CDT TECH DAY

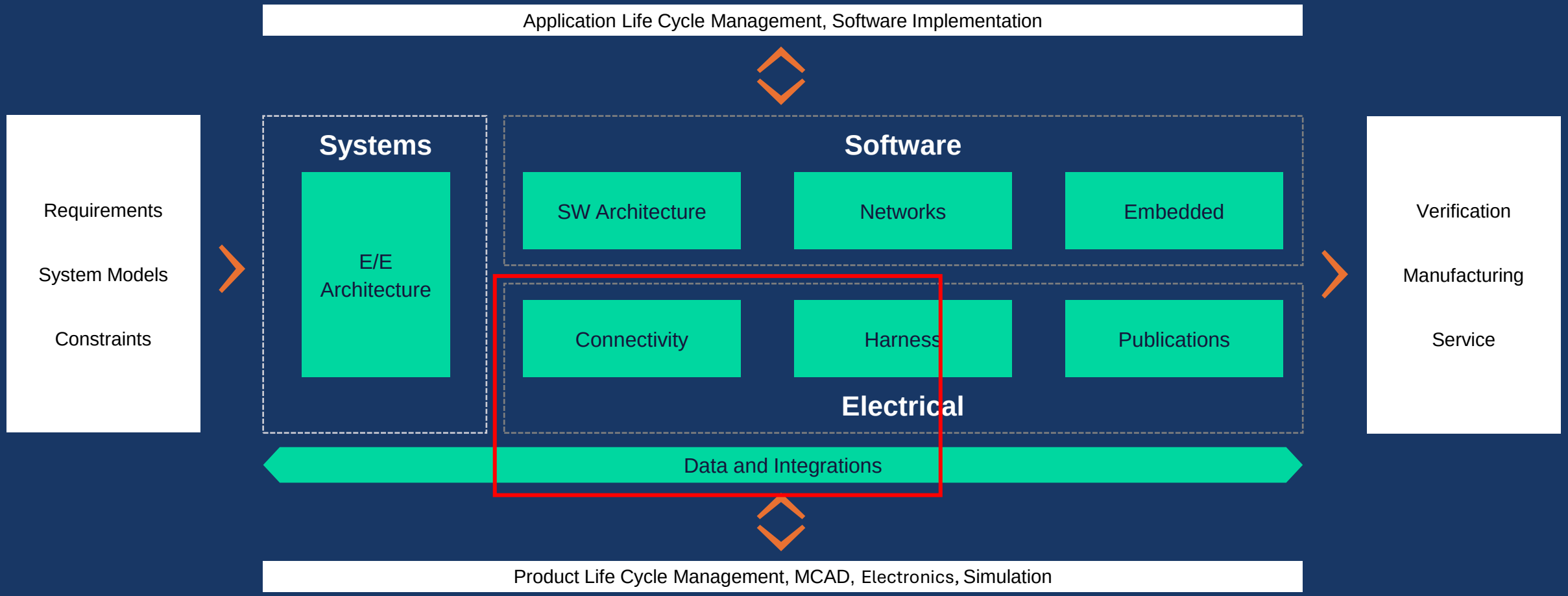
MAY 28th

Capital Platform Interactive

SIEMENS

Capital E/E Systems Development

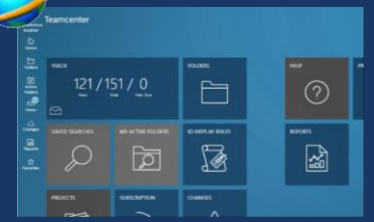
Integrated with enterprise SW environment



1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

CDT TECH DAY

6) Teamcenter



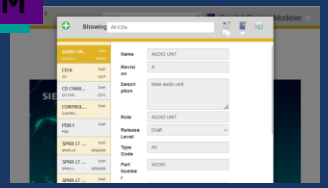
TC remains up-to-date throughout the process; links not drawn to simplify the diagram

Product Lifecycle Management

2) CAP CM Capital Component Manager

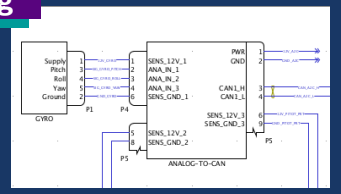
Component Library Management

CAP DM Capital Device Modeler



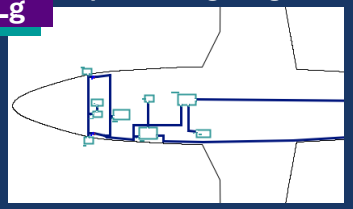
Interface Control Definition

1) CAP Lg Capital Logic Designer*



Electrical Schematic Design

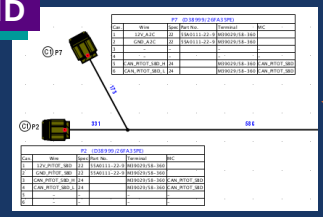
3) CAP Lg Capital Wiring Integrator*



Topological Design

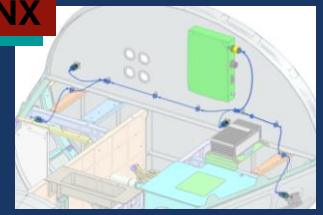
4)

5) CAP HD Capital Harness Designer*



Harness Design

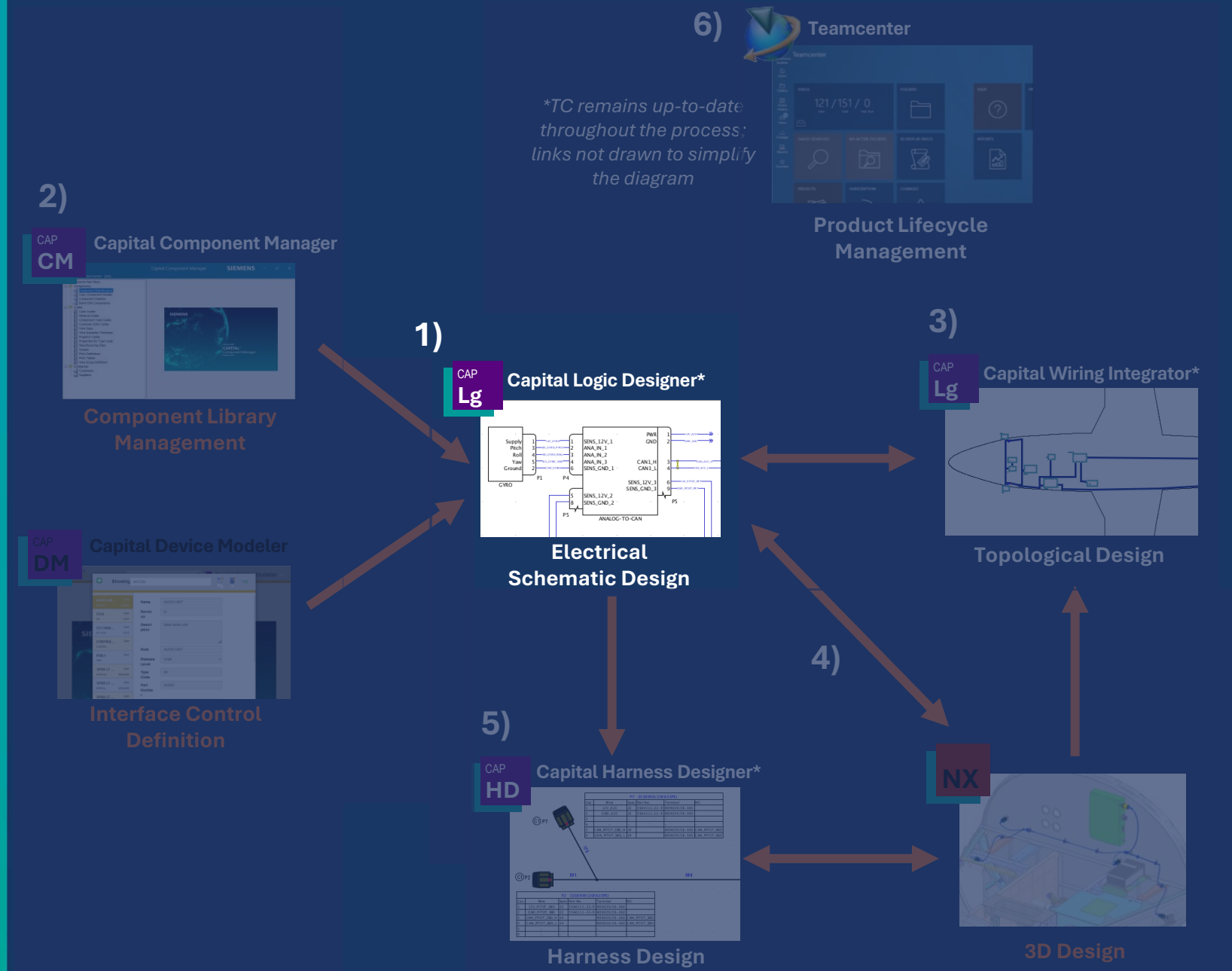
NX



3D Design

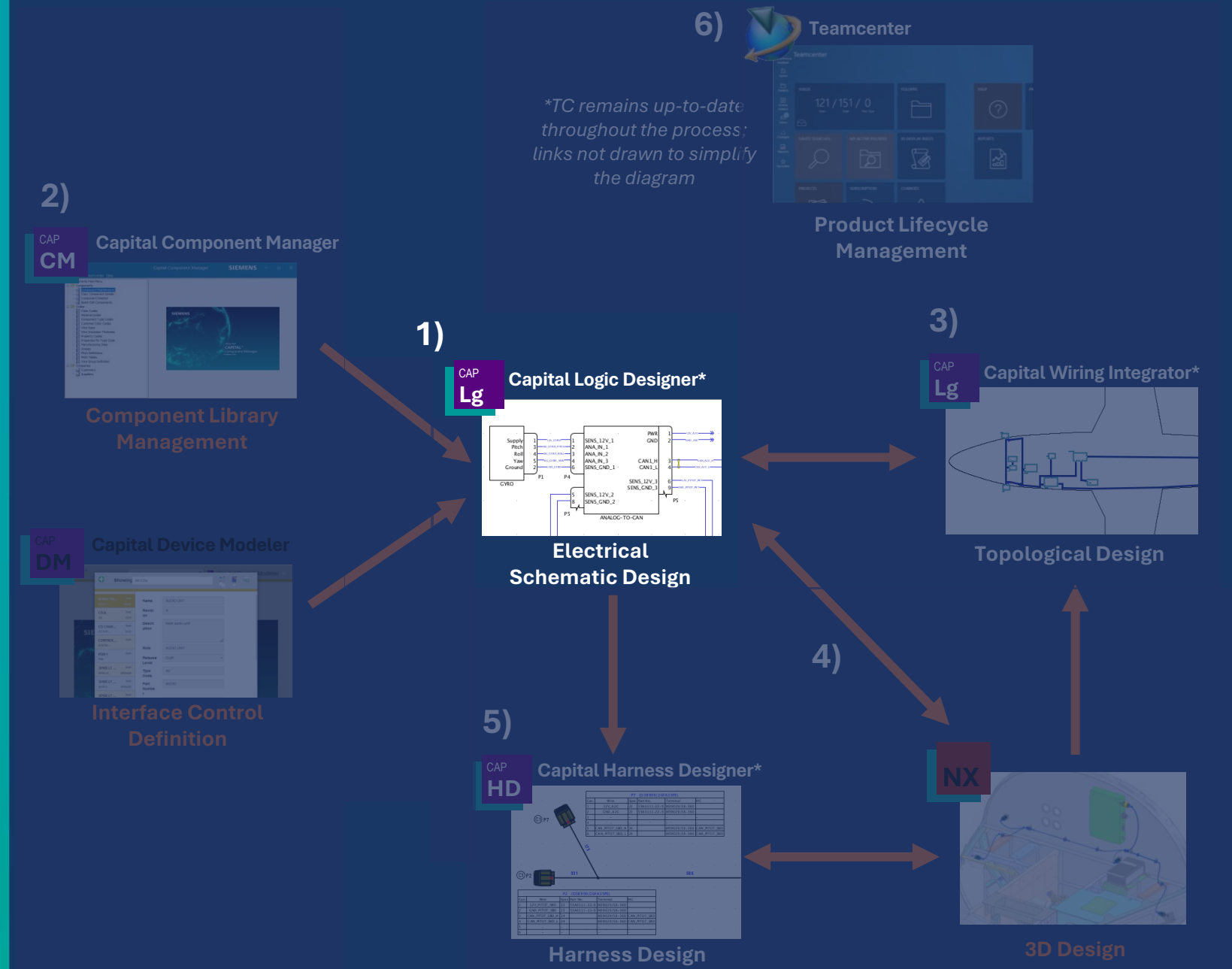
1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

