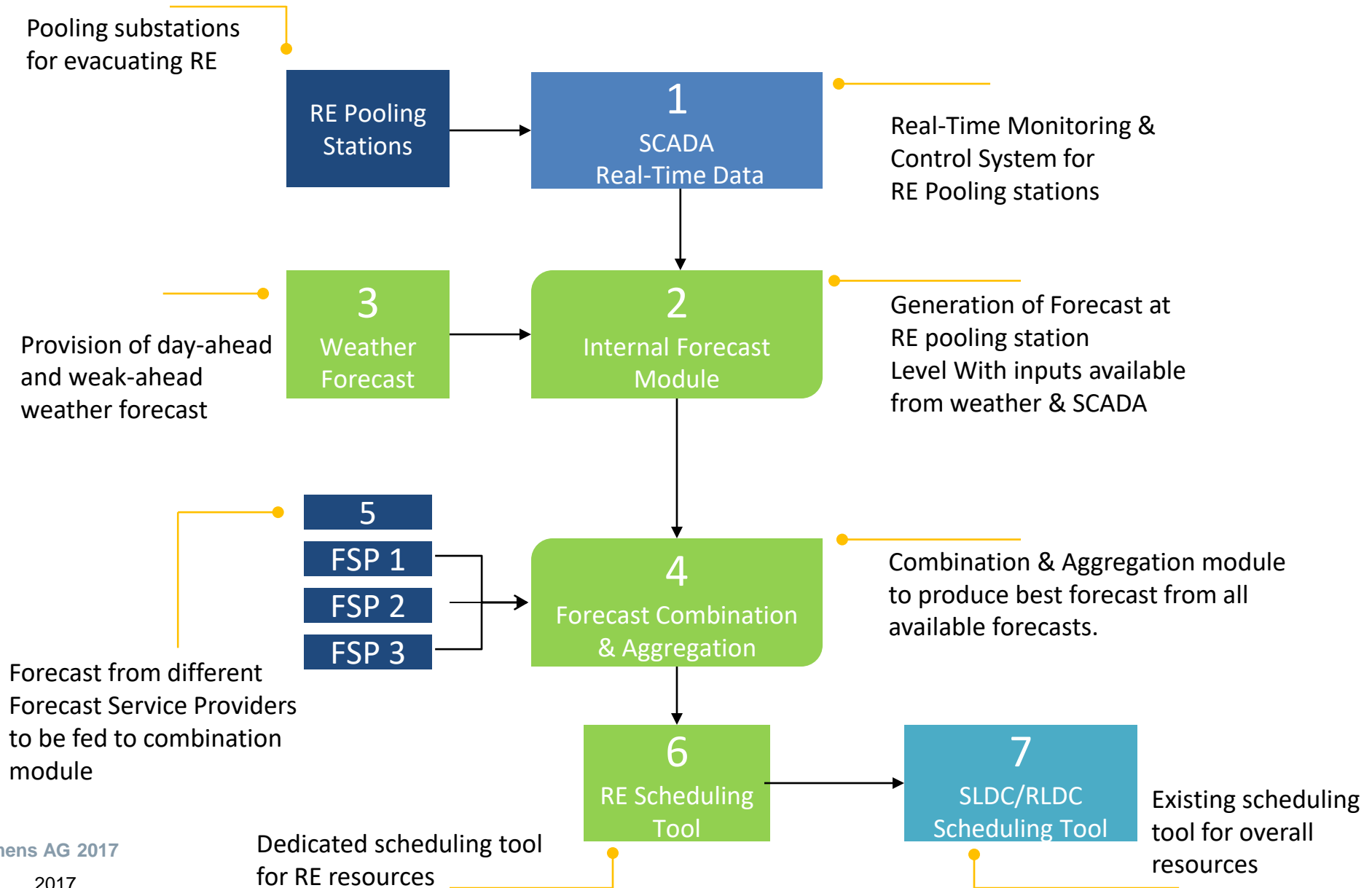




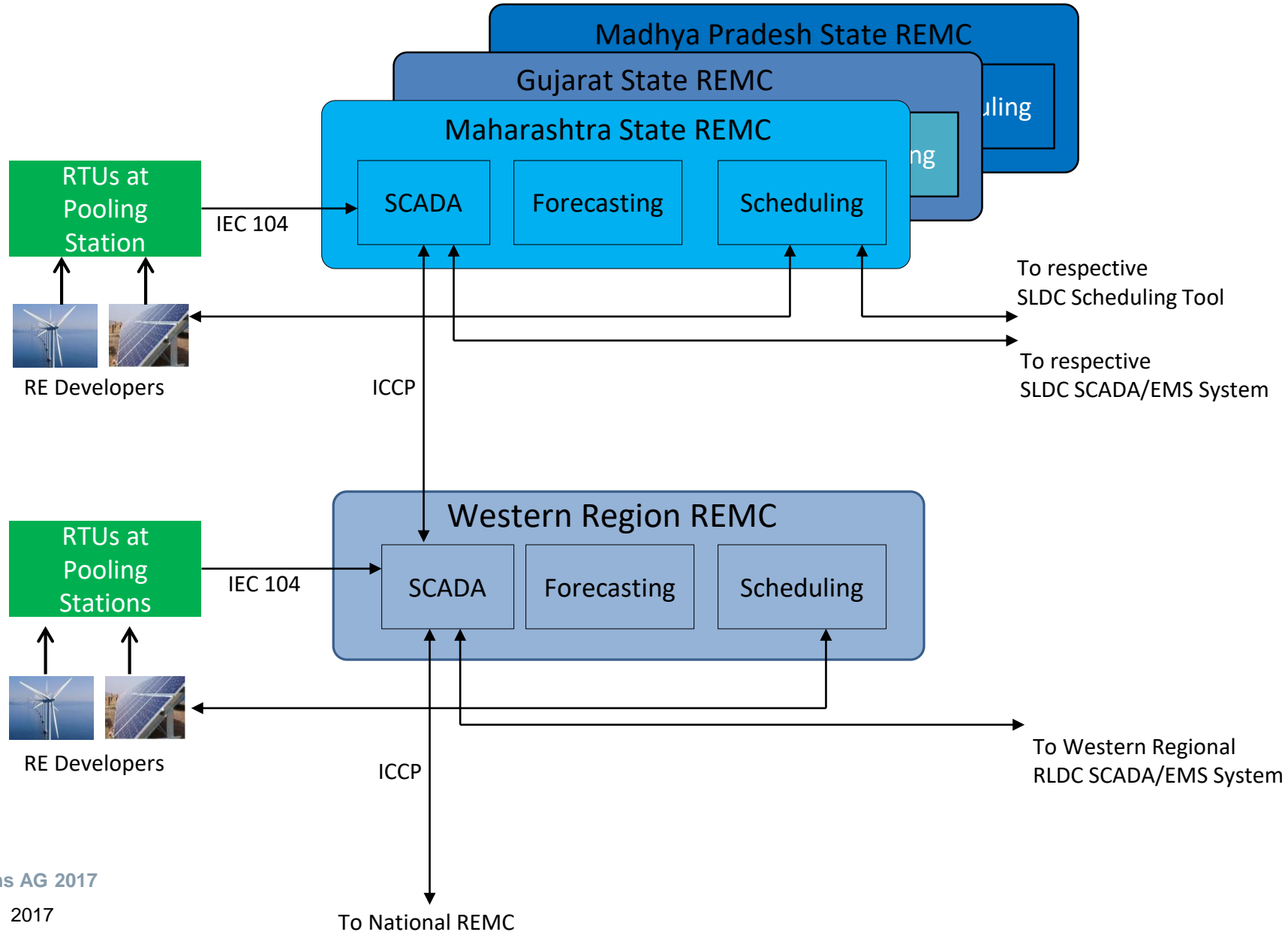
**“Western Regional Renewable Energy Management Center -
System architecture, Handling of Challenges related to RE
forecasting, scheduling & integration into grid and way ahead”**

