



Smart Infrastructure Division

Monthly Sales Forecast for a Siemens Business Unit

Group C | April 11th, 2024

Your Data Analytics Team



**Carolina
Caldeira**

20230440



**Gonçalo
Caldeirinha**

20230469



**Madalena
Figueirinhas**

20230436



**Martyna
Kmiecik**

20230452



**Alina
Metzger**

20230998

Decoding the Process: The Sales Forecasting Road



**Monthly
Sales Forecast**



Data Understanding



Data Preparation



Modeling



Evaluation



Deployment

Our Journey Through Data



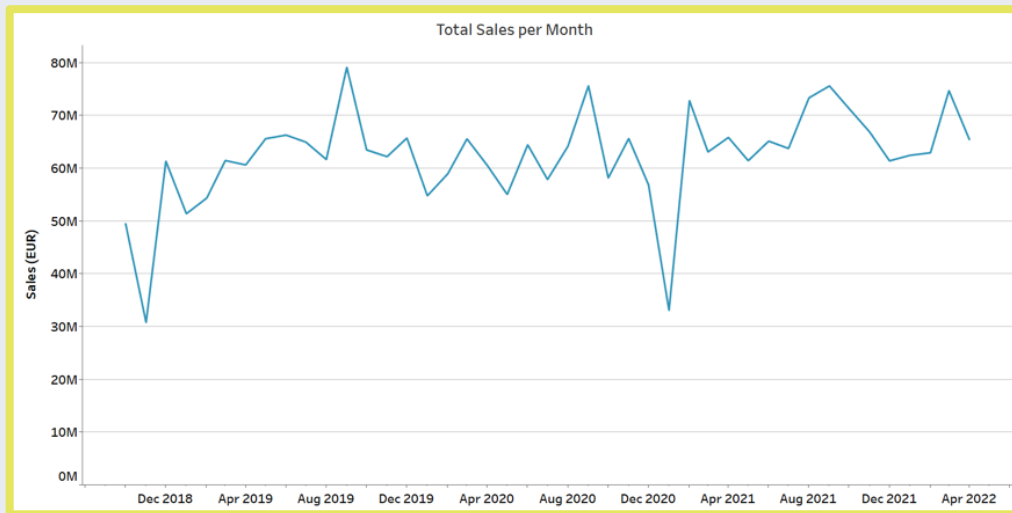
Sales Data



GER



Date, Product Group (PG), Sales in €