CDT TECH DAY



1. Electrical Schematic design

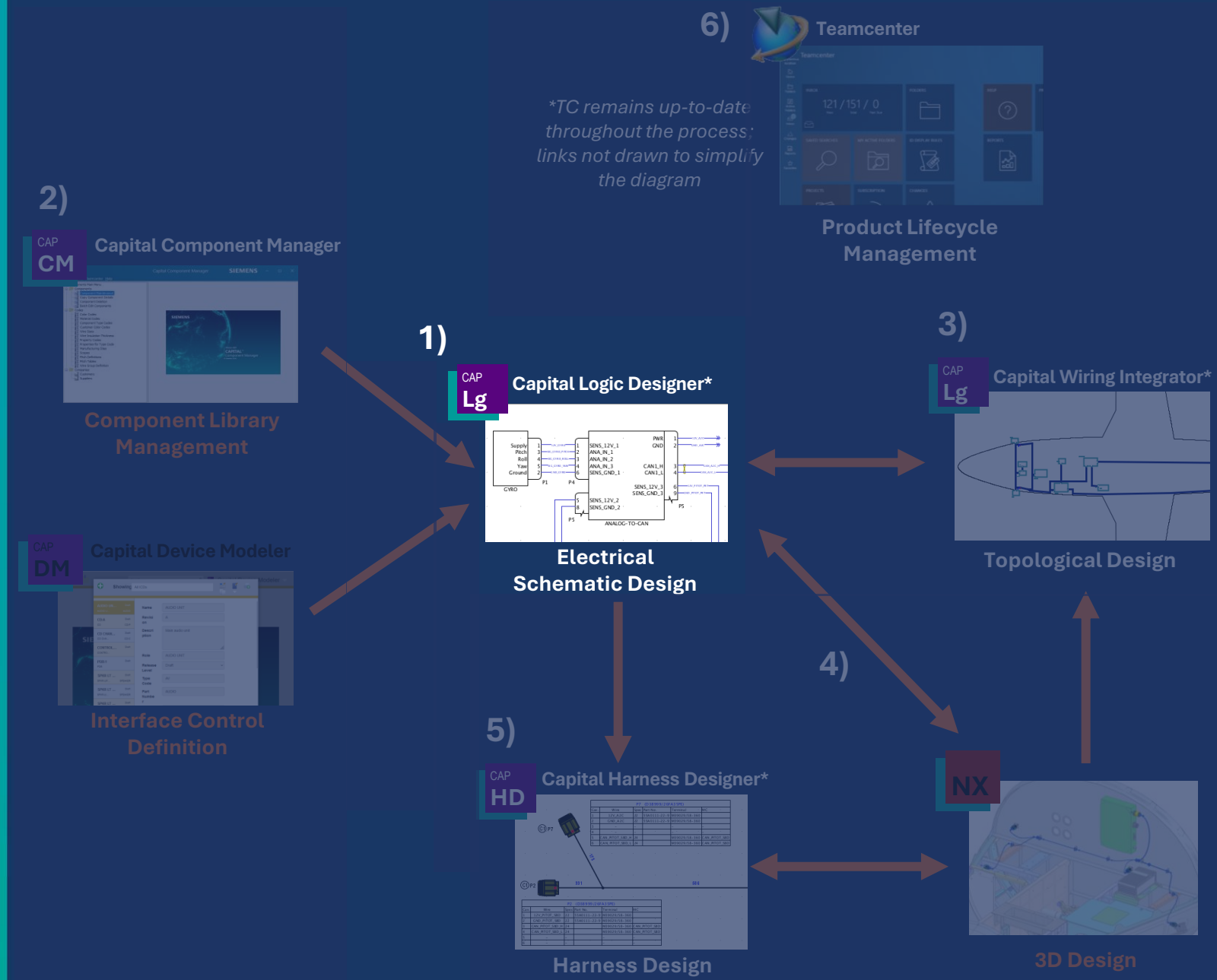
- Explanation of Nets vs Wires
- Create a new logical (schematic) design
- Place devices and pins on-the-fly
- Connect devices
- Create multicores
- Add shields, shield drains and braids
- Nets-to-wires



