

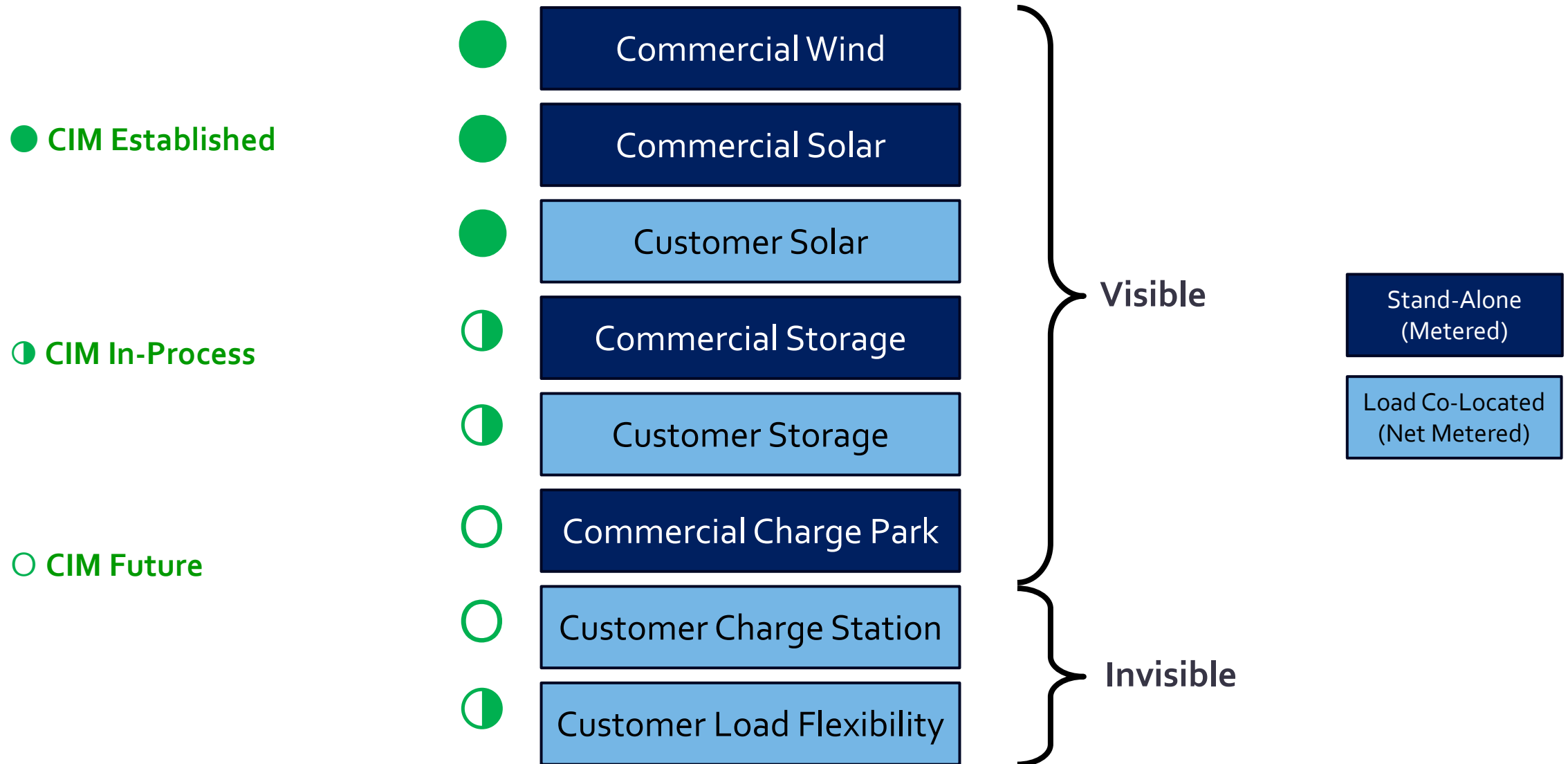
INTRODUCTION FOR USING CIM WITH GRID-EDGE DEVIUCES