Market Data



GER, FRA, ITA, CHE, UK,
USA, JPN, CHN



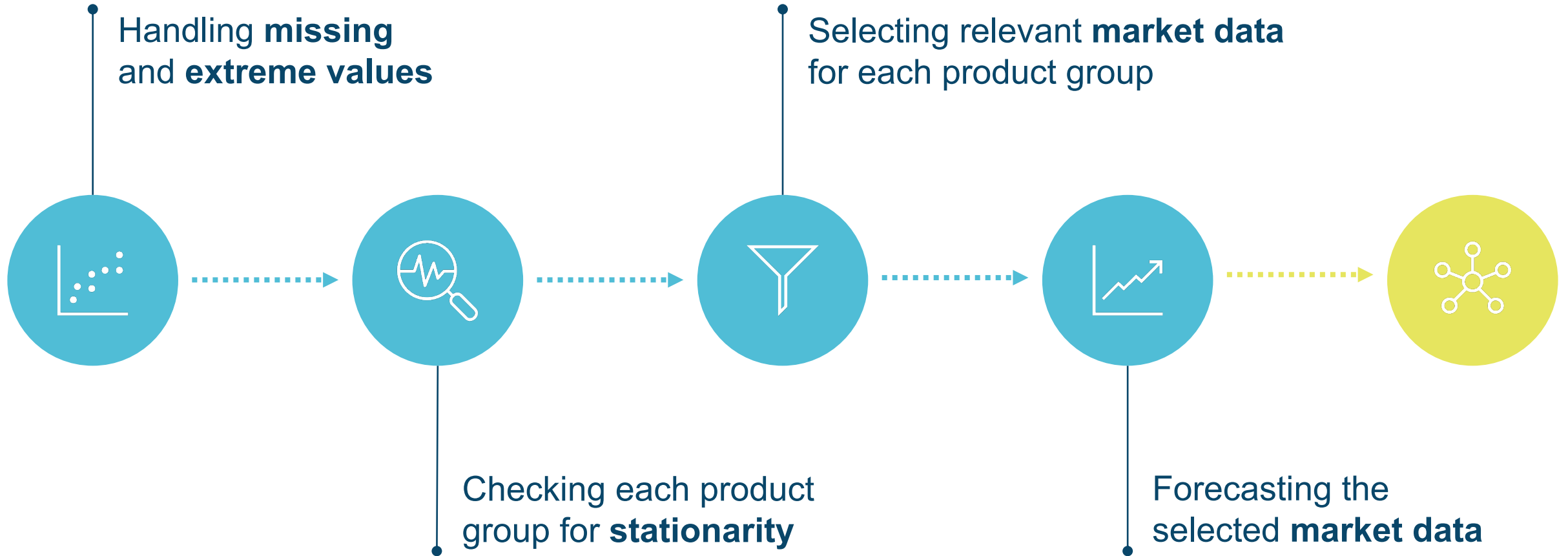
Macroeconomic

- Production and Shipments Indices
- Commodity Prices

Microeconomic

- Producer Prices

The Path to Modelling



Architects of Accuracy: Modeling Methods Unveiled



Prophet