Live Demo

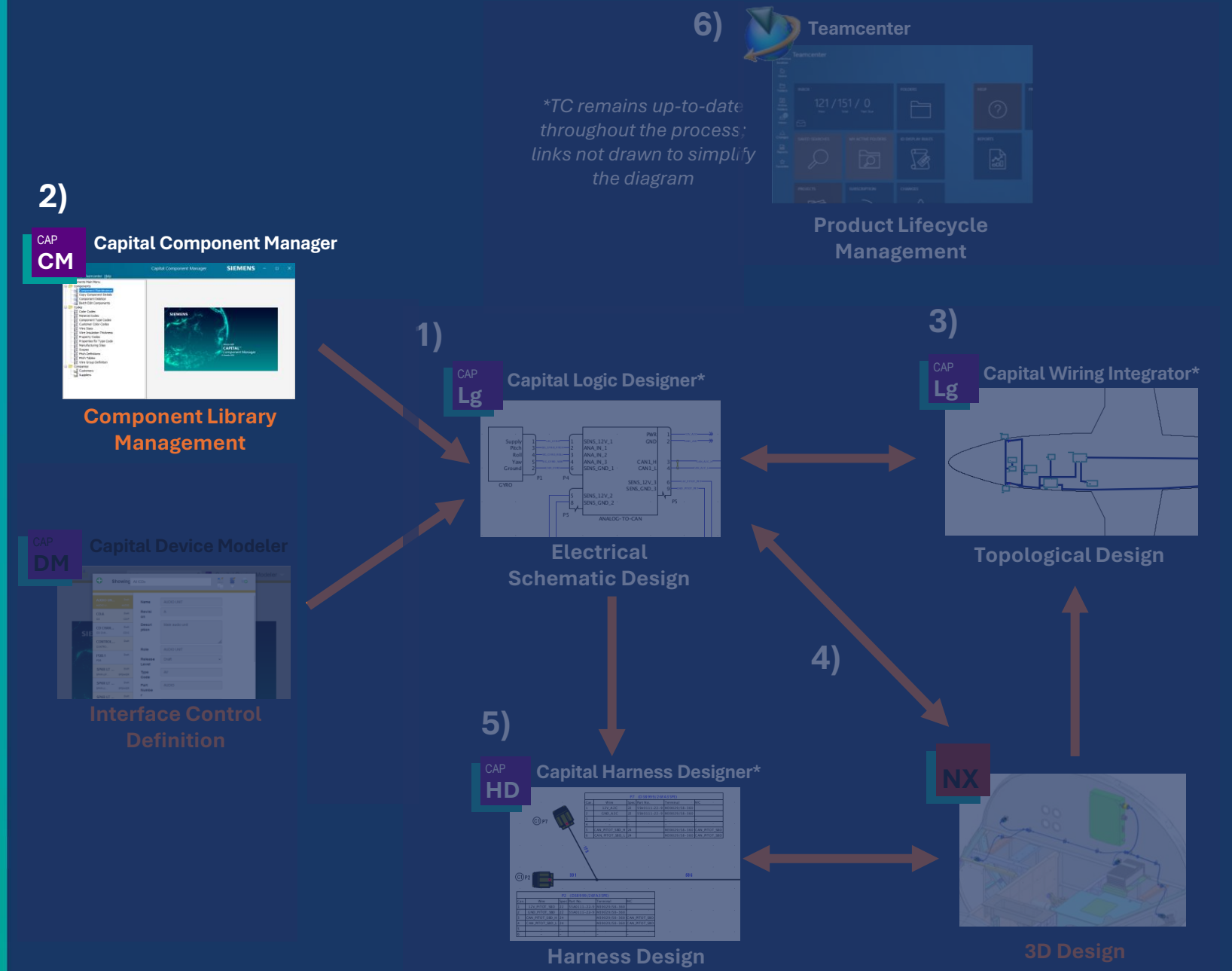
1. **Electrical Schematic design**

Flexible and intuitive schematic design



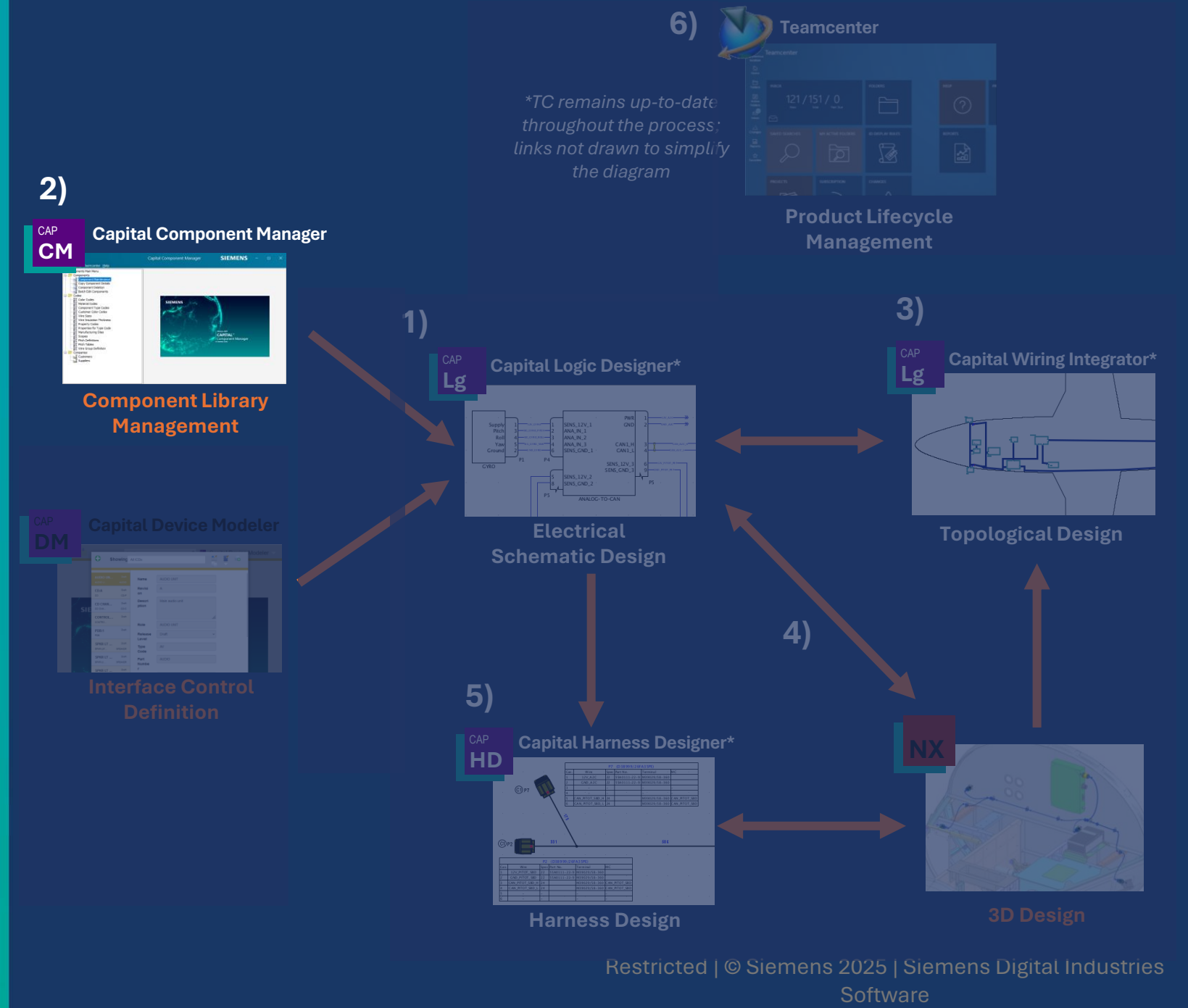
1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

CDT TECH DAY



2. Component Library Management

- Components and relationships in Capital Component Manager
- Library parts in Capital Logic
- Automatically generate harness connectors
- Automatic filtering to select mating halves for inline connectors
- Design Rule Checks