Sept 4 – 6, 2019

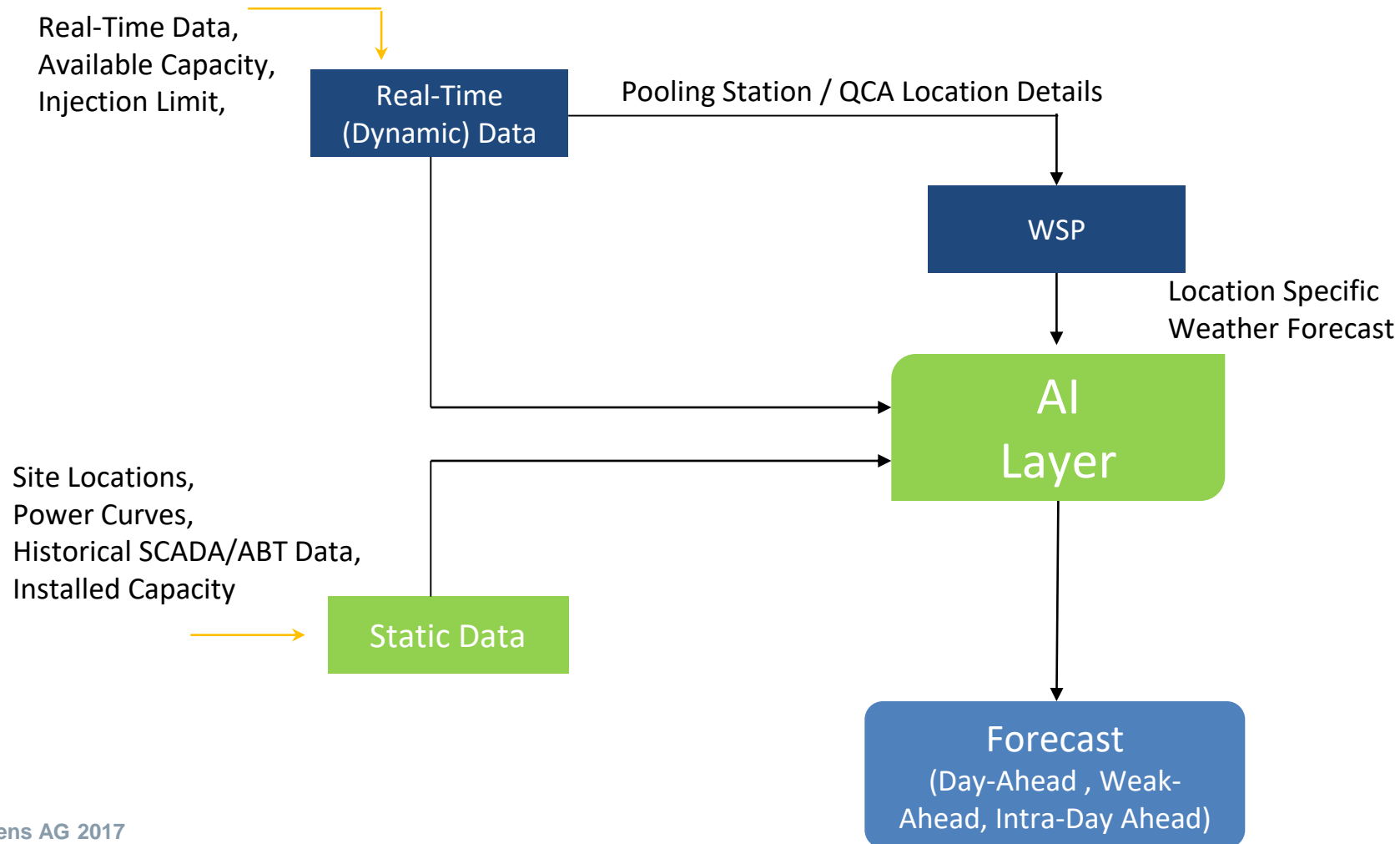
WR REMC: Overall Architecture