PG 8 PG 14

XGBoost

PG 4 PG 6 PG 12 PG 36

SARIMAX

PG 11

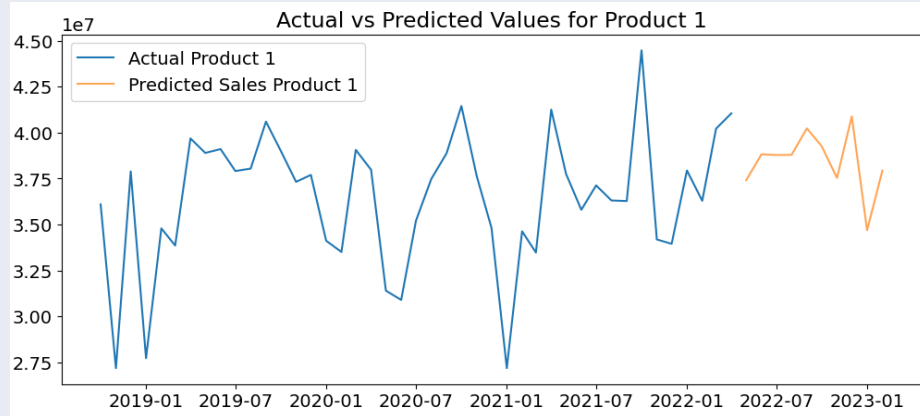
Linear Regression

PG 1 PG 3 PG 5 PG 9
PG 13 PG 16 PG 20

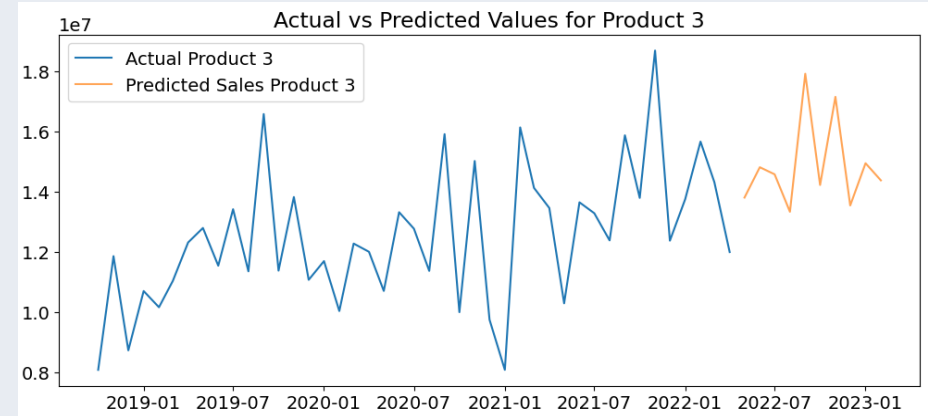
Identifying Seasonal Currents



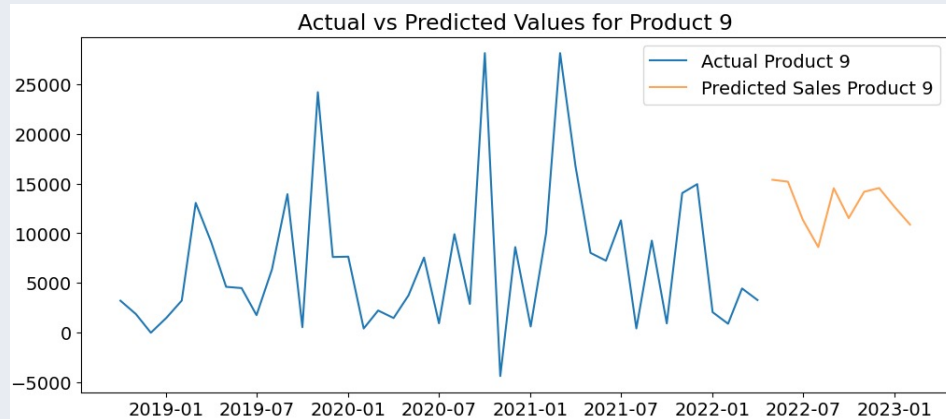
1