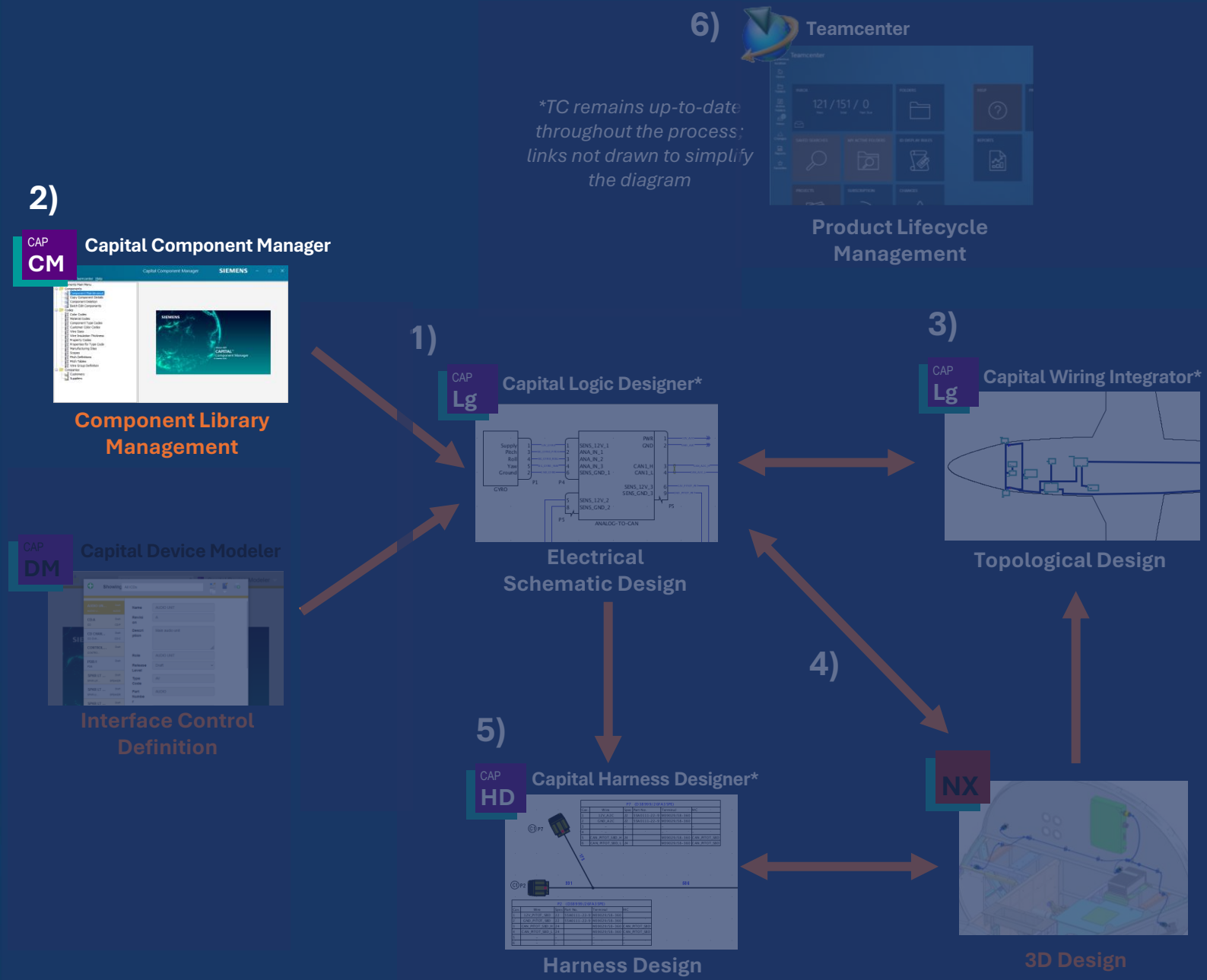


CDT TECH DAY

Live Demo

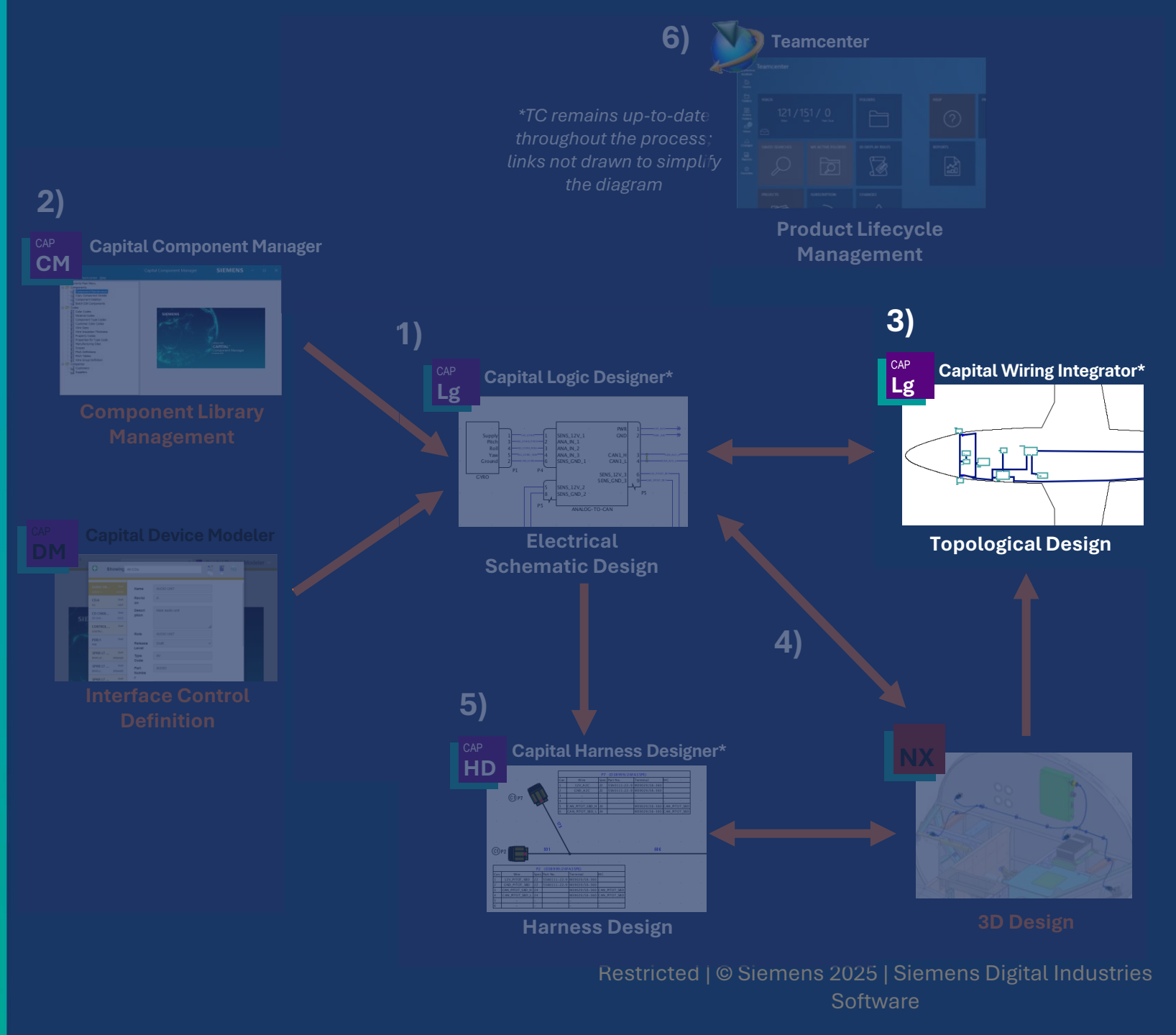
2. Component Library Management

Correct by construction schematics



1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

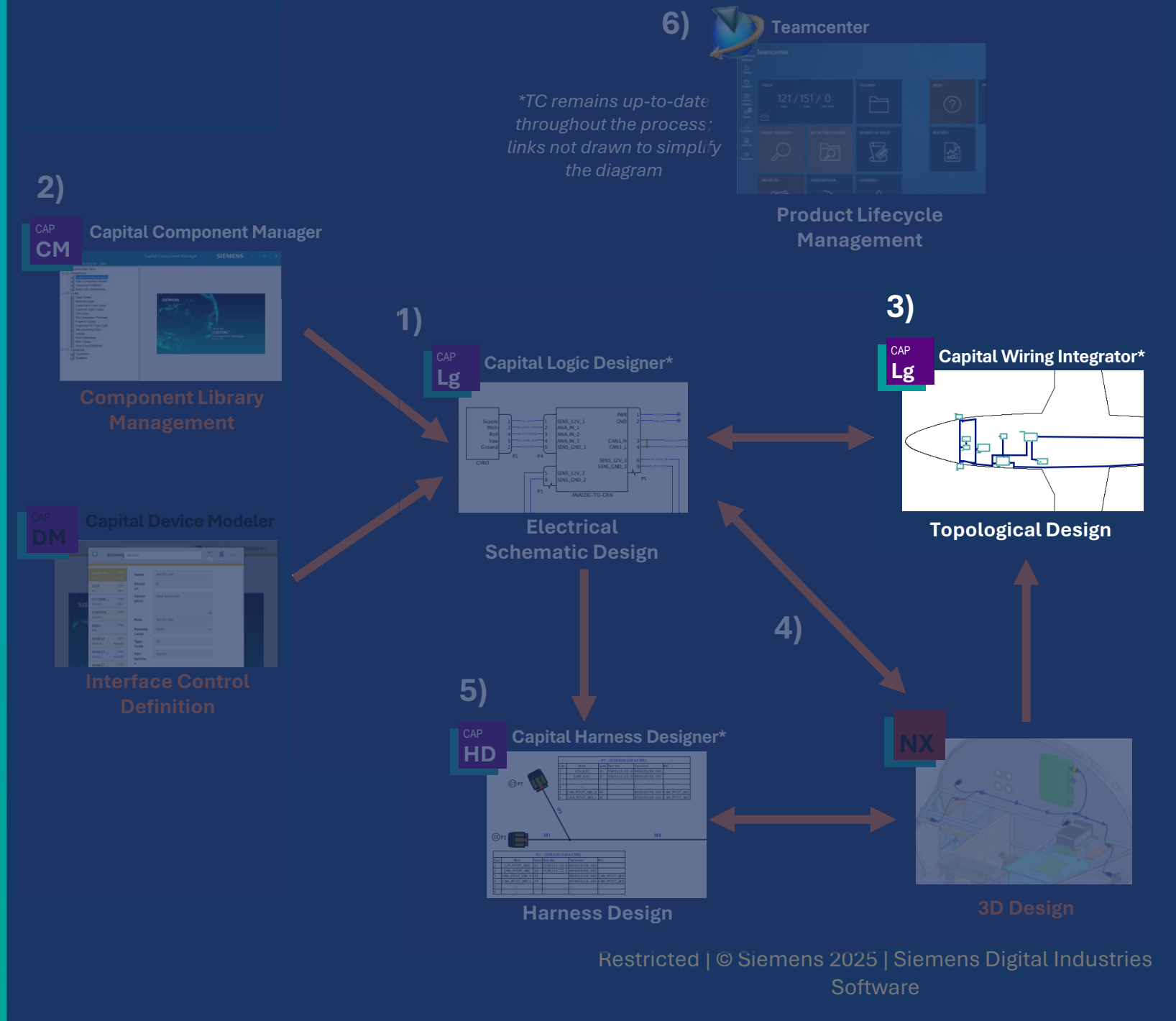
CDT TECH DAY



3. Topological Design

- Introduce the role of the topology abstraction
- Associate and trace between the topology and schematic abstractions
- Reconcile inline connectors
- Apply routing constraints using Rules
- Back-annotate harness attributes into the schematic designs
- Study to compare impact of new topology on cost

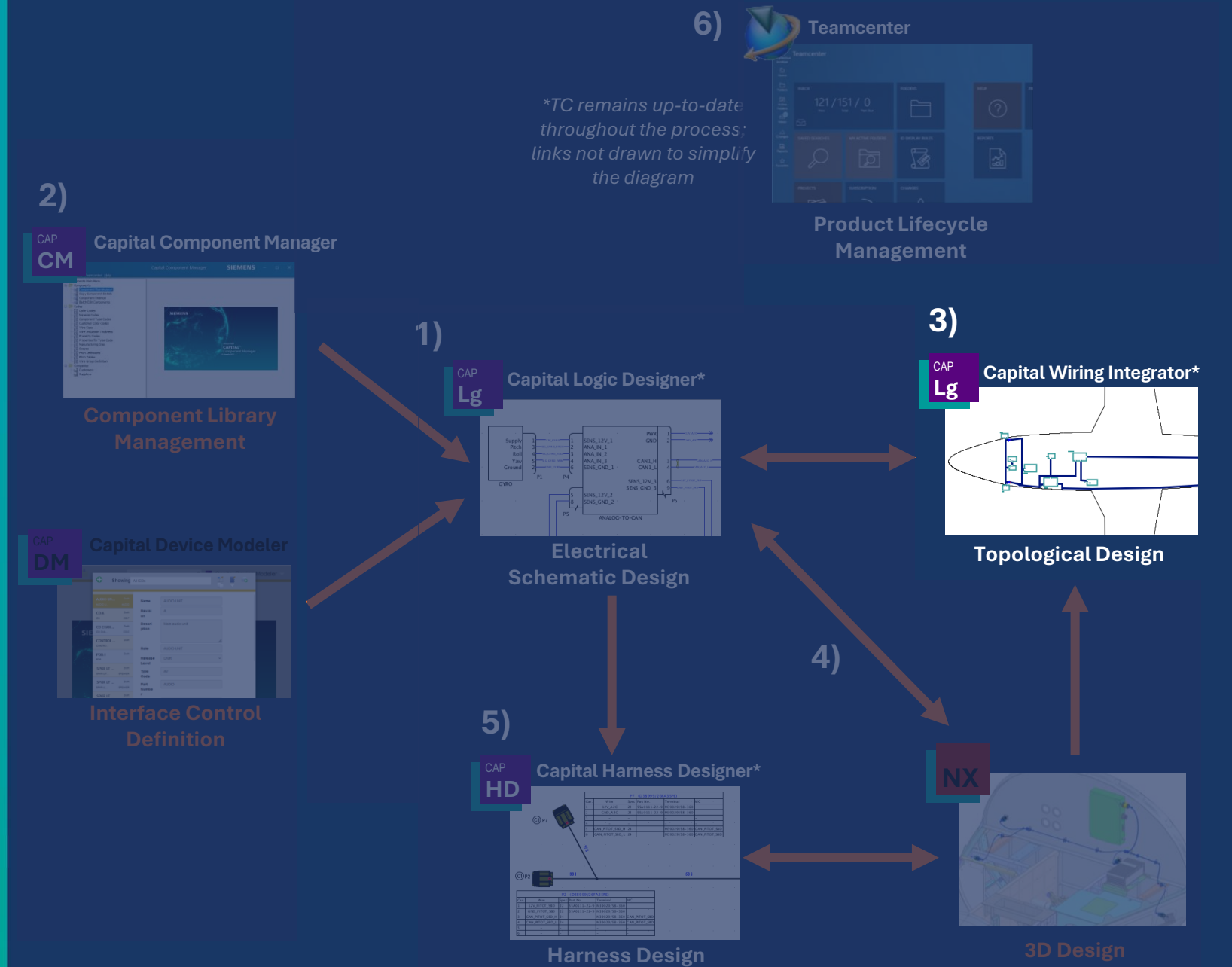
CDT TECH DAY



Live Demo

3. Topological Design

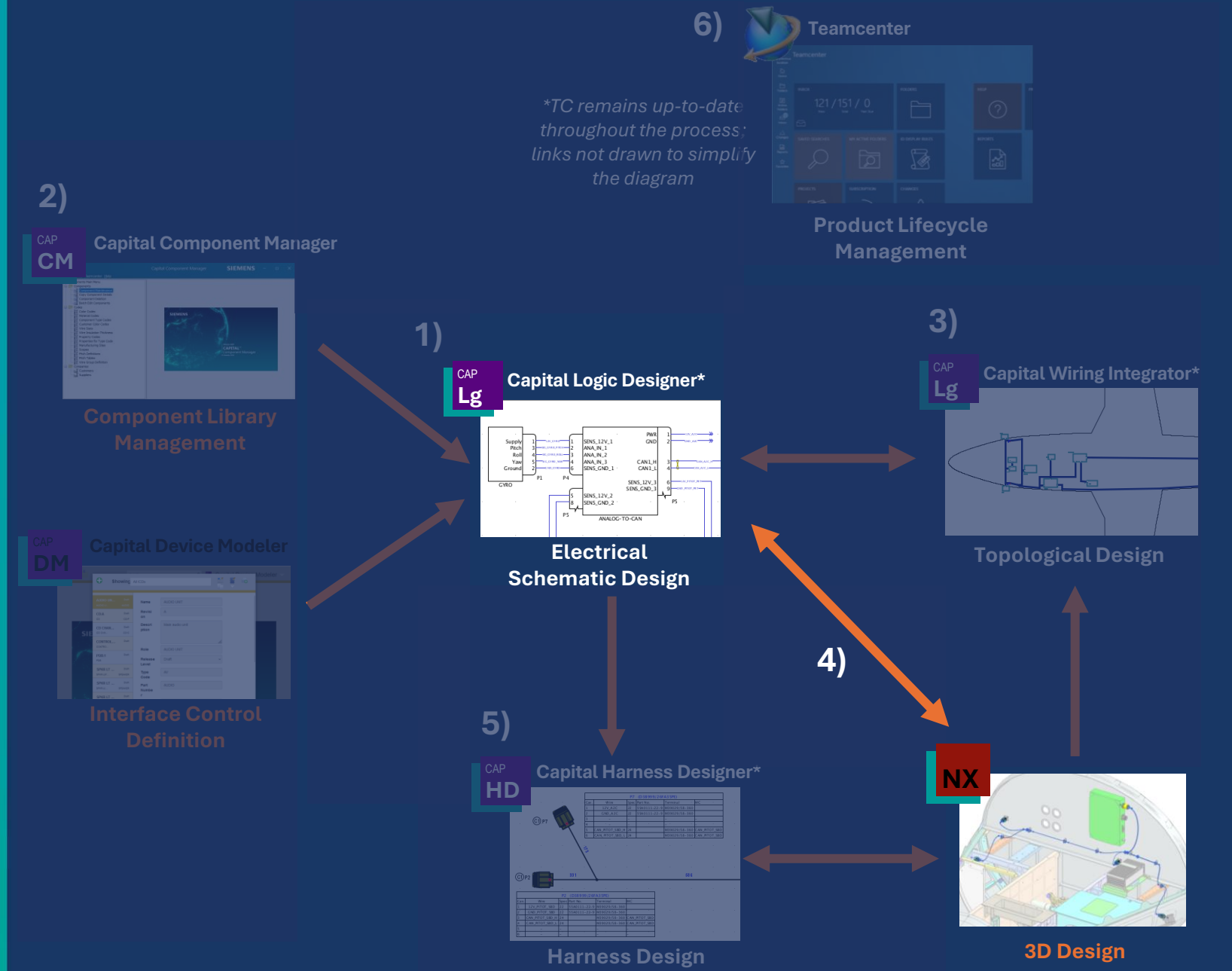
Optimise full aircraft wiring installation