Scott Coe, PhD

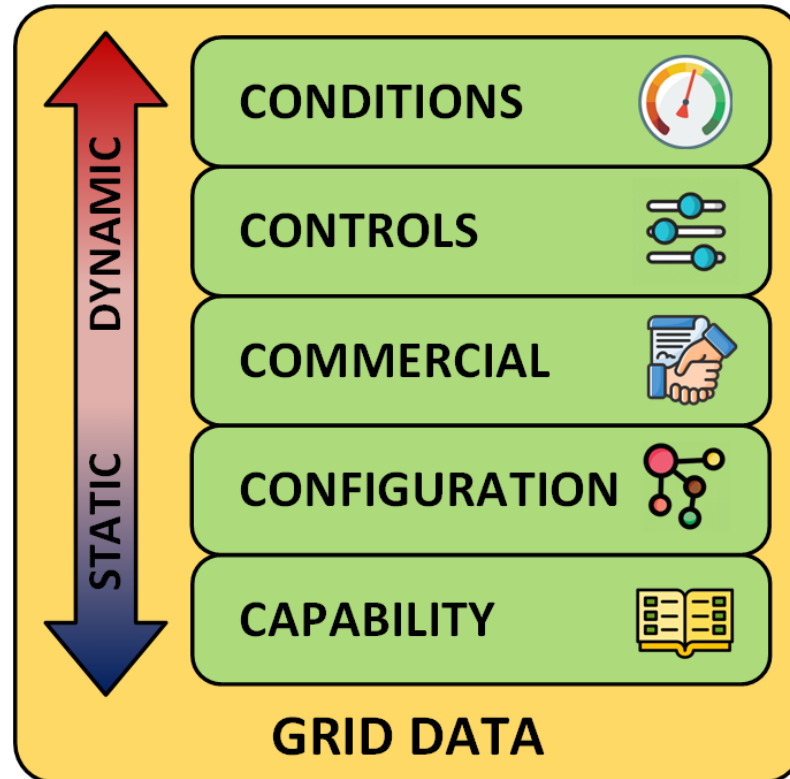
GRID*OPTIMIZE*

STABLE GRIDS. FLEXIBLE THINKING.

What is a Grid-Edge Device?