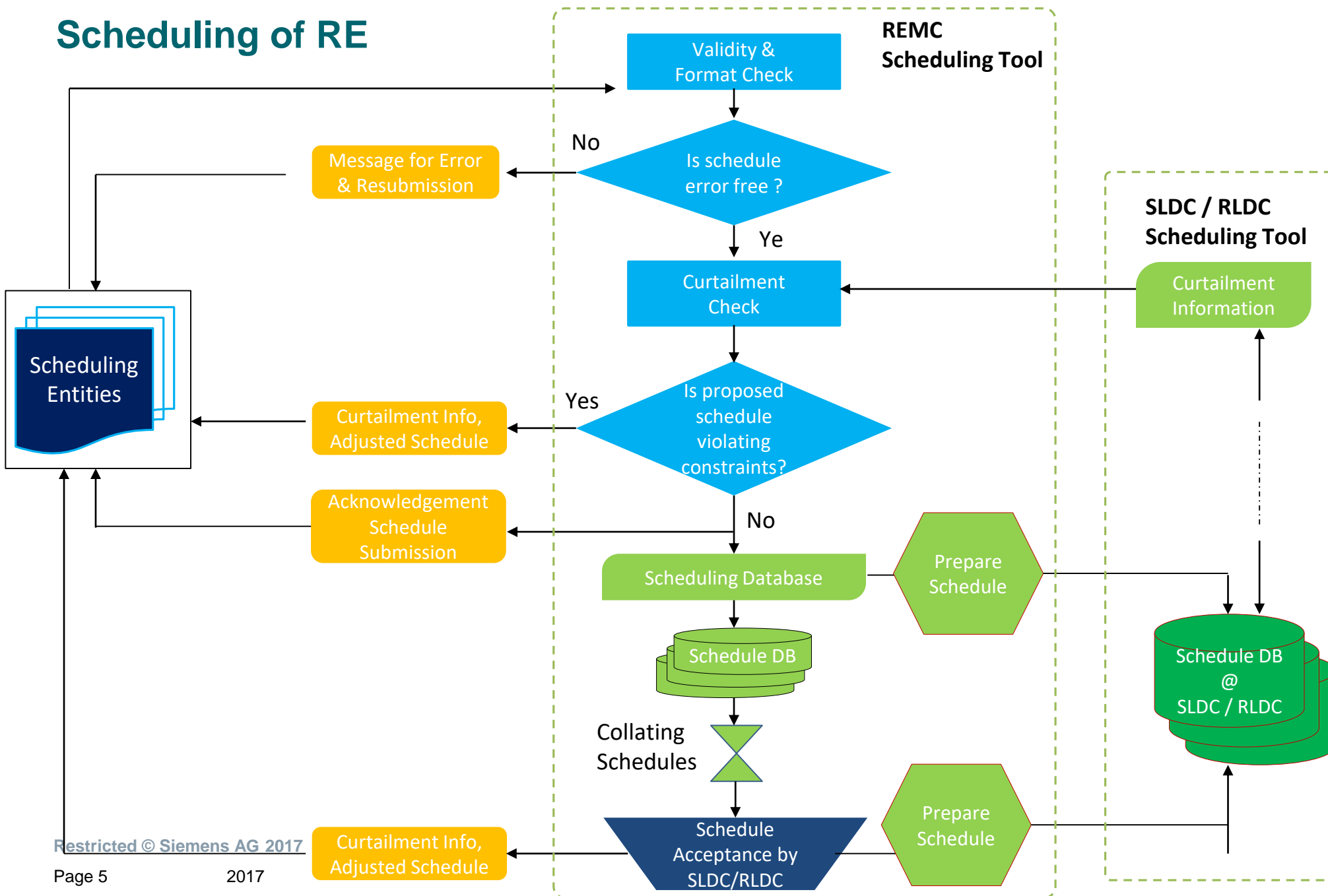
WR REMC: Communication within Control Centers