CDT TECH DAY

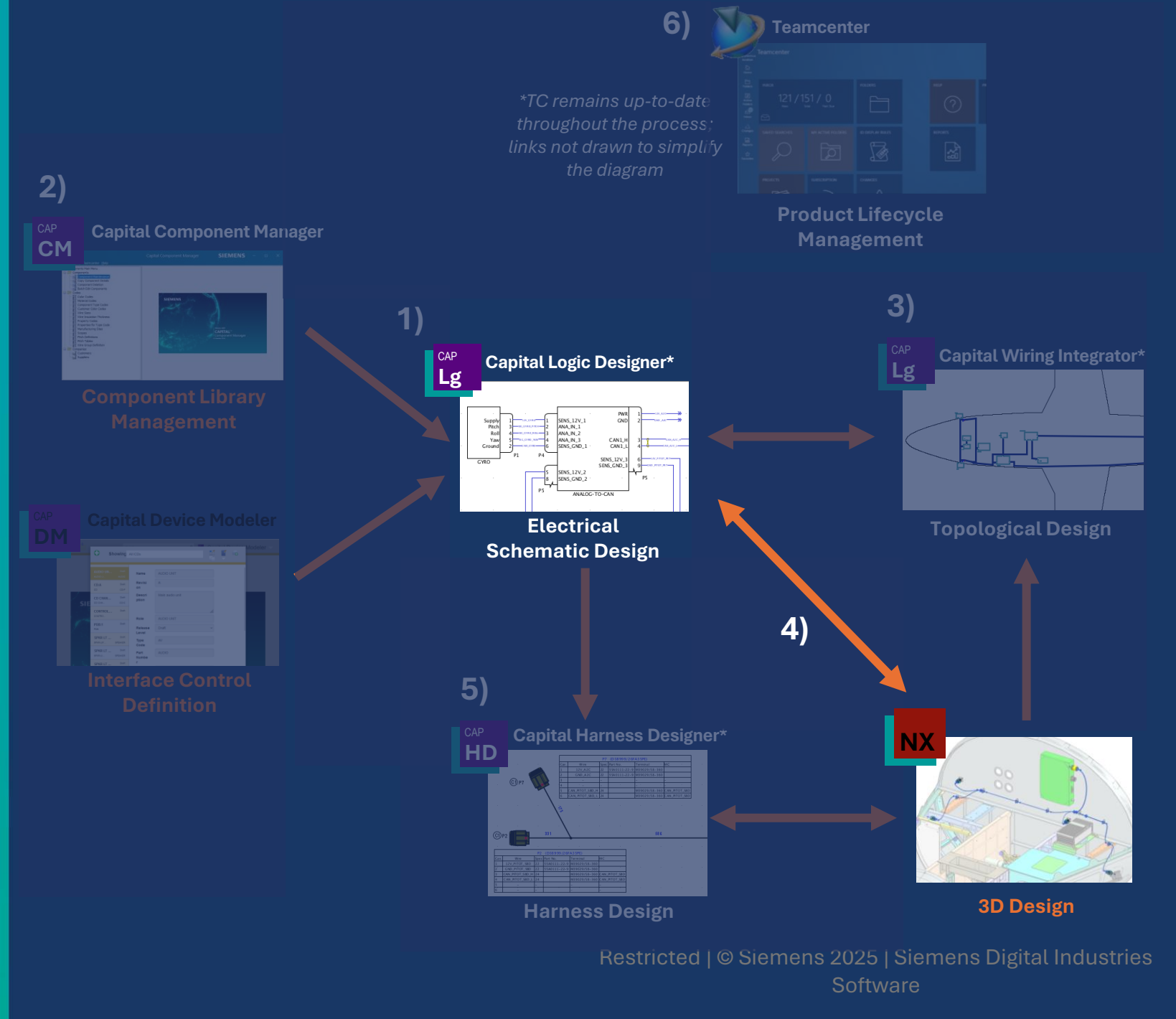
1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

CDT TECH DAY



4. Schematic-to-3D Data Exchange

- Connect Capital to NX
- Import the electrical data into NX
- Auto-assign components
- Cross-highlight between NX and Capital
- Auto-route the wiring
- Bridge In wire lengths back to Capital



CDT TECH DAY

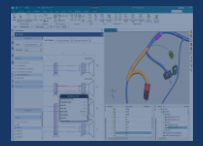
Connection Modes

Connected Mode

Real time data import, export & cross application exploration

- Cross-highlighting
- Interactive Change Manager
- Bi-directional exchange of data

Direct Navigator Mode



Access to Capital data within NX via embedded Capital navigator

- No Capital installation required
- Cross-highlighting
- Simultaneous data access

Teamcenter Mediated File Based Mode

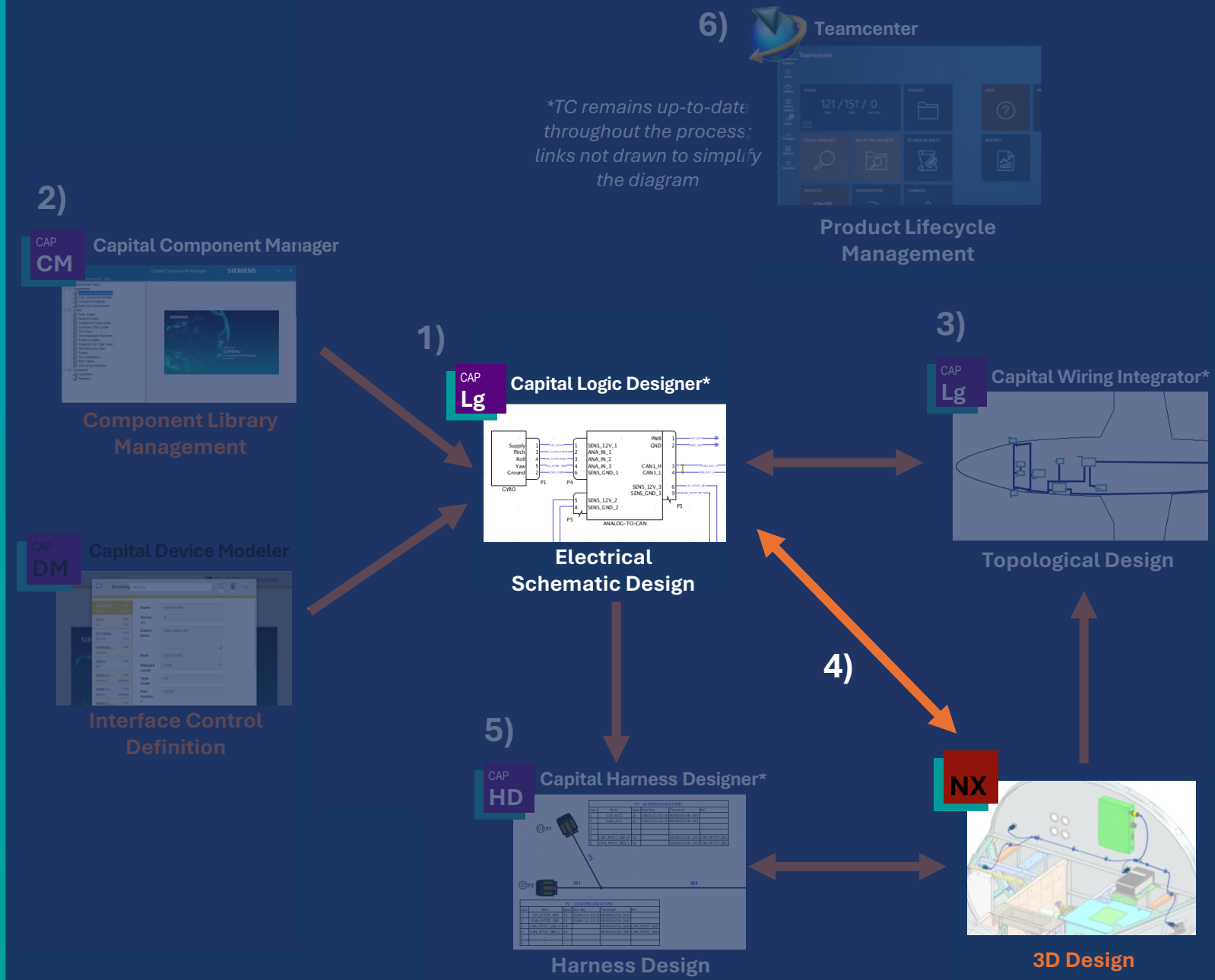
Teamcenter used to mediate the file exchange between Capital and NX

- Configuration controlled access
- Data exchange tracked and version controlled
- Embedded Active Workspace
- Workflows to notify users of new content

Live Demo

4. Schematic-to-3D Data Exchange

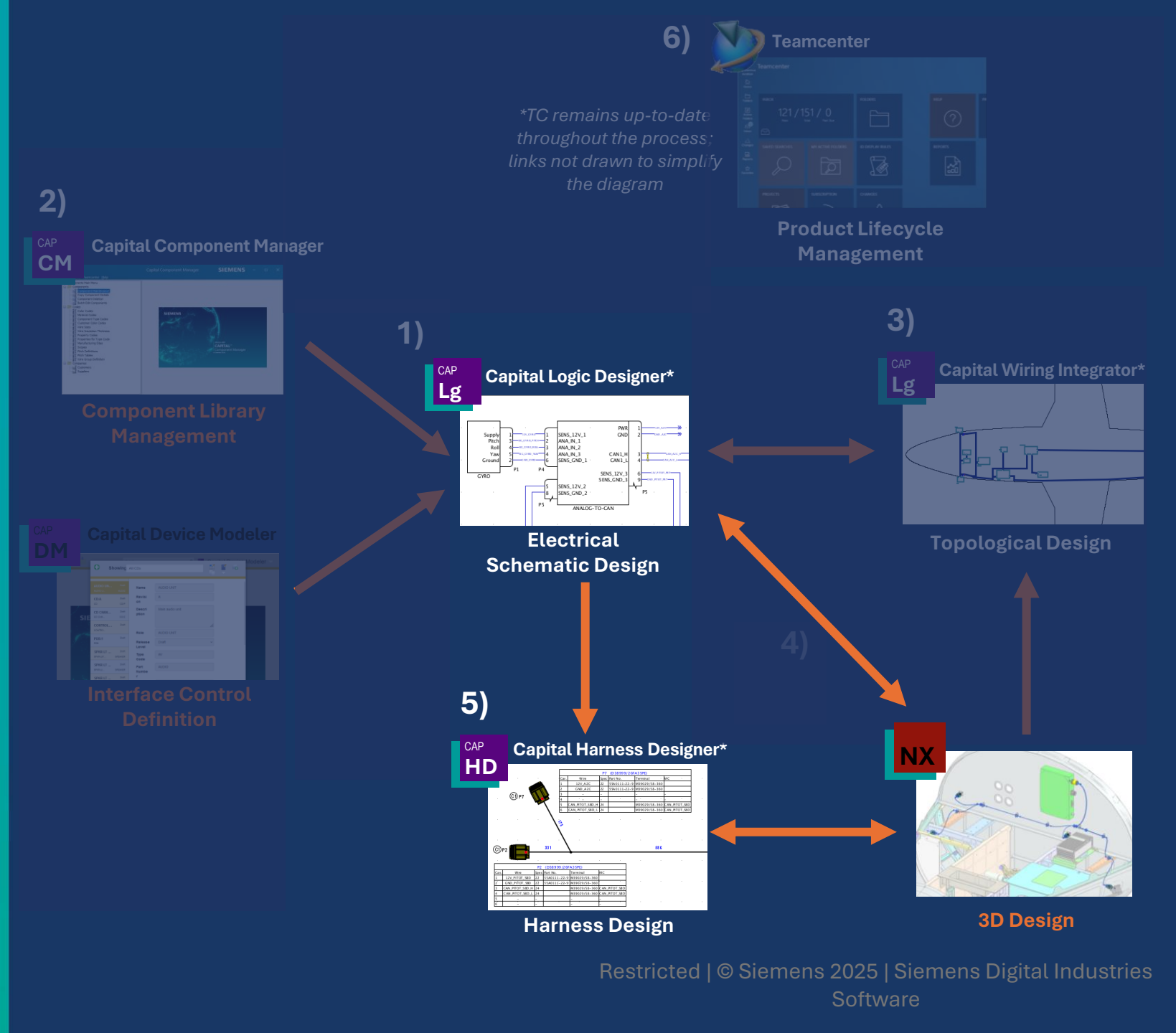
Break down silos and remove manual steps



