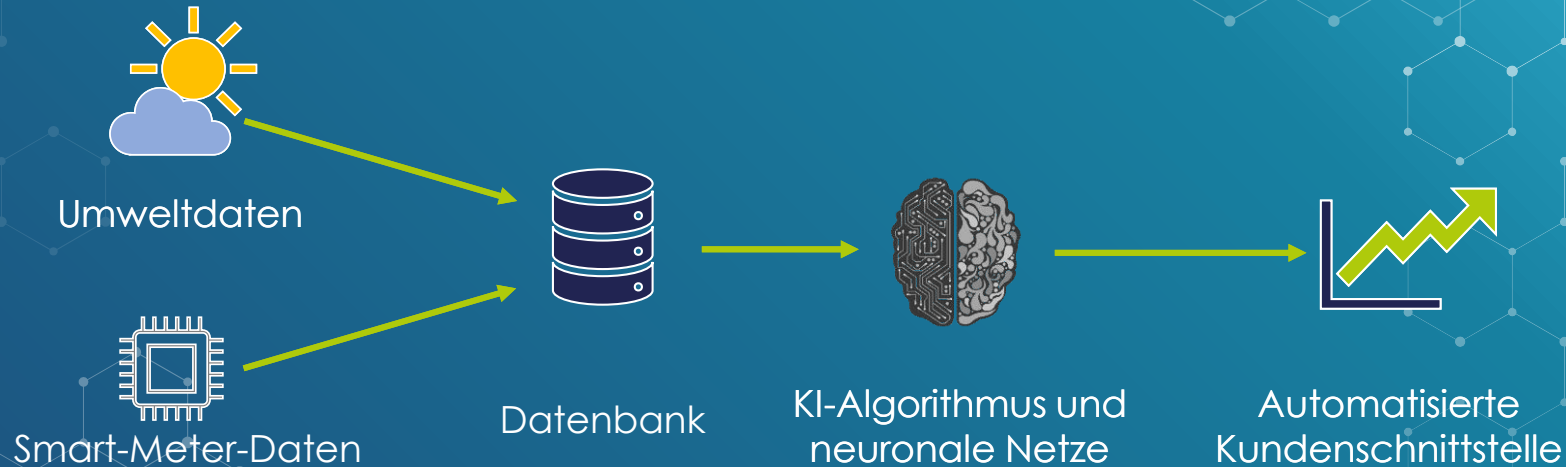
120,2 GW installierte Leistung
50,7 % Anteil an der Stromerzeugung