WR REMC: Forecast of RE



Scheduling of RE



Key Inputs & Factors

Inputs

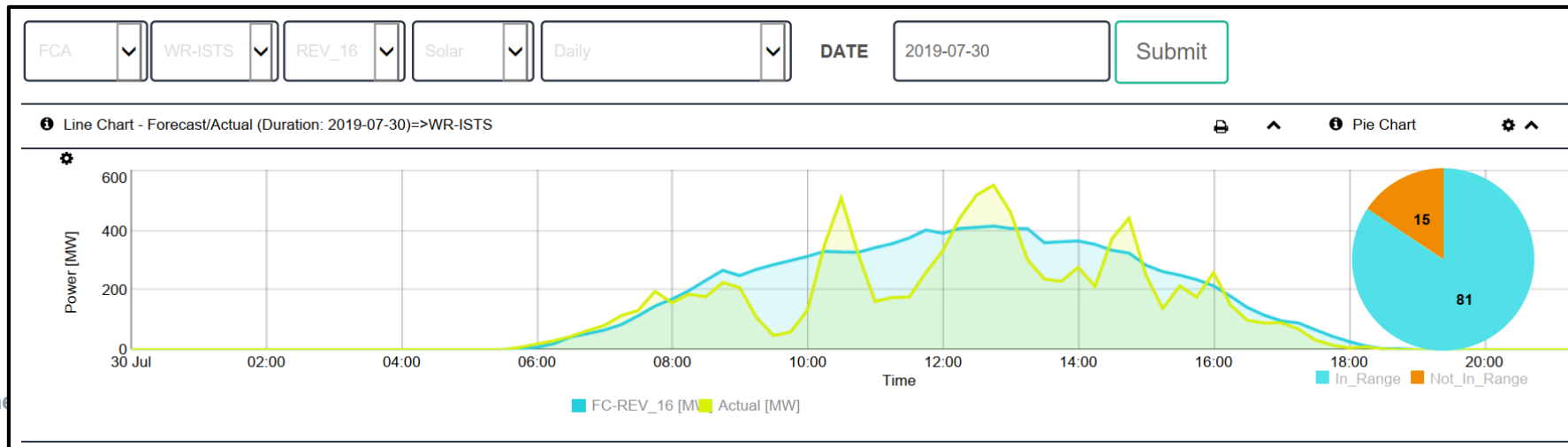
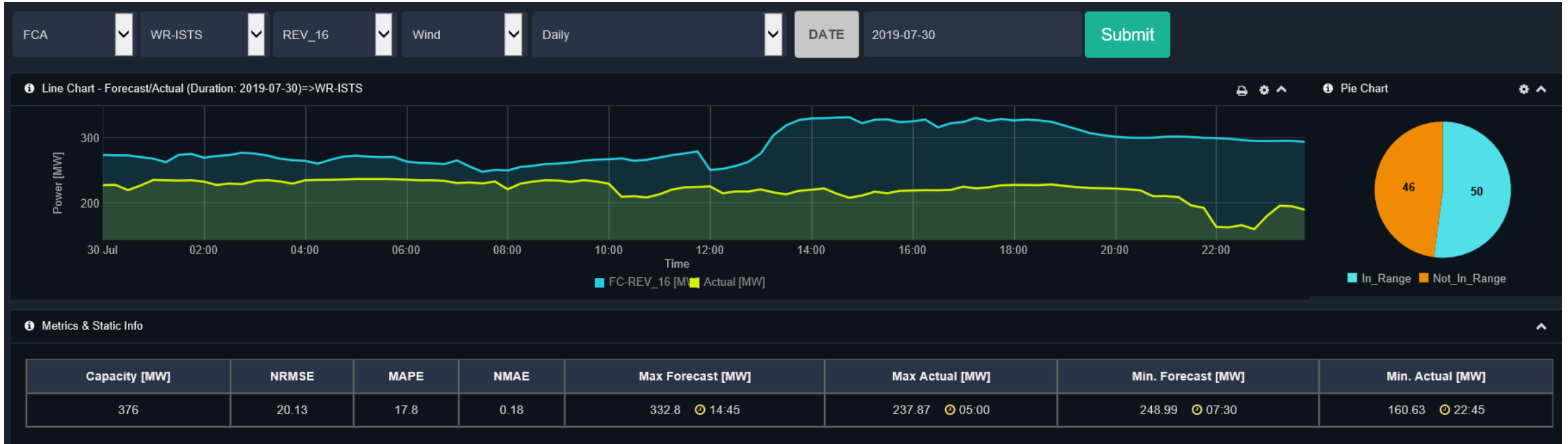
- Static Data from PV Panels
- Static Data from Wind Turbines
- Topological arrangement of Pooling Stations
- Historical Generation Data
- Consistent SCADA Data
- Real-Time Weather Data
- Historical Weather Data



