

Capital Device Modeler Overview

Electronics



Safety



Powertrain



Infotainment



HVAC

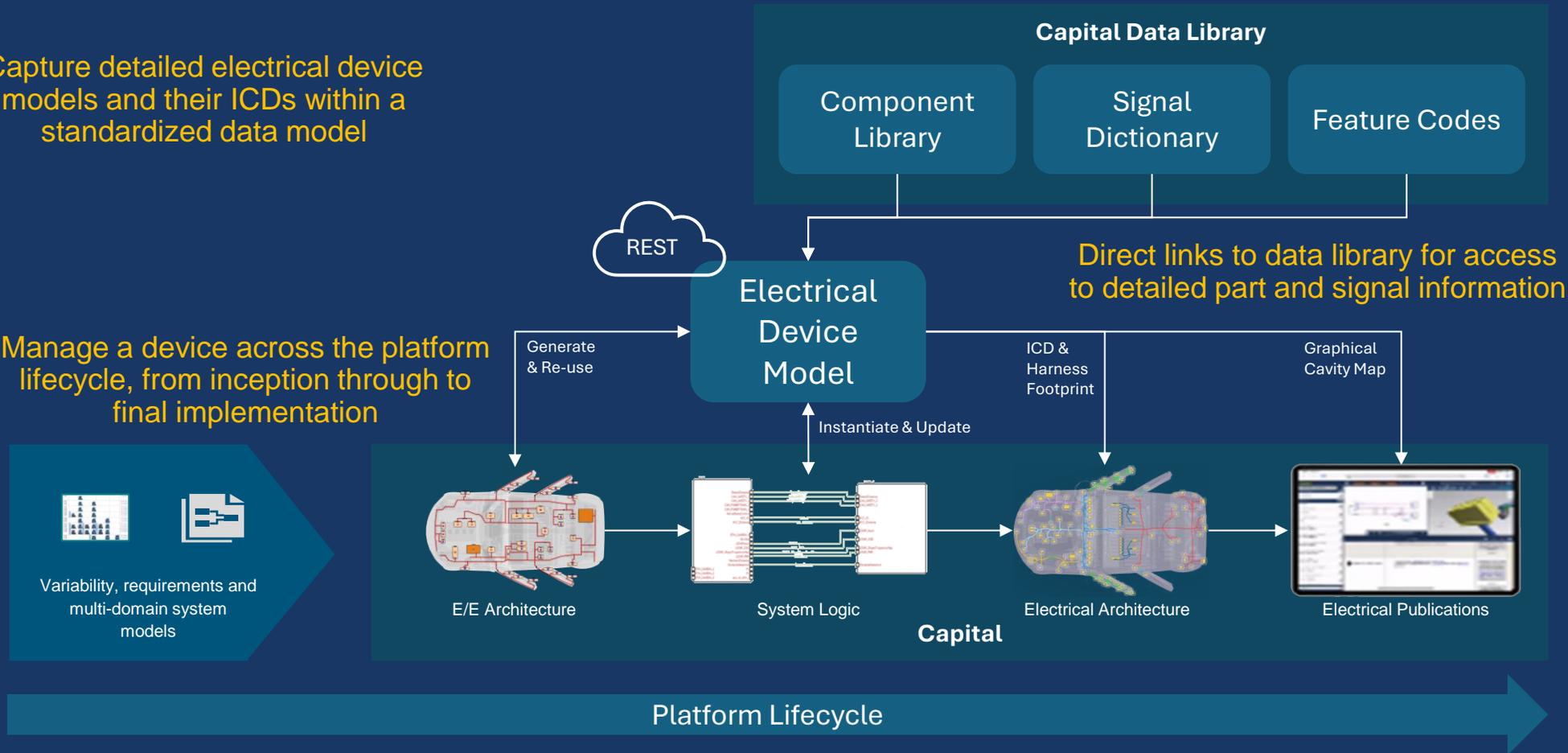


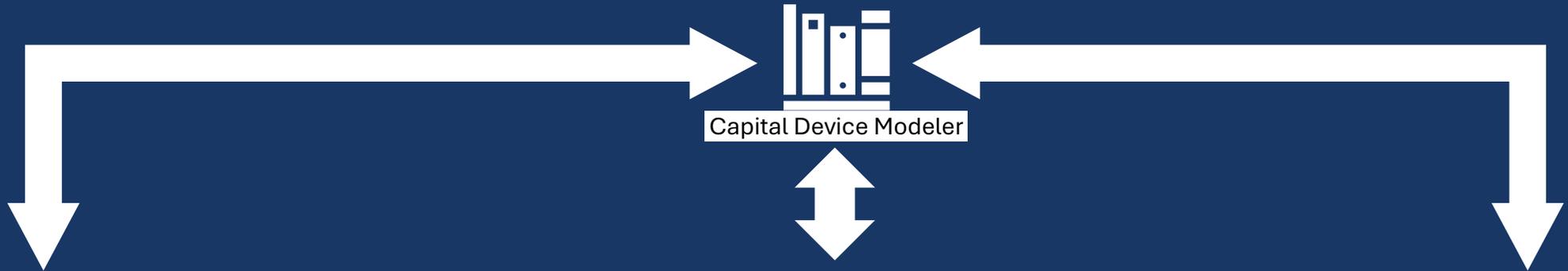
Problems with Today's Interface Definition (ICDs)

- Companies **need ICDs** to support the electrical flow
- **Rely on dumb documents** (paper/PDF/Excel) which are poorly release-managed
- ICD data **does not transfer** to downstream tools and lacks traceability across the design flow
- All downstream **verification / validation** to the requirement source information is **manual**
- ICD author has **no access to parts library** & related system schematics to aid ICD creation

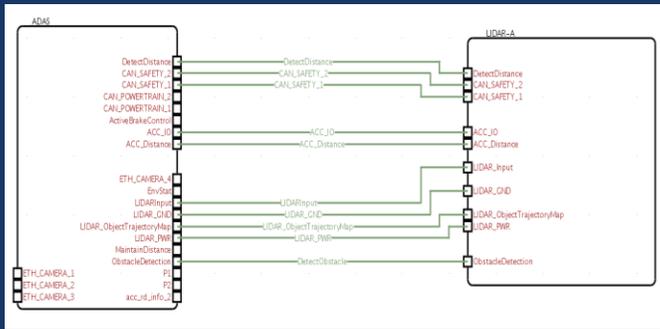
Capture detailed electrical device models and their ICDs within a standardized data model

Manage a device across the platform lifecycle, from inception through to final implementation