Technologie – Prognose durch KI



Technologie – Prognose durch KI

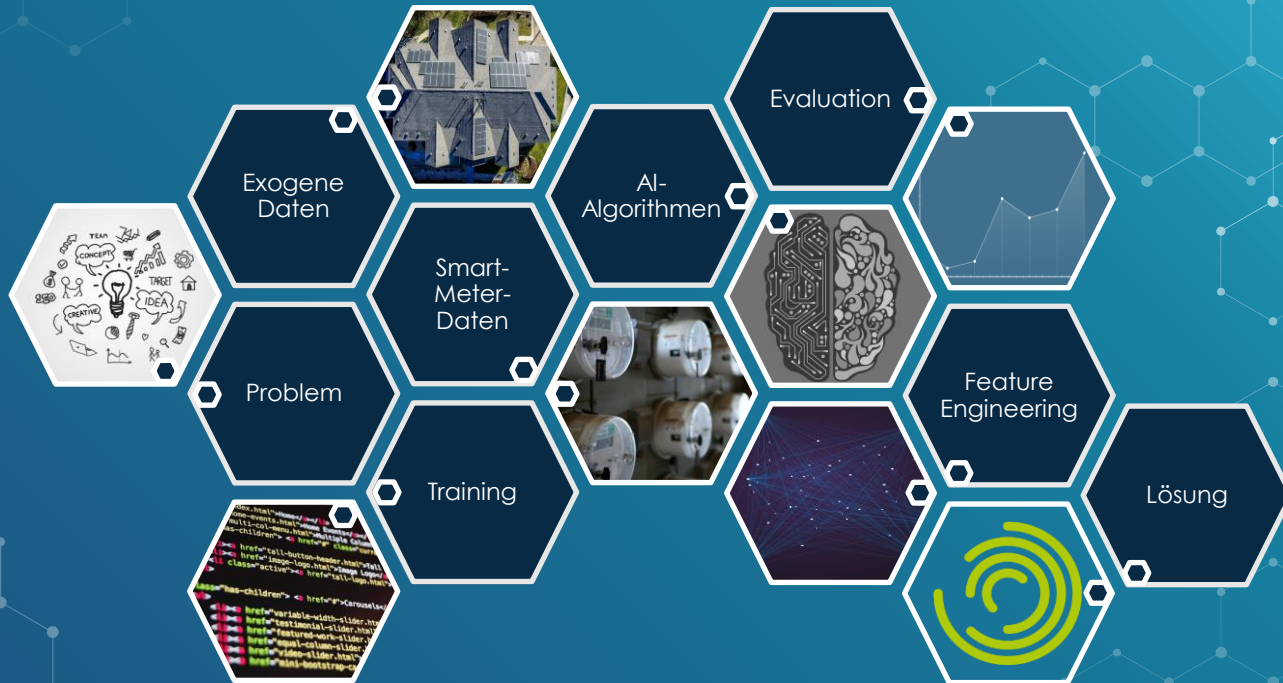


Herausforderungen D4G

- ⌚ Aktuelle Standardlastprofile zu ungenau
- ⌚ Stabilität des Stromnetzes
- ⌚ Datengetriebene Lastprognosen
- ⌚ Smart-Meter-Ausbau
- ⌚ Smart-Meter-Daten (Verbrauch und Meta)