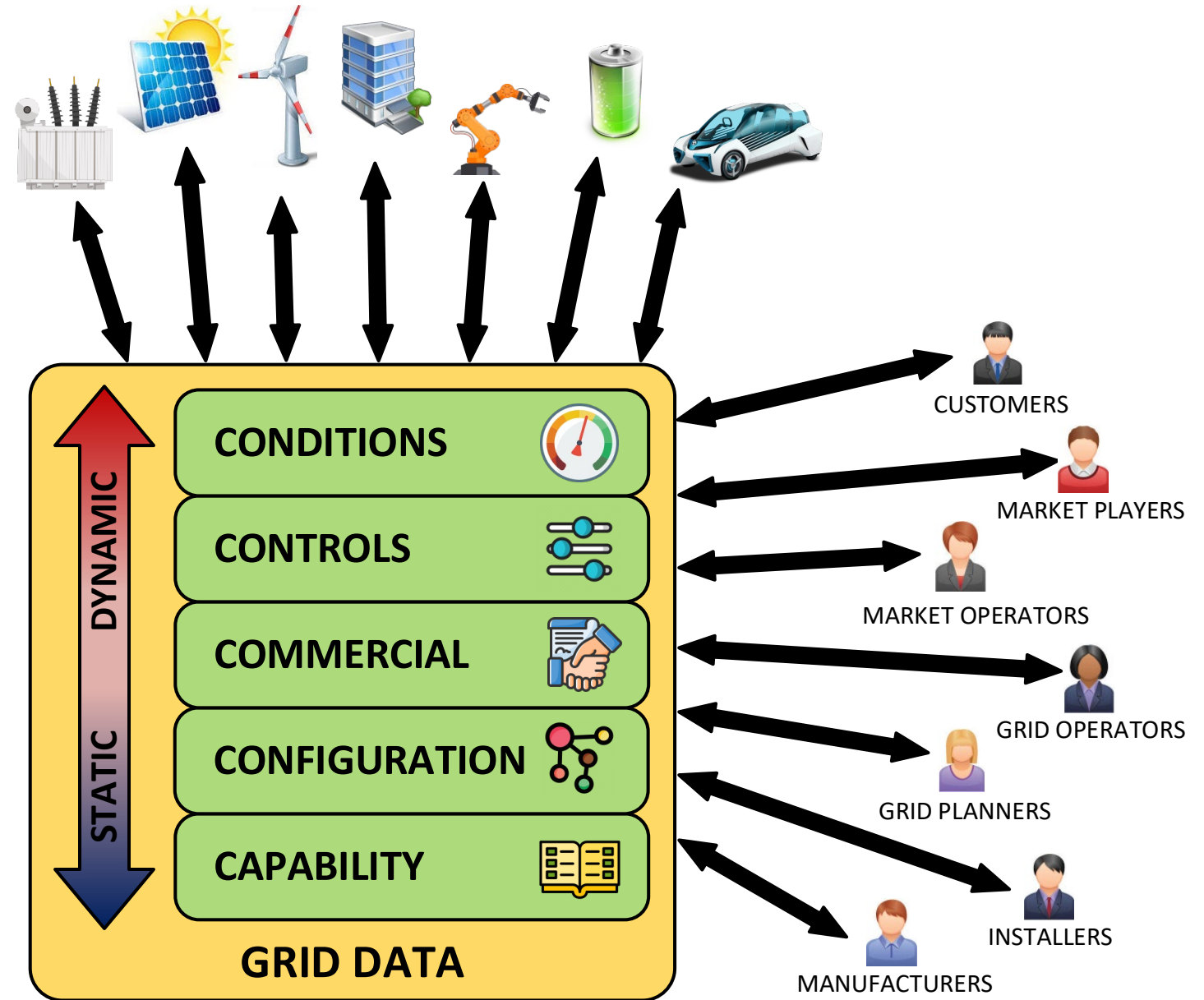


Understanding Grid-Edge Device Data Types



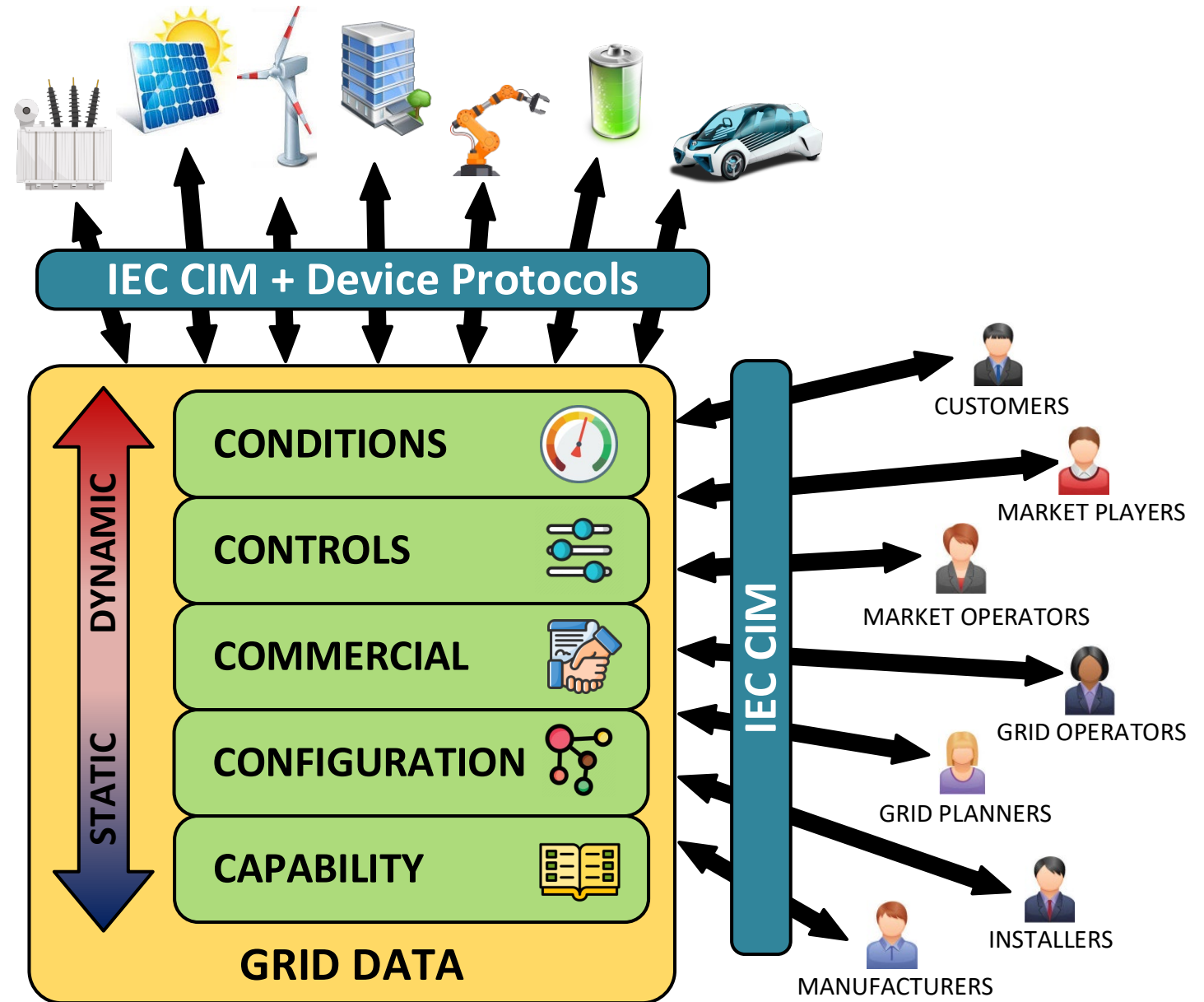
Source: GridOptimize LLC

Understanding Grid-Edge Device Data Types



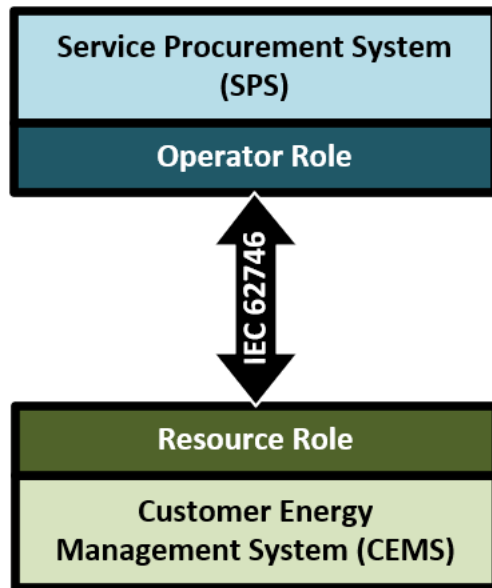
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Understanding Grid-Edge Device Data Types

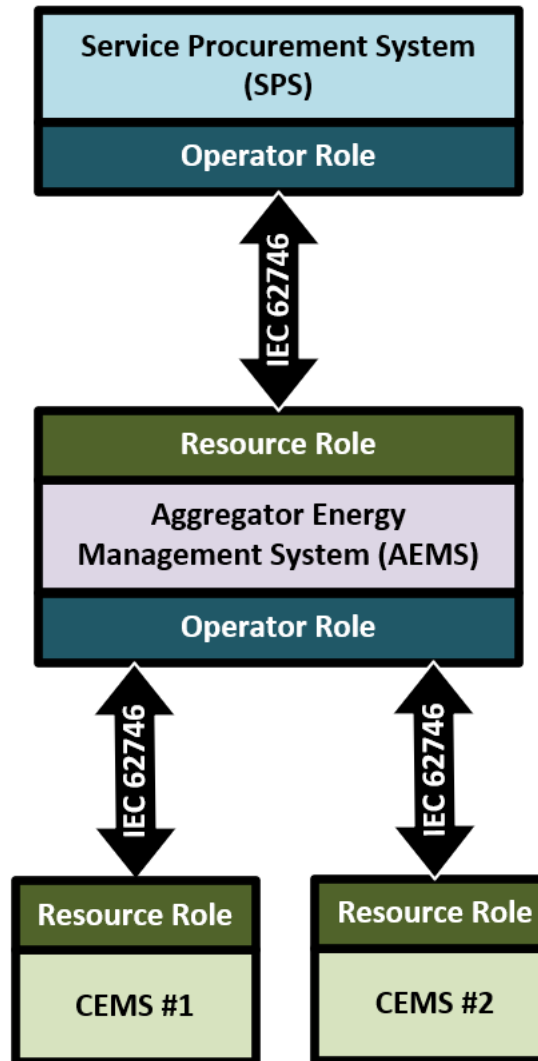


Source: GridOptimize LLC

Operator Role vs. Resource Role



Communication between one Operator Role, e.g. the local distribution utility, and one Resource Role, e.g. a single DER (via the Customer's Energy Management System)



Aggregators are introduced as mediators, performing both Resource and Operators Roles

Perspective #1: The Grid

Package in the CIM: **Grid**

IEC Series: **61970**

**Why: Improve Grid Planning &
Optimize Grid Operations**
(Configurations/Controls/Conditions)

Perspective #2: **Utility Operations**

Package in the CIM: **Enterprise**

IEC Series: **61968**

Why: **Track Device Installations**

(Capabilities & Configuration)