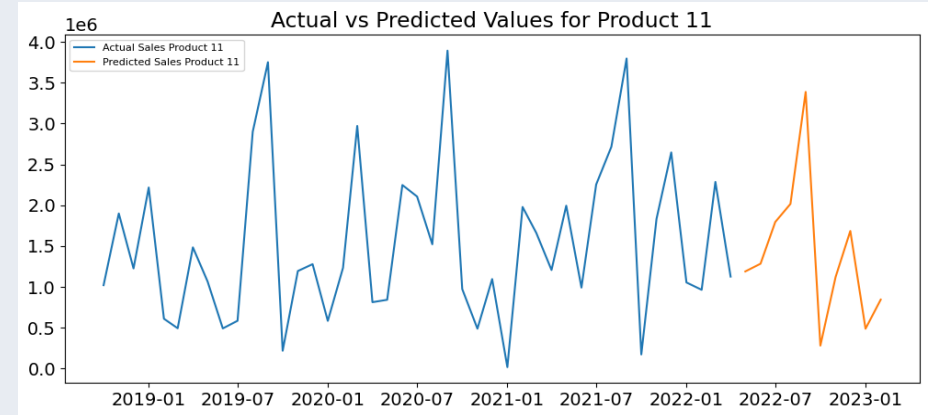
3



9



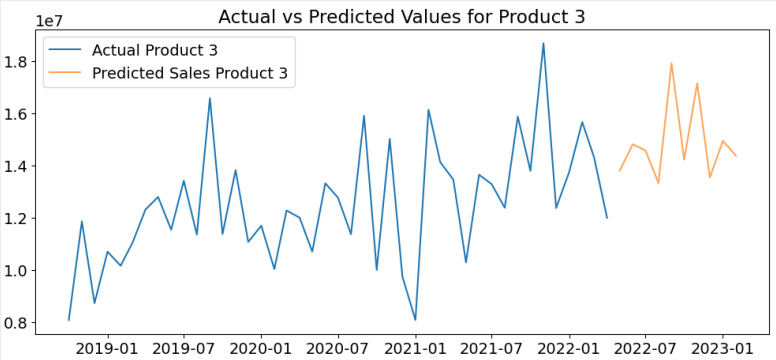
11



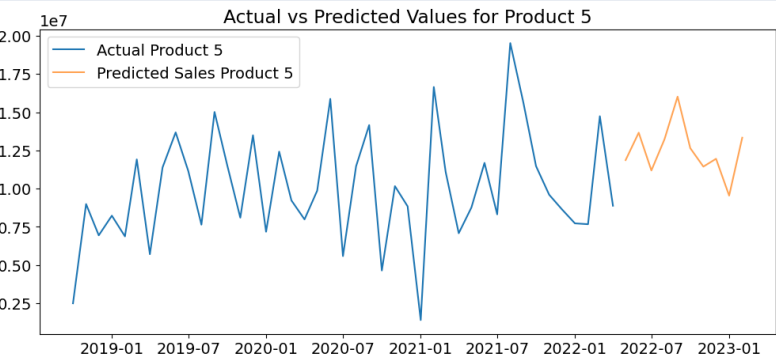
Navigating the Upside of Demand



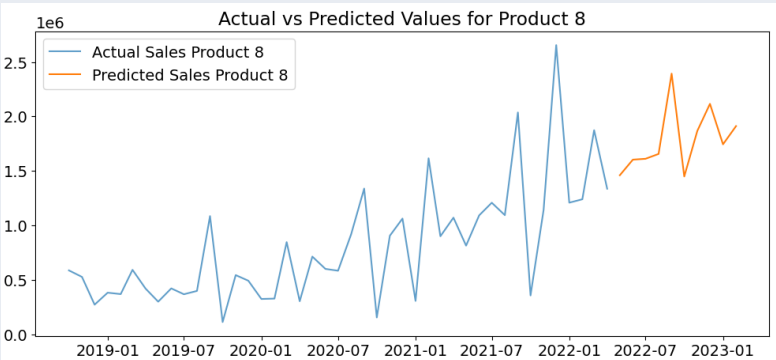
3



5



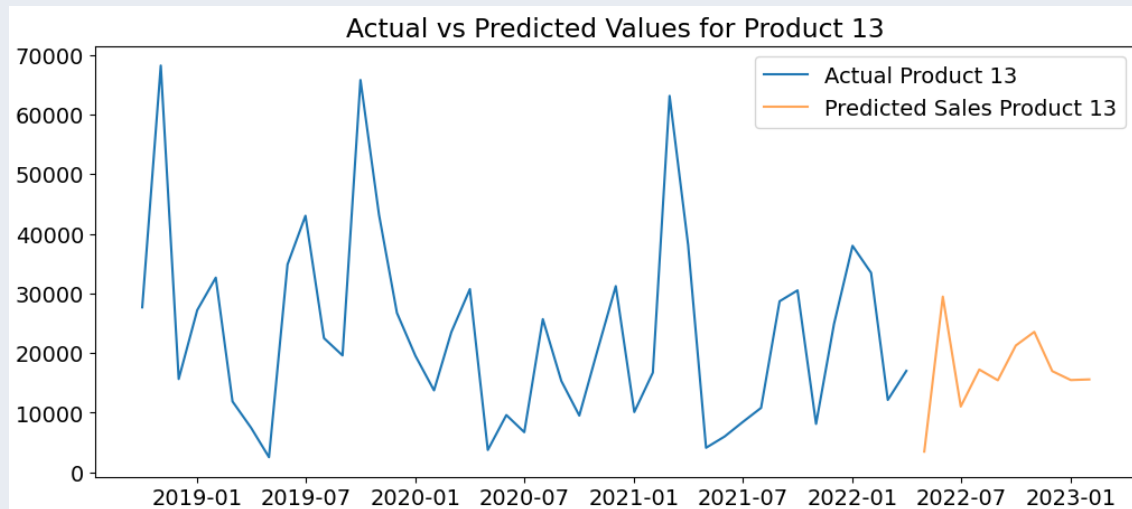
8



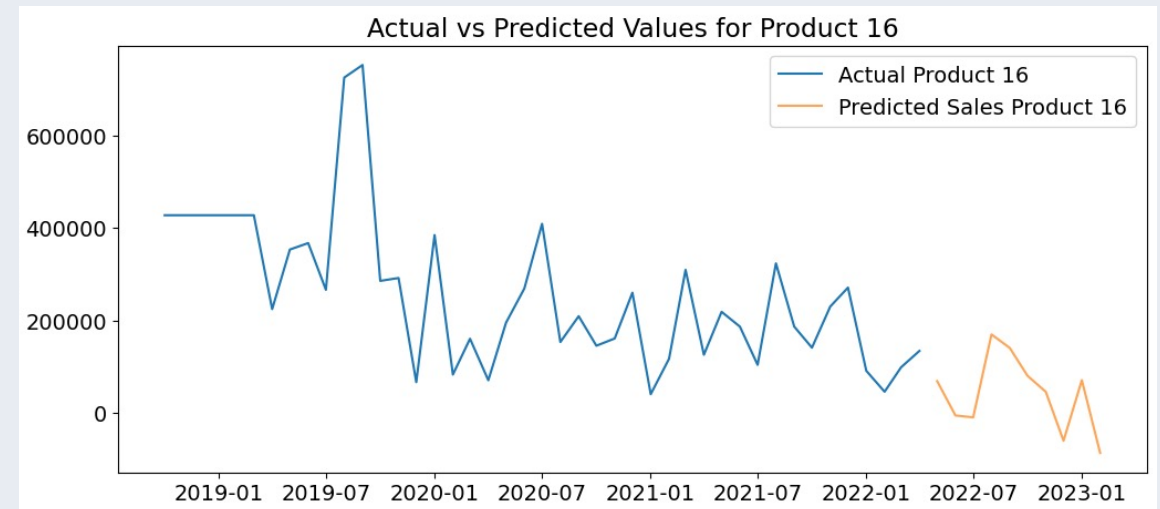