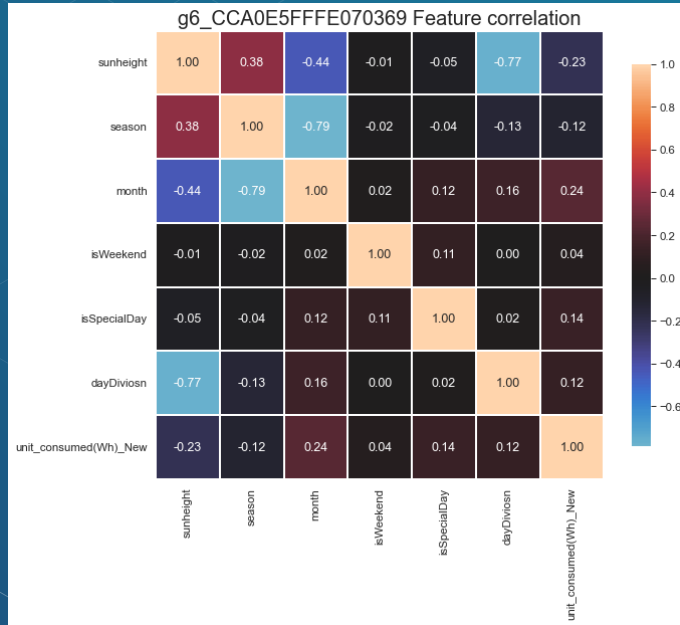
Konzept



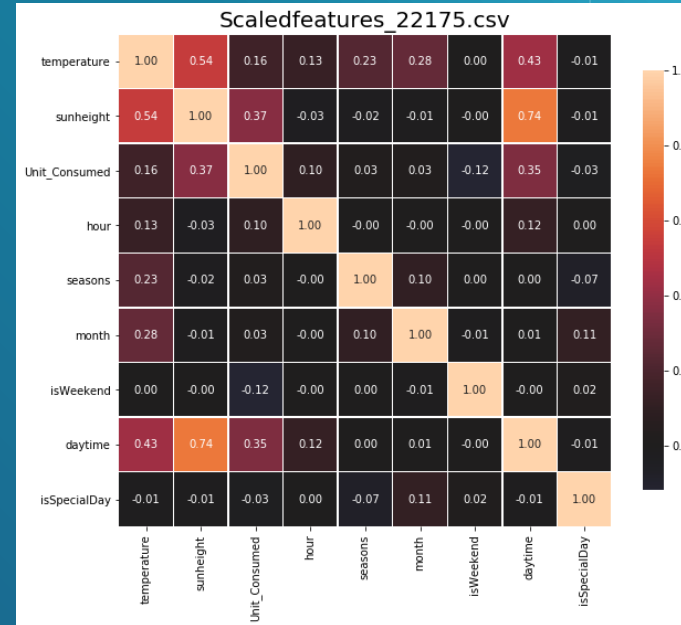
Einflussfaktoren



Korrelation

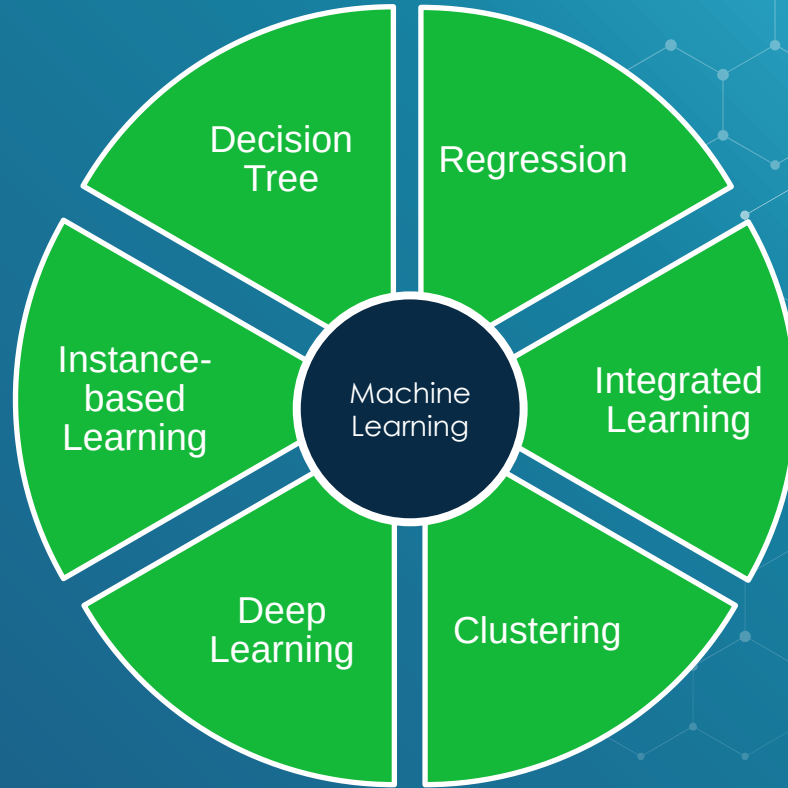


Enercity



Stromnetz Hamburg

Algorithmen





Ergebnisse

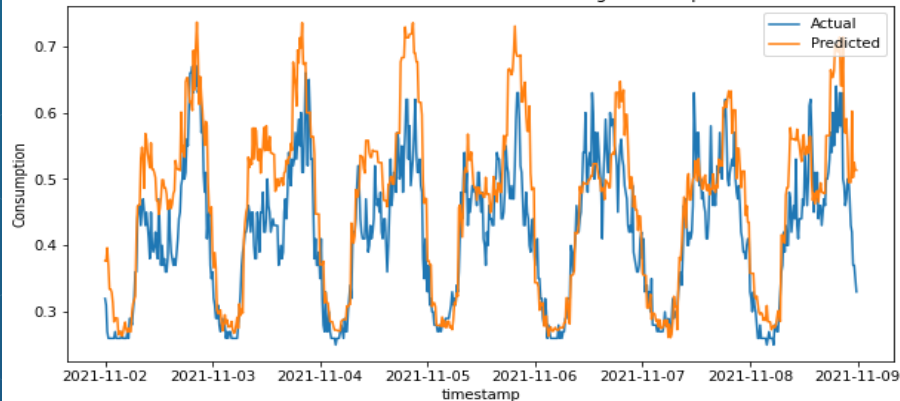
Summarized Results	Enercity RMSE	SNH RMSE
Individual Smart-Meters Level	0.059	0.3165
Clustering Level	0.023	0.1901
Portfolio Level	0.0078	0.0324
Algorithm	Statistical Method	ML-Algorithm