Perspective #3: **Virtual Resources**

Package in the CIM: **Markets**

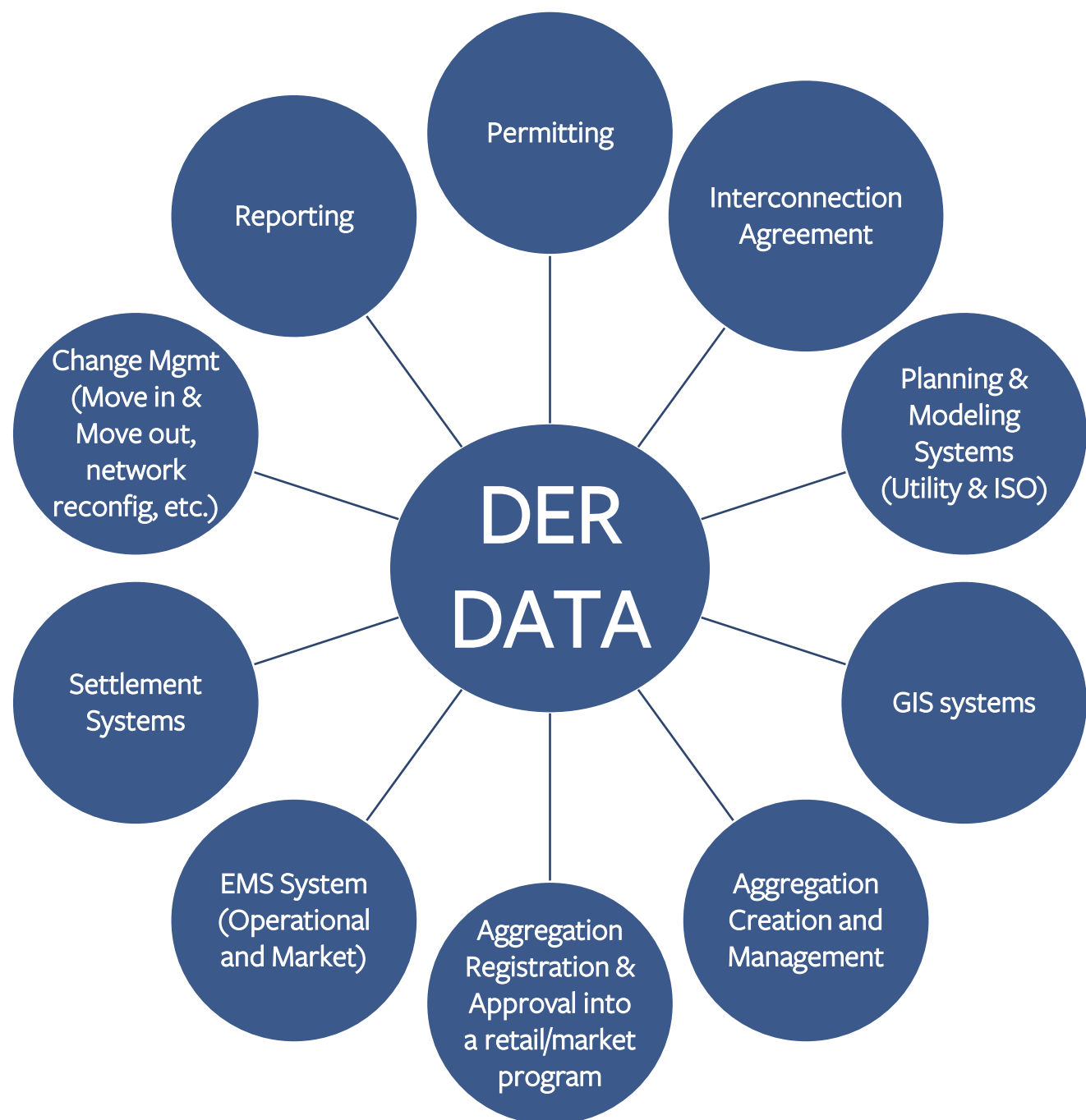
IEC Series: **62325 & 62746**

Why: **Enable Flexibility Services**
(Commerce & Controls)

Multi-Use Multi-Player

Isolated Efforts by any single group or function create barriers to successfully enable DERs

Unlike unbundling in FERC 888/889 that represented ~12,000 generation facilities, DERs represent millions of devices across millions of customers



DER Registry: End to End Solution

DER Registration - Complete Administrative Process

What is it?
Where is it?
What can it do?
Who owns it?
Enablement and validation of Aggregator selection and acceptance of applicable data privacy requirements

Aggregation

Who is aggregator?
What is aggregation?
What is it registered for with utility retail program and/or market product?
Approval by all required parties.

Approval

Defined approval process by utility program or ISO product
Tracking during approval by everyone in the approval chain
“Time-bound” can implement min/max time for each review

Change Management

Grid changes for electrical placement
Change of Aggregators
Change of Aggregations and registration for different utility or market programs
Updated DER info for any premise, Move In/Out

Reporting

Fully automated reporting.
Eliminating 100% of the time and effort of all utilities, ISO's and stakeholders to report DER information to any regulatory authority as they will all have direct access to the system.
Dispute Resolution
Tracking