CDT TECH DAY

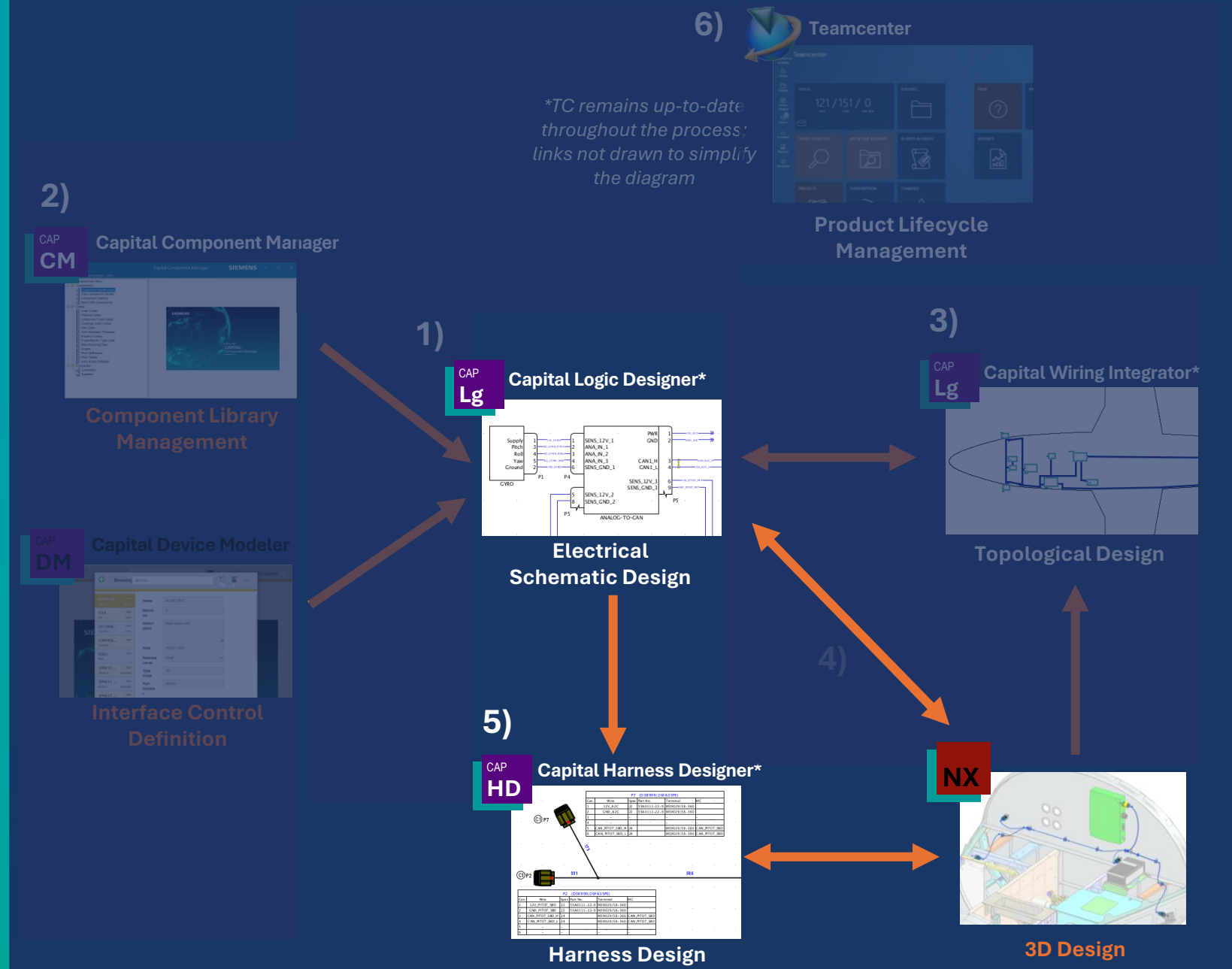
1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

CDT TECH DAY



5. Harness Flattening and Harness Engineering

- Connect NX to Capital
- Export and flatten harness from NX to Capital
- Cross-highlight between Capital and NX
- Synchronise wiring data
- Optimise splice positions and push new splice positions to NX
- Harness engineering

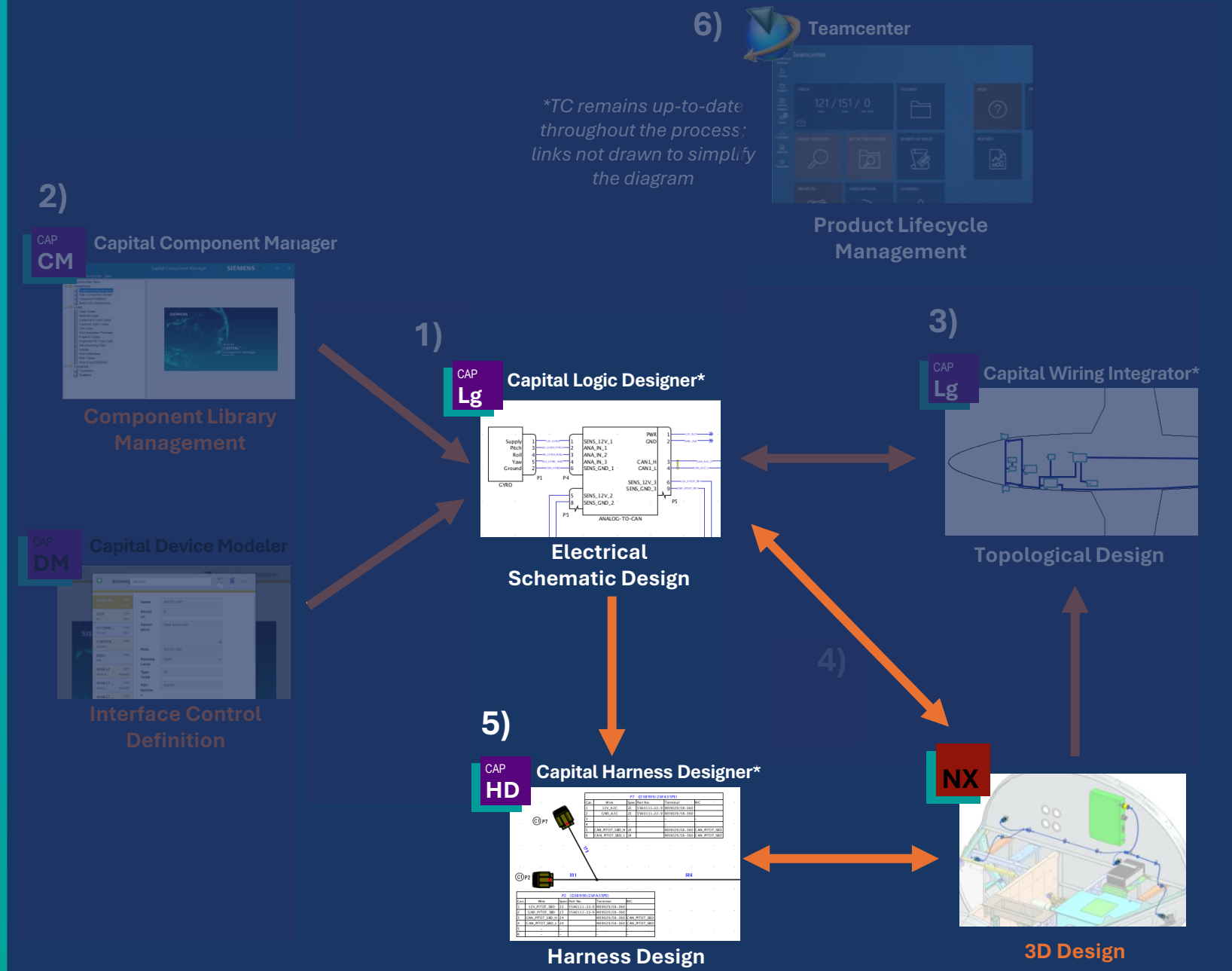


CDT TECH DAY

Live Demo

5. Harness Flattening and Harness Engineering

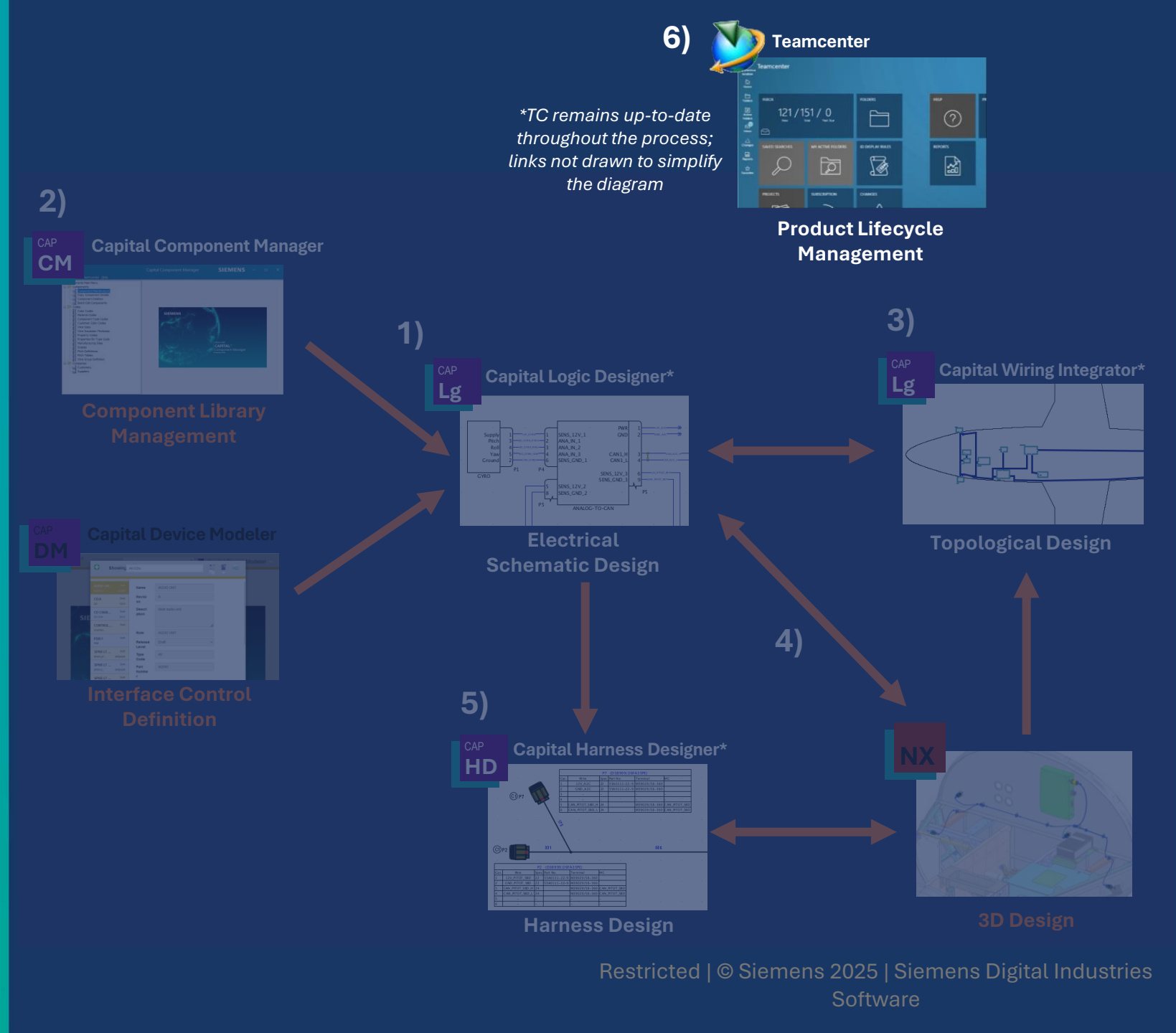
Automate to increase productivity and accuracy