Import ICDs into Functional Design for Re-Use



Common Tasks

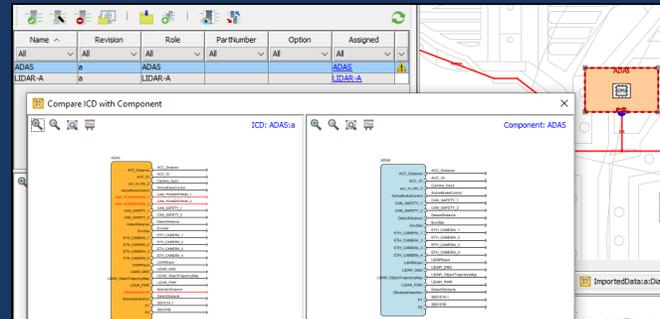
Integrate with
Other
Functions/ICDs

Decompose into
Functions &
Signals

Allocate Functions
to Components



Manage Devices & ICDs in Capital Systems Architect



Common Tasks

Create/Update
ICDs

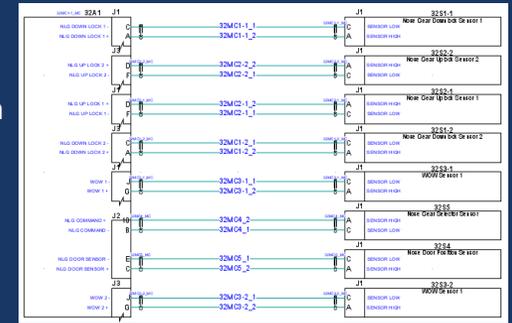
Find and
Associate
Existing ICDs

Manage Pin Mapping

Generate
Electrical System



ICDs used in Capital Logic Designer



Common Tasks

Complete Electrical Wiring
Design

Update ICDs

Benefit

Single source of truth for electrical device data and ICDs

Improved data quality

Reduced development costs & cycle times

Enabling Technologies

- Robust, standardized data model
- Accessible to third party systems through REST API
- Supports the digital thread with traceability