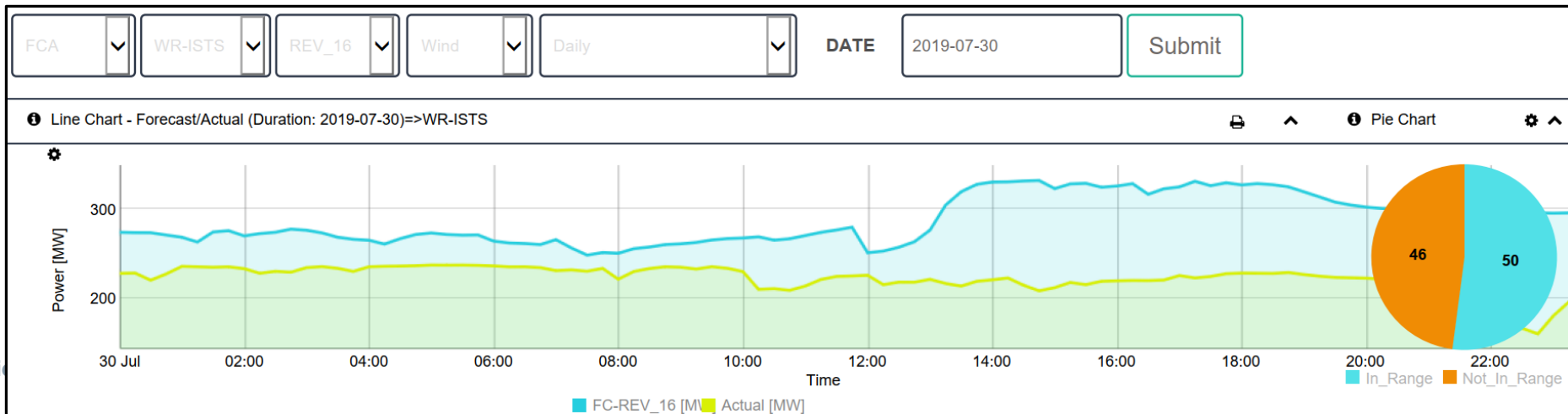
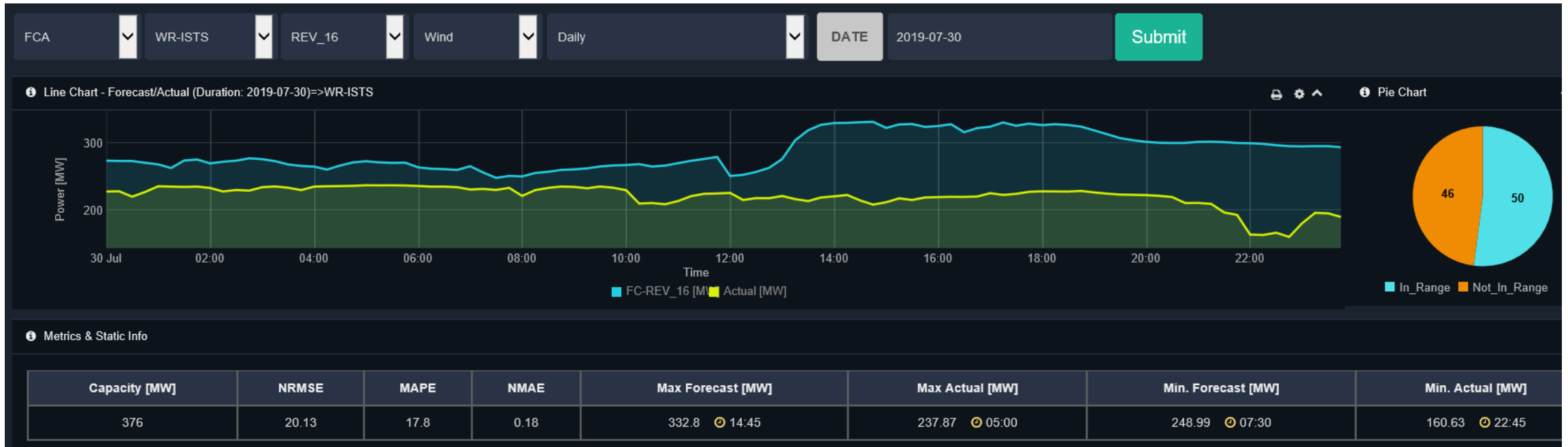
Factors

- State specific regulations
- Availability of Meters
- DSM Mechanisms
- Power Purchase Agreements
- Plant Level Infrastructure










Forecasts Results



Forecast Results



Key Lessons Learned

Issues		Way Ahead
Data Exchange between Internal Systems		Data Flows can be optimized
Data Exchange between Internal Systems		Use of Industry Standard Protocols
Availability of real-time Data		Improvement in Feeder level infrastructure
Availability of real-time Data		Improvement in last mile connectivity
Missing Parameters		Incorporation of Meter Data
Addressing Revenue Issues		Incorporation of DSMs
Evolving Regulation		Allow change in scope and back-to-back agreements
Evolving Regulation		Awareness about regulations and its impact
Topological Arrangements		Definition & Consistency for Point-of-forecast & point-of-forecast



Thank You!

kiran.rasane@siemens.com