CDT TECH DAY

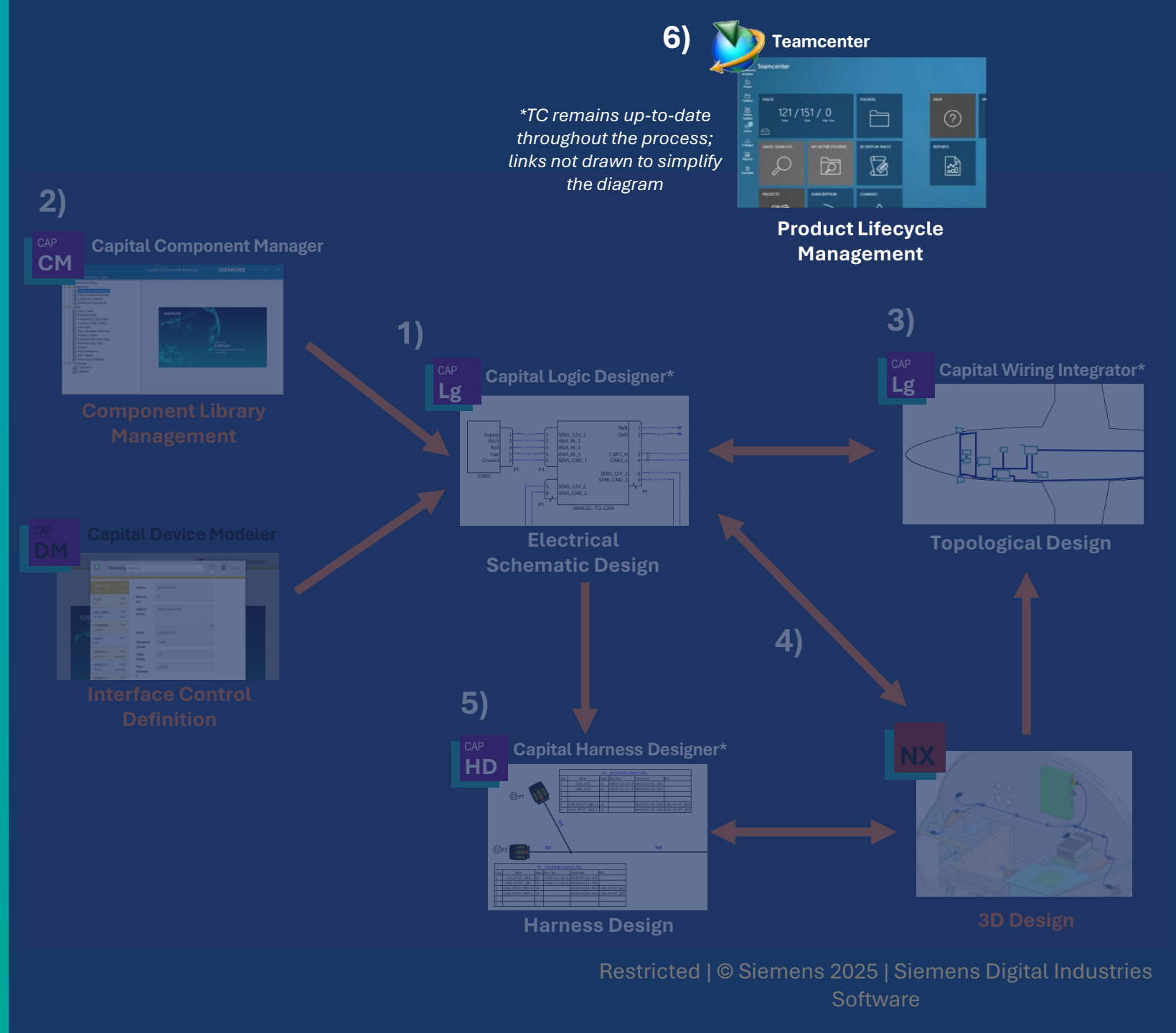
1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

CDT TECH DAY



6. Publish to Teamcenter

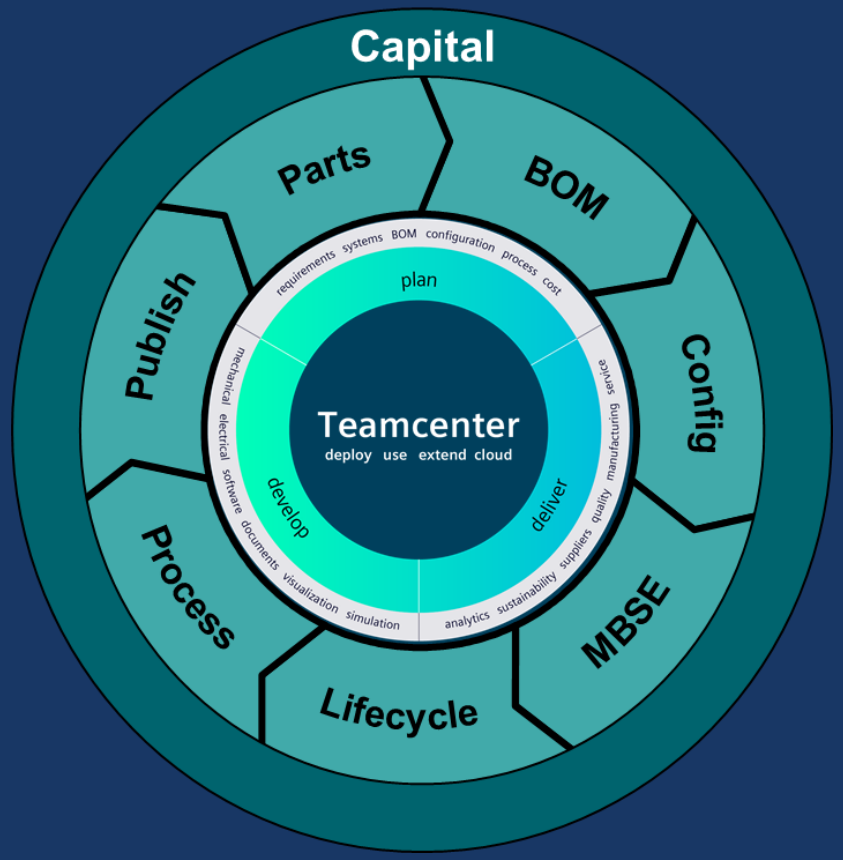
- Introduce the Capital and Teamcenter integration
- Publish a completed design from Capital to Teamcenter
- Workflow automatically kicked off in Teamcenter
- Select a reviewer to check the design slated for release
- Once approved and released in Teamcenter, the release state in Capital is also updated