Navigating the Downside of Demand



13



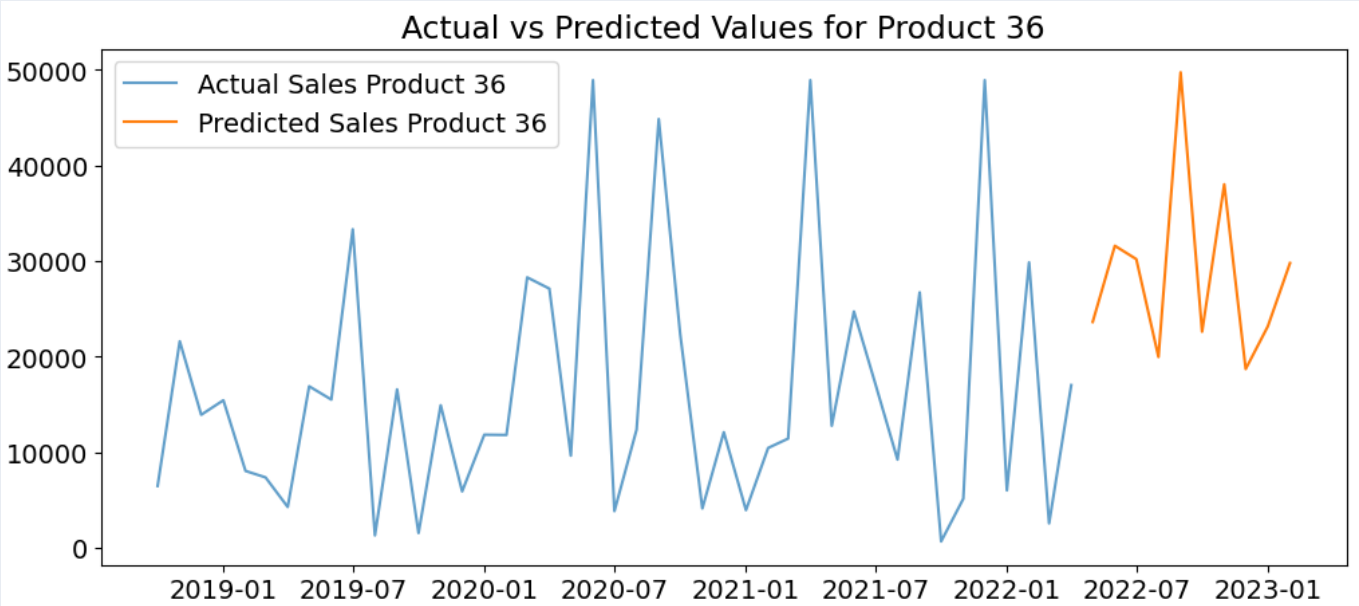
16



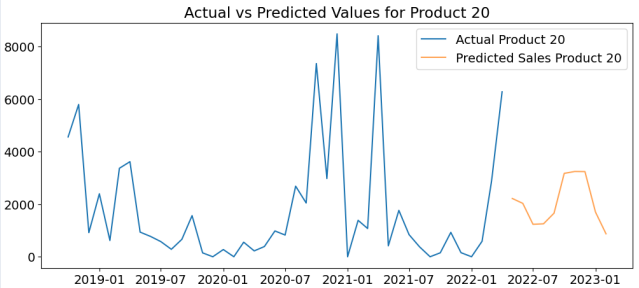
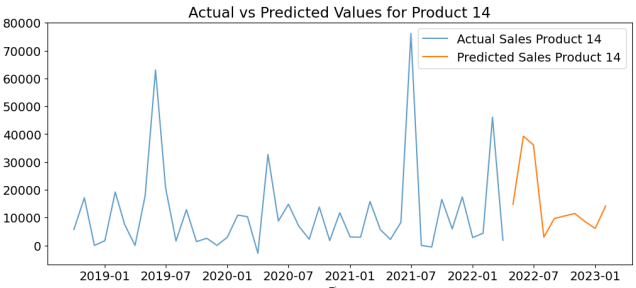
Exclusive Episodes



36

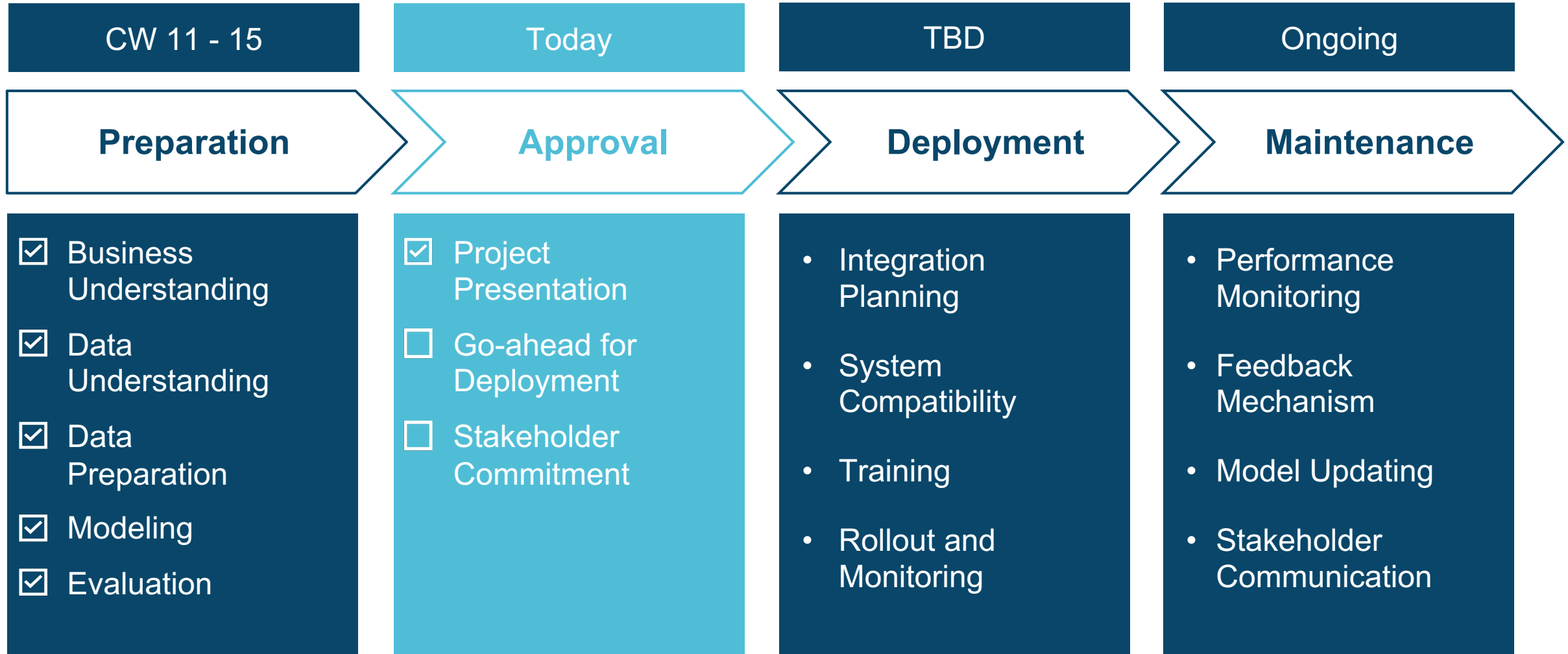


14



20

Mapping the Way Forward



Time for Your Questions!