- -> Automatisierter und trainierter Algorithmus
- Aktuelle Standardlastprofile zu ungenau
- Einige Smart-Meter benötigen neue Profile
- Portfolio-Level lässt sich sehr gut prognostizieren
- Exogene Einflüsse gewinnen an Bedeutung

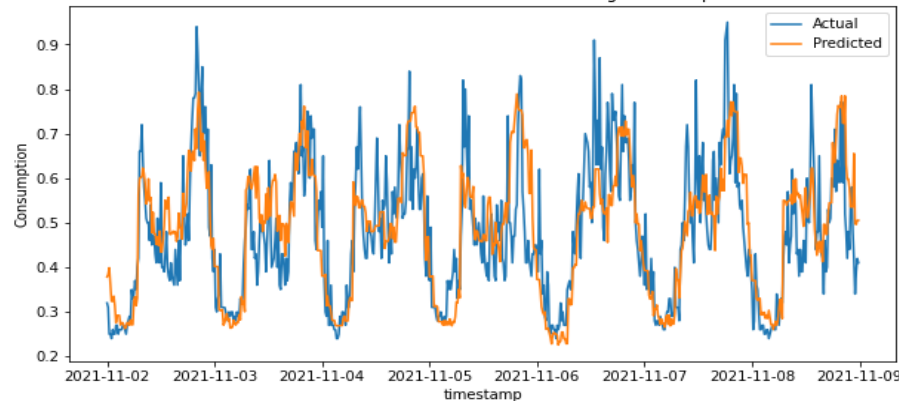


Smart-Meter-Prognose

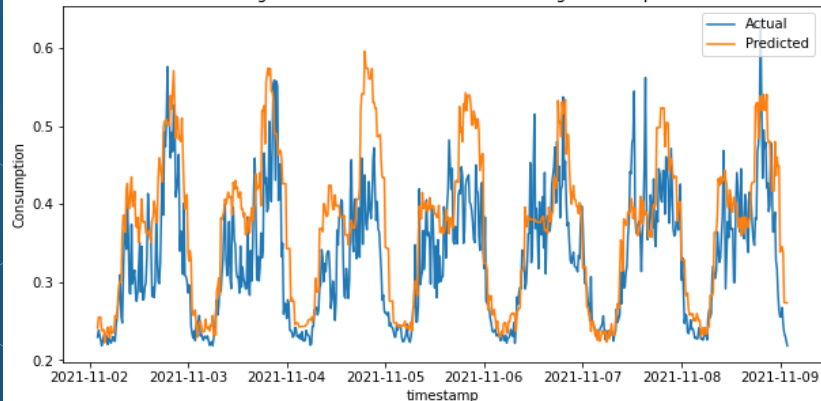
Portfolio Prediction (With Smart meters Avg. Consumption)



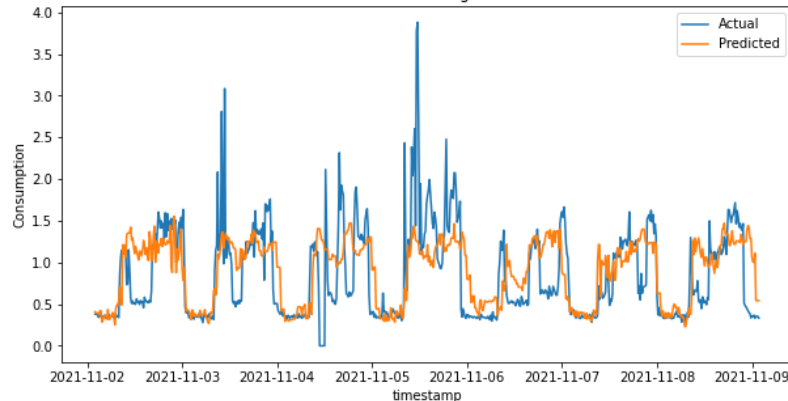
Cluster h0 Prediction (With Smart meters Avg. Consumption)