CDT TECH DAY

Capital and Teamcenter

MAY 28th



Orchestrate E/E systems in whole product context

Publish E/E design to multi-domain BOM

Control E/E design lifecycle and configuration

Balance autonomy and concurrency

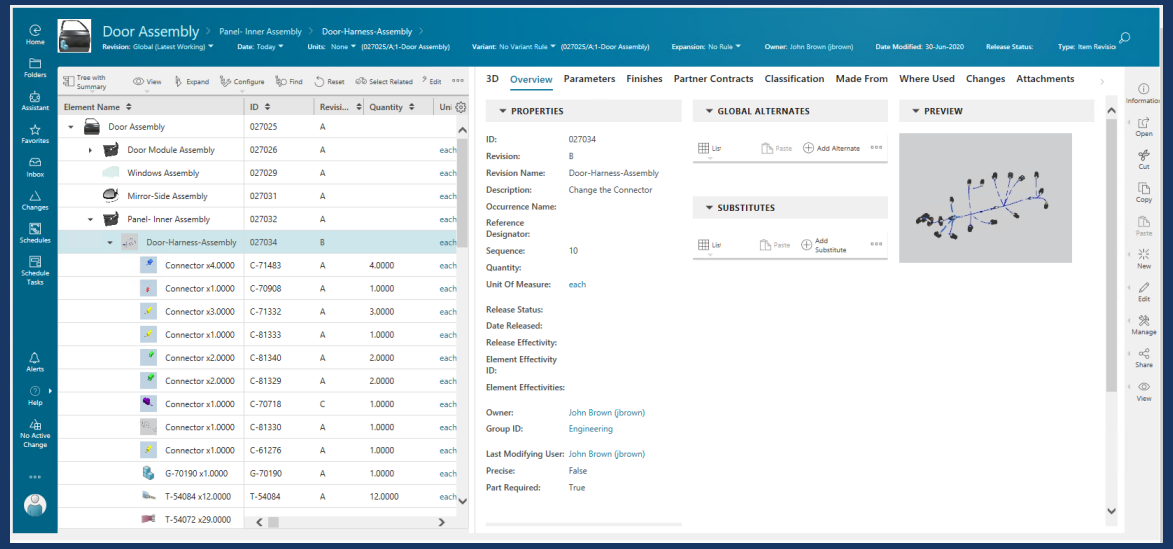
Drive overall process via Workflows

Teamcenter – Capital Alignment

Clear lines of responsibility in an integrated environment

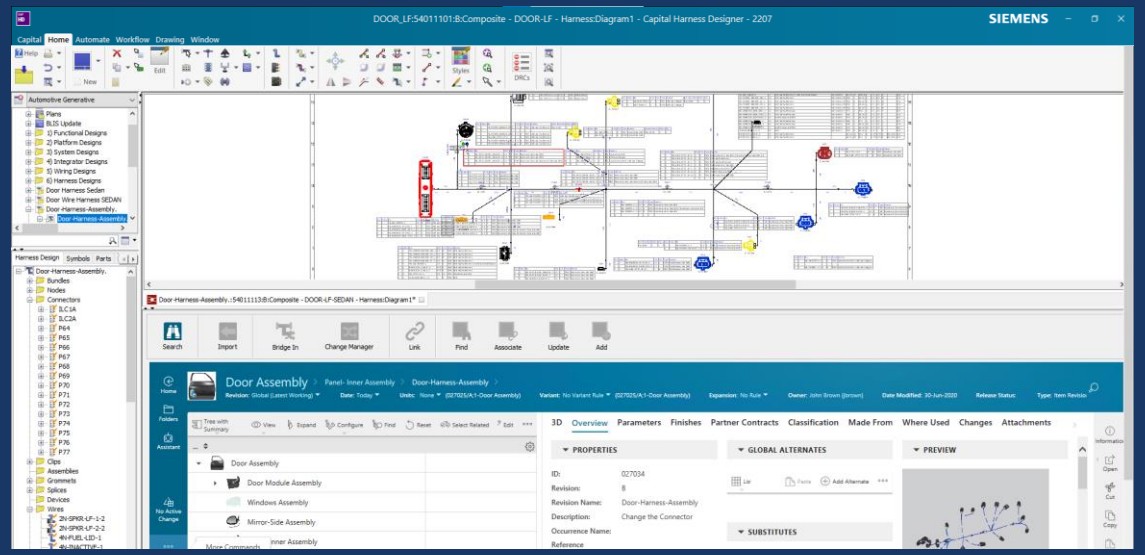
MAY 28th

Teamcenter



- Master of Design, Library and BOM lifecycle
- Governs Change and Release Processes
- Controls Multi Domain Information

Capital



- Provides Design environment for Electrical Systems
- Follows Teamcenter Change and Release process

Design Lifecycle Management

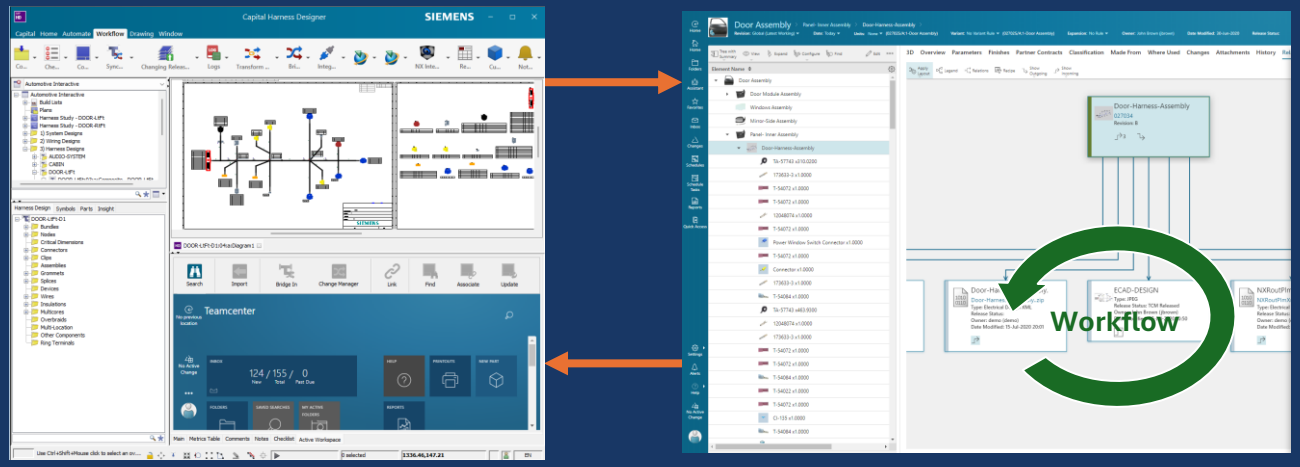
MAY 28th

Integrate Electrical into company-wide workflows

Capital

Publish Design and BOM

Teamcenter



Update design State via Teamcenter Workflow

- Capital design lifecycle is controlled via Teamcenter Workflow
- Teamcenter is the owner of the change process to control design revision creation

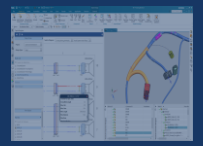
Connection Modes

Connected Mode

Real time data import, export & cross application exploration

- Cross-highlighting
- Interactive Change Manager
- Bi-directional exchange of data

Direct Navigator Mode



Access to Capital data within NX via embedded Capital navigator

- No Capital installation required
- Cross-highlighting
- Simultaneous data access

Teamcenter Mediated File Based Mode

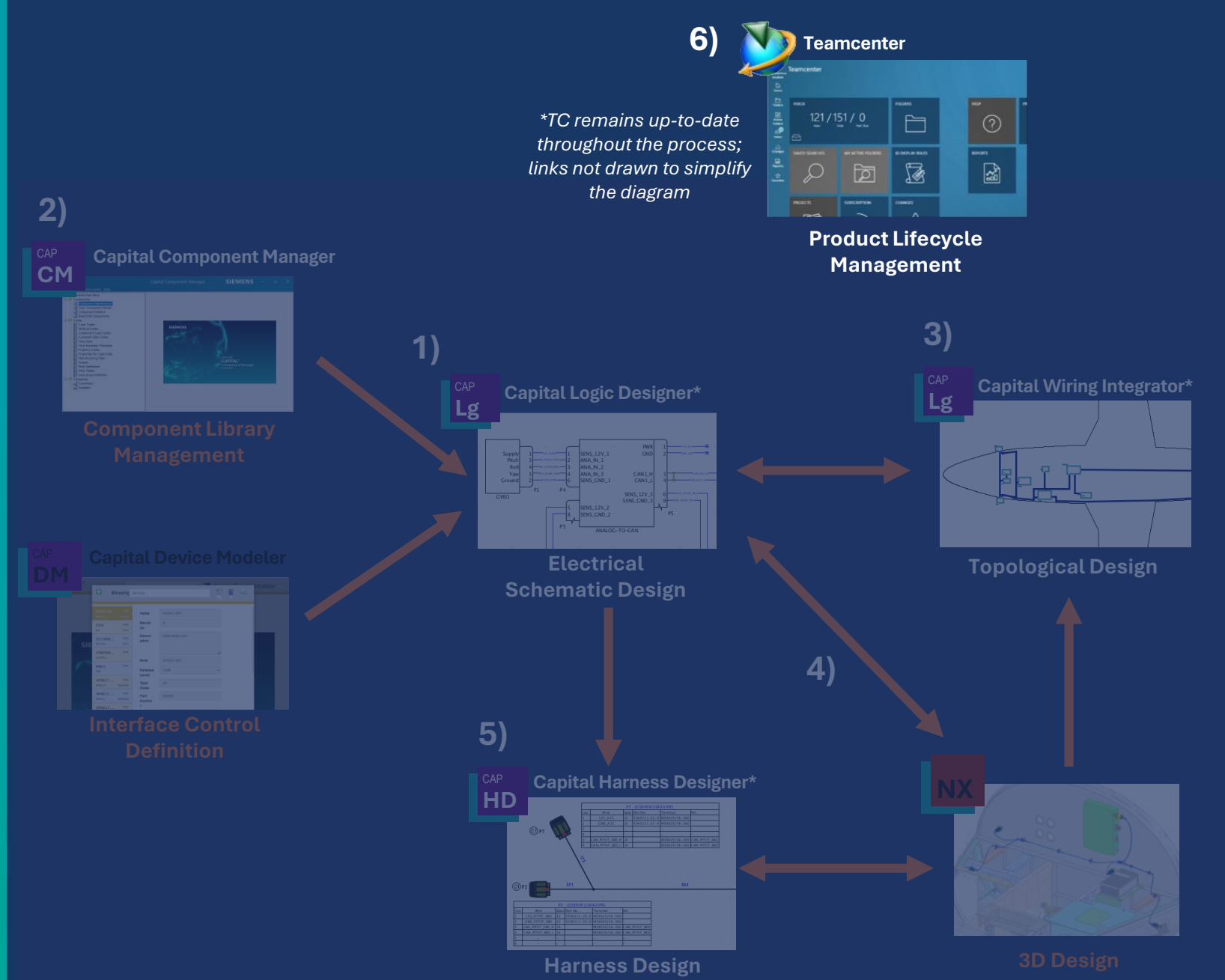
Teamcenter used to mediate the file exchange between Capital and NX

- Configuration controlled access
- Data exchange tracked and version controlled
- Embedded Active Workspace
- Workflows to notify users of new content

Live Demo

6. Publish to Teamcenter

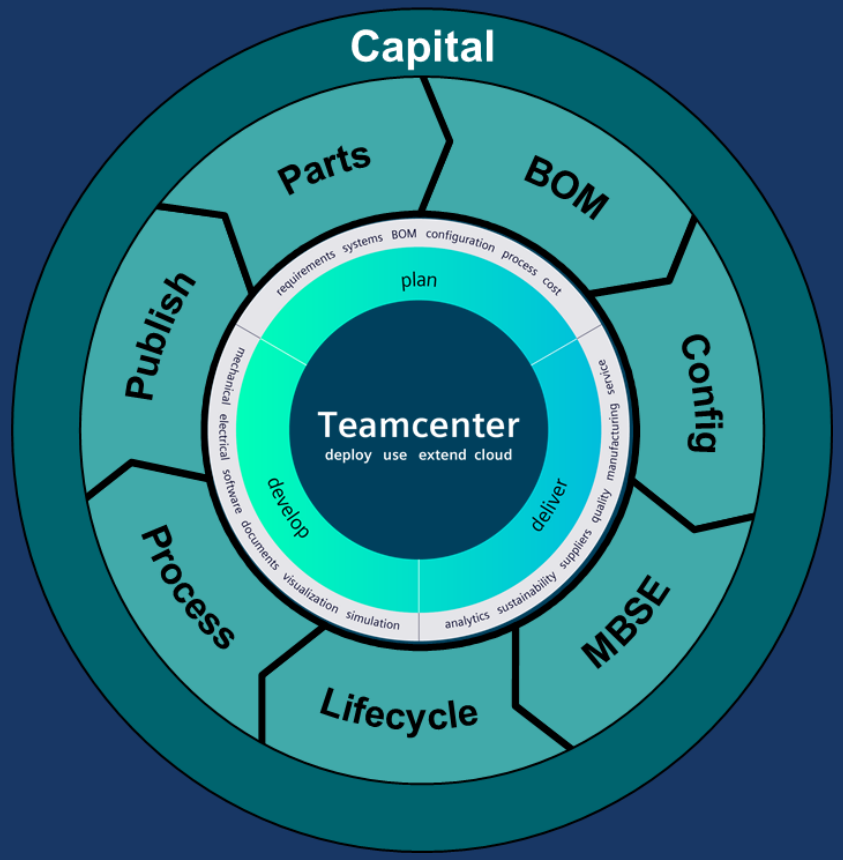
Fully integrated ecosystem with a single source of truth



CDT TECH DAY

Capital and Teamcenter

MAY 28th



Orchestrate E/E systems in whole product context

Publish E/E design to multi-domain BOM