- Correct-by-construction
- Establishes consistency
- Links to the component library and data dictionary

- Design automation
- Assets enabling re-use
- Leverage responsible device owners

The Dictionary

The Component Library

The Device Modeler

The Automation

SIEMENS

DM Log In to Capital Device Modeler

Language
English

User Name
system

Password

Log In

Version 2207

Capital™ Device Modeler

Siemens Digital Industries Software

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-  Capital Device Modeler
-  Component Library
-  Dictionary



Dictionary

Devices(14)

Logic Designs(5)

Nets(116)

Select a filter

Name	Short Description	Description	User Defined Properties
1N-ENGBATT-1			(0)
1N-ENGIGN-1			(0)
2N-AUDIO-COMMON			(0)
2N-AUDIO-LEFT			(0)
2N-AUDIO-RIGHT			(0)
2N-AUX-CTL-1			(0)
2N-AUX-CTL-2			(0)
2N-AUX_AUDIO-1			(0)
2N-AUX_AUDIO-2			(0)
2N-AUX_AUDIO-3			(0)
2N-AUX_AUDIO-4			(0)
2N-GND-1			(0)
2N-GND-2			(0)
2N-GND-3			(0)
2N-POWFR-1			(0)

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The Dictionary

The Component Library

The Device Modeler

The Automation

QUALITY & CONSISTENCY OF NAMES

Live Demo

The Dictionary

The Component Library

The Device Modeler

The Automation

- **Standard names for Devices, Systems and Nets** can be authored directly via the web
- **Immediate accessibility** by device engineers.
- Additional properties can be associated with the names and propagated to the nets and devices when placed in designs

The Dictionary

The Component Library

The Device Modeler

The Automation



Component Library

Showing 25 results only

0165 113.16	Type:X
Material:-	Pins:3
0290 024.22	Type:X
Material:-	Pins:3
0290 025.23	Type:X
Material:-	Pins:3
0290 350.21	Type:X
Material:-	Pins:9
0290 358.25	Type:XD
Material:-	Pins:0
0290 366.15	Type:XD
Material:-	Pins:34
0291 110.26	Type:XD
Material:-	Pins:10
1.6A Manual M...	Type:...
Material:-	Pins:8

Part Number 0165 113.16

Revision

Group Device

Description TERMINAL BLOCK FOR GROUND WIRES M 4/6.P FEED-THROUGH GROUND 30AMPS GREEN-YELLOW,

Status New

Material Code

Type Code X

Properties (2) >

Pins(3) >

Footprints(0) >

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WEB BASED COMPONENT LIBRARY

Live Demo

The Dictionary

The Component Library

The Device Modeler

The Automation

- **Seamless access** into the component library allowing engineers to create and modify library devices and their properties and attributes
- Parts created in the Component Library, or from ICDs, can be **Assigned Domains**

The Dictionary

The Component Library

The Device Modeler

The Automation

CAP
DM

Capital Device Modeler

WEB BASED DEVICE DEFINITION TOOL

The screenshot displays the Capital Device Modeler web application interface. A central window shows the definition form for a component named 'AUDIO UNIT'. The form includes a table of components on the left and a detailed form on the right. The table lists components such as 'AUDIO UNIT:A', 'CD:A', 'CD CHANGER...', 'CONTROL 1:A', 'PDB:1', 'SPKR LT Rr C...', 'SPKR LT Rr D...', and 'SPKR RT Ft D...'. The detailed form on the right contains fields for Name, Revision, Description, Role, Release Level, Number, Footprint, Supplier Part, and Customer Part.