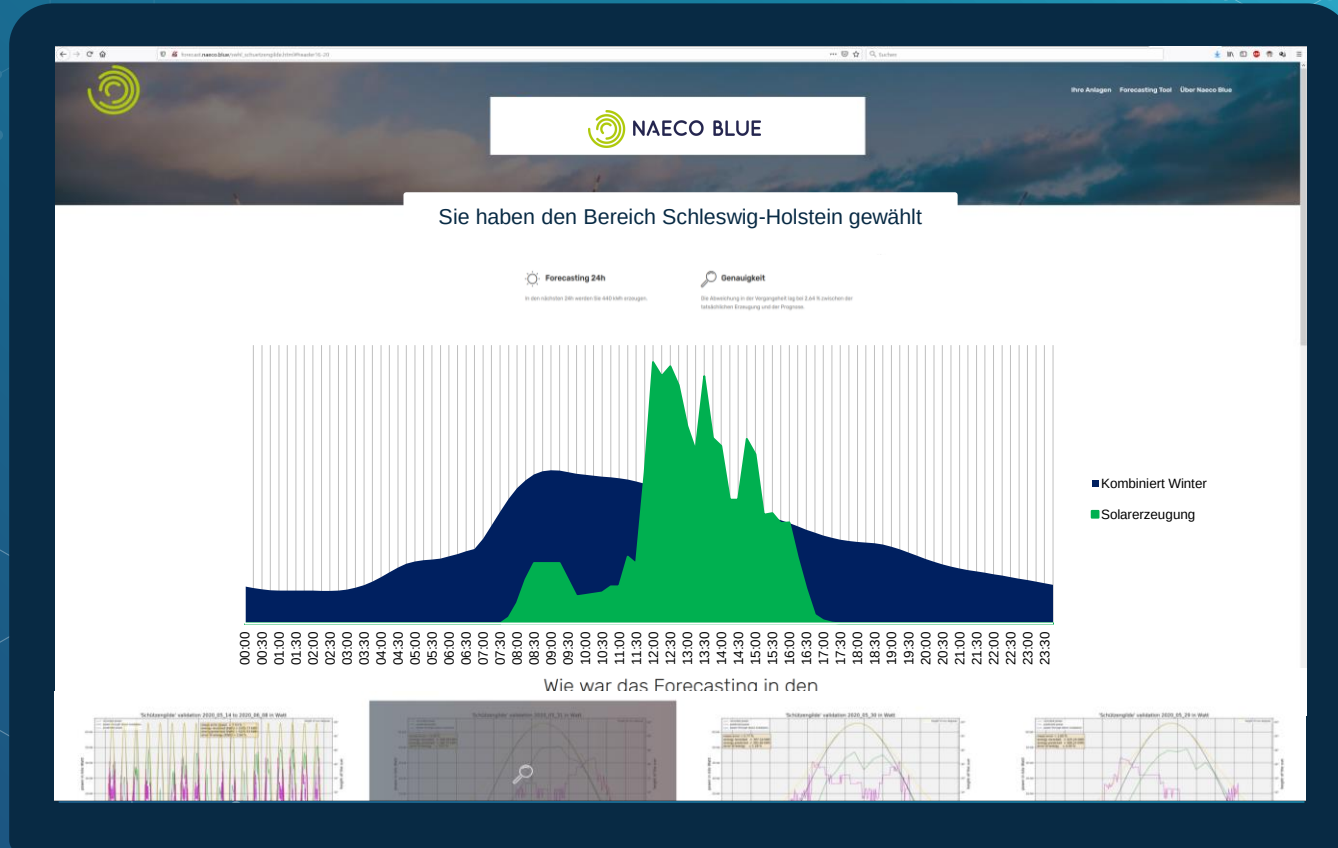
Cluster g2 Prediction (With Smart meters Avg. Consumption)



Customer no 16 from g2 Prediction



Ausblick





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