FLEXIBLE DR INTEGRATION

OPPORTUNITY
What is the purpose of this project?

PRIMARY OBJECTIVES

1 Study and quantify the value in dynamic pricing based Automated Demand Response (ADR)

2 Assess the gaps for ADR implementation and analyze barriers

3 Identify innovative emerging technologies, software, and market solutions to address gaps
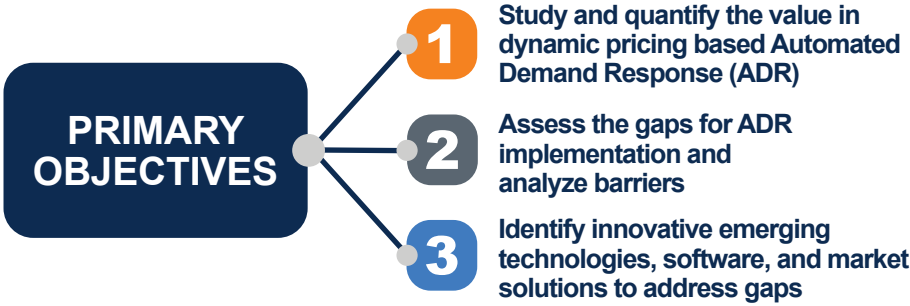
Evaluations Completed:
Review of high-level capabilities of three communication protocols

openADR | 2.0b CERTIFIED
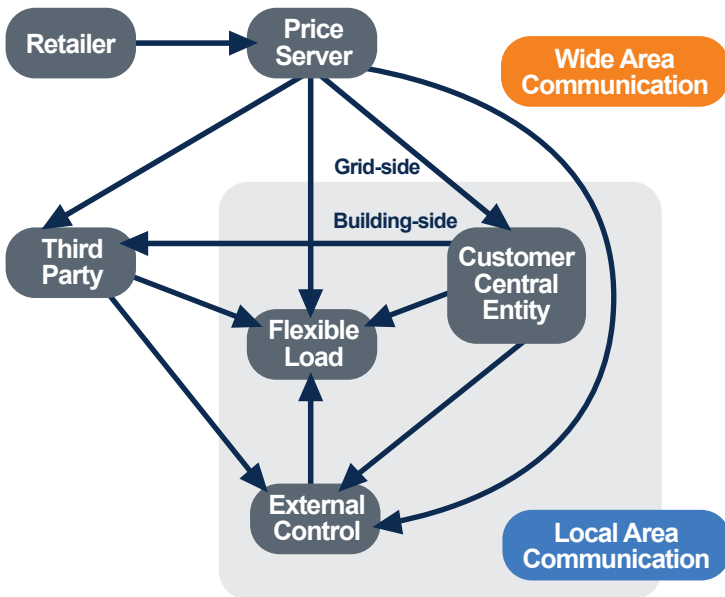
IEEE 2030.5

ANSI 2045

ADR HAS THREE KEY COMPONENTS:

1 Retailer sets the price to best meet its revenue and operational needs

2 Prices are transmitted from retailer to the customer load or DER as a controlling device

3 Load-controllers/DERs use the prices with other data to decide how to operate. Load shift or load shed in response to the transmitted price garner cost savings to customers.

CONCLUSIONS
What were the major conclusions from the project?

Retailer → Price Server

Wide Area Communication

Grid-side

Building-side

Third Party

Customer Central Entity

Flexible Load

External Control

Local Area Communication

Identified 11 Tariff Features intersecting price communication for automated DR:

Easily Adapted	Simple Adaptation
TOU, CPP	Differential Buy/Sell Prices
RTP	Voltage/Phase
Sub-Tariffs	Discounts
Eligibility	

Nimble use of load controllers & continuous local price delivery → Maximum use of price as mechanism for managing power distribution & benefits for grid operators

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A Price-Based Grid Coordination (PBGC) communication architecture enables **diverse communication** paths, **multiple sites of translating prices** to functional control, and offers **significant opportunities for flexibility** while **maximizing interoperability.**