Component Name	Revision	Status
AUDIO UNIT:A	AUDIO UNIT	Draft
CD:A	CD	Draft
CD CHANGER...	CD-C	Draft
CONTROL 1:A	CONTROLLER	Draft
PDB:1	PDB	Draft
SPKR LT Rr C...	SPEAKER	Draft
SPKR LT Rr D...	SPEAKER	Draft
SPKR RT Ft D...	SPEAKER	Draft

Name: AUDIO UNIT
Revision: A
Description: Main audio unit
Role: AUDIO UNIT
Release Level: Draft
Number: [Empty]
Footprint: FP1
Supplier Part: [Empty]
Customer Part: [Empty]

Live Demo

The Dictionary

The Component Library

The Device Modeler

The Automation

- **Ease of Use** with a spreadsheet-like tool accessed by a web browser
- **Maximizes device definition** with controlled Data Entry

- The Dictionary
- The Component Library
- The Device Modeler
- The Automation

Name: AUDIO UNIT
Revision: A
Description: Main audio unit
Role: AUDIO UNIT
Release Level: Draft
Type Code:
Part Number: AUDIO
Footprint: FP1
Supplier Part:
Customer Part:

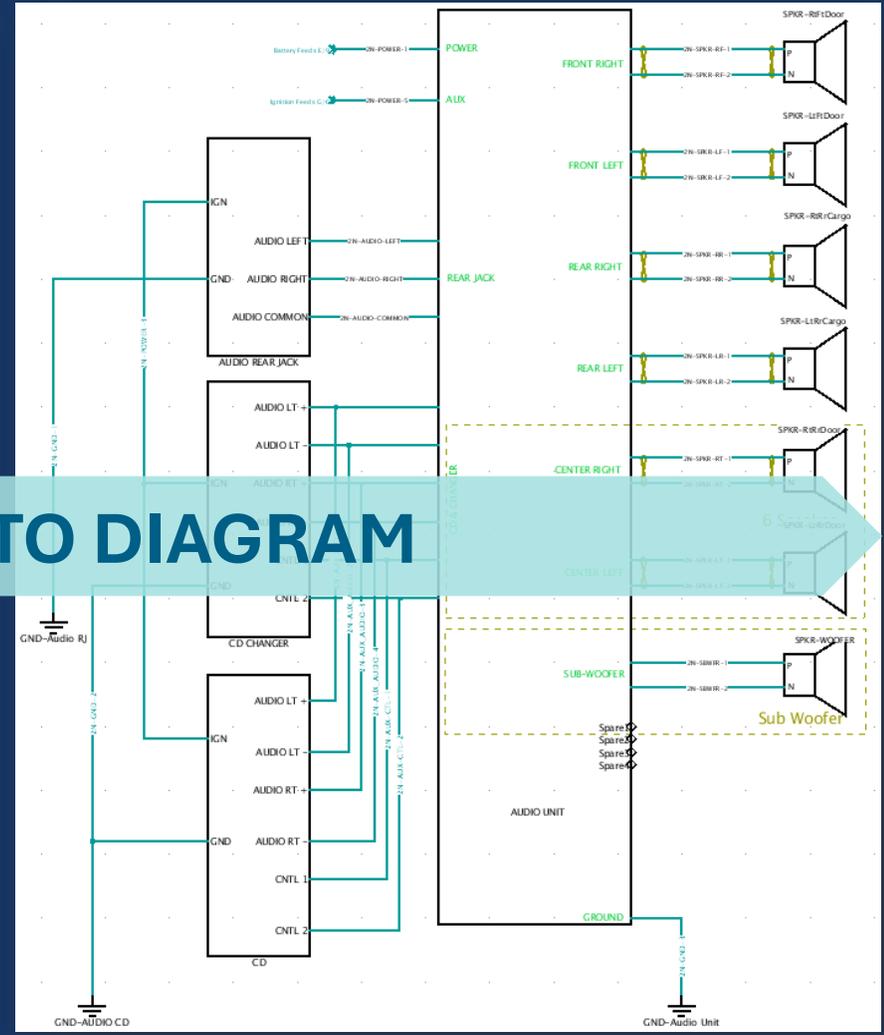
Assigned To:
Applicability: 2-Audio, 2-Audio_Wiring
Option Expression:

Pin Properties

Harness Footprint

Connector	Part Number	Cavity	Pin
J1	C-81334	1	AUDIO IN CO...
J1	C-81334	2	AUDIO IN LT
J1	C-81334	3	AUDIO IN RT
J1	C-81334	4	CD CNTL 1
J1	C-81334	5	CD CNTL 2
J1	C-81334	6	CD LT N
J1	C-81334	7	CD LT P
J1	C-81334	8	CD RT N
J1	C-81334	9	CD RT P
J1	C-81334	10	GND
J1	C-81334	11	IGN
J1	C-81334	12	PWR
J1	C-81334	13	Spare1

FROM WEB TO DIAGRAM



Live Demo

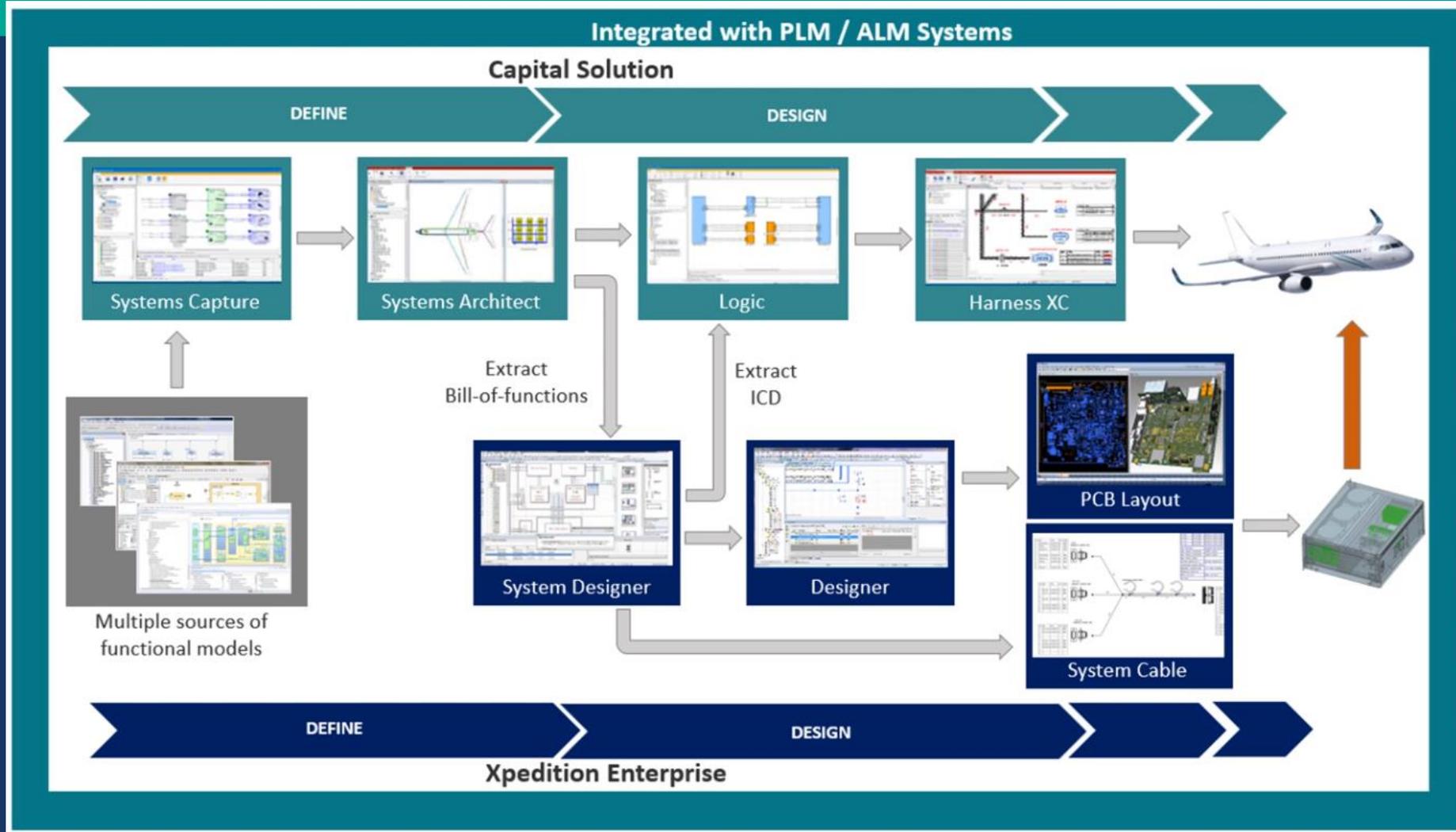
The Dictionary

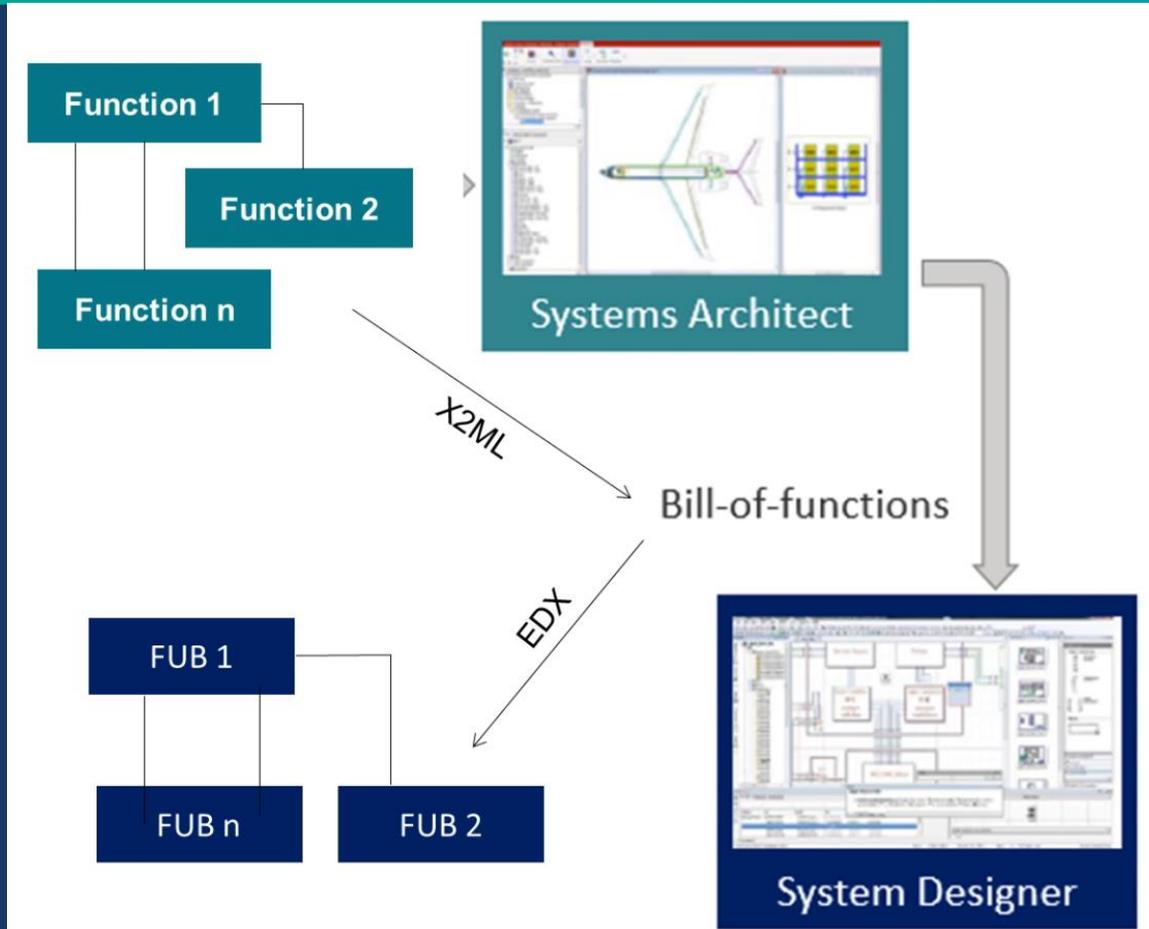
The Component Library

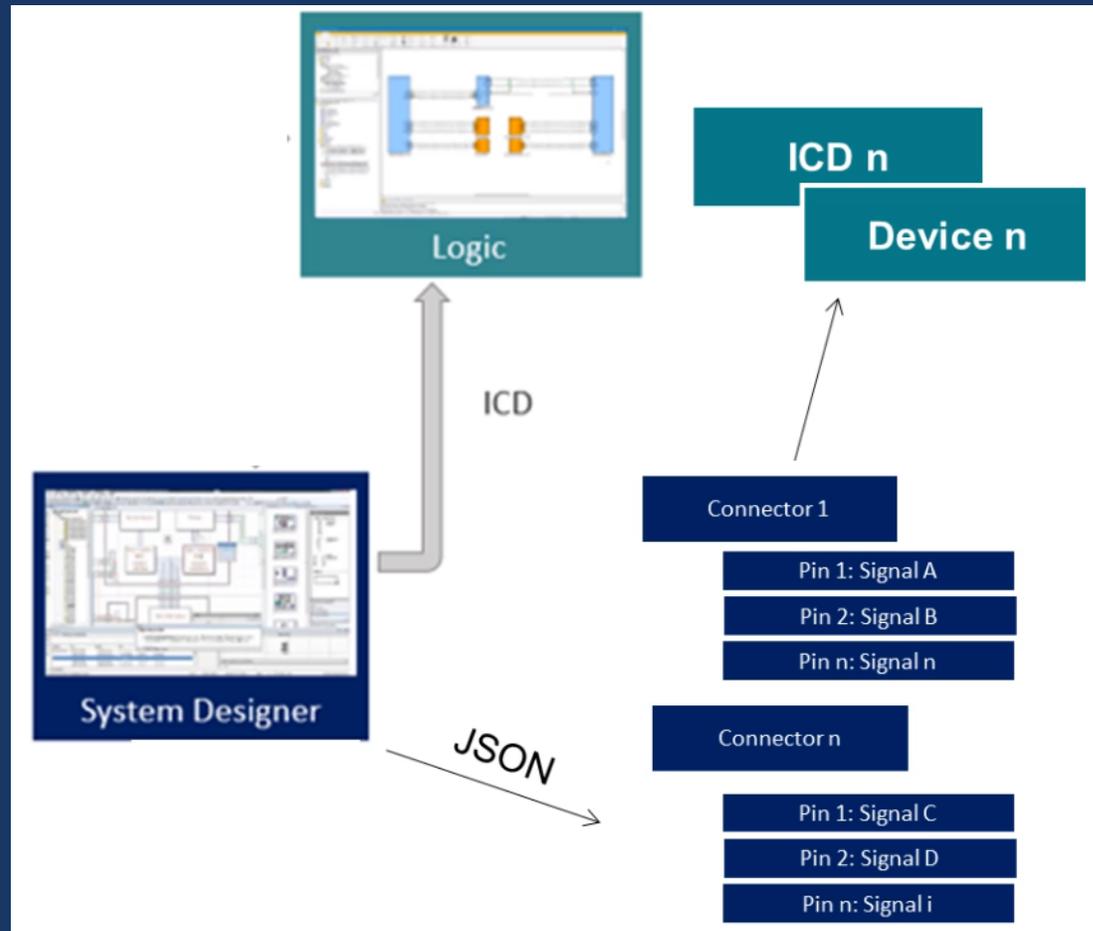
The Device Modeler

The Automation

- **Reduces design costs** by automatically creating connectivity







The Dictionary

The Component Library

The Device Modeler

The Automation

- **Integrates** the device engineers into the EDS flow
- The Capital database enables **digital continuity** from ICD definition through to harnesses supported by **design automation**
- A **flexible data model** to ensure that OEMs can capture everything they need about devices
- **Validation** to ensure designed electrical systems and harnesses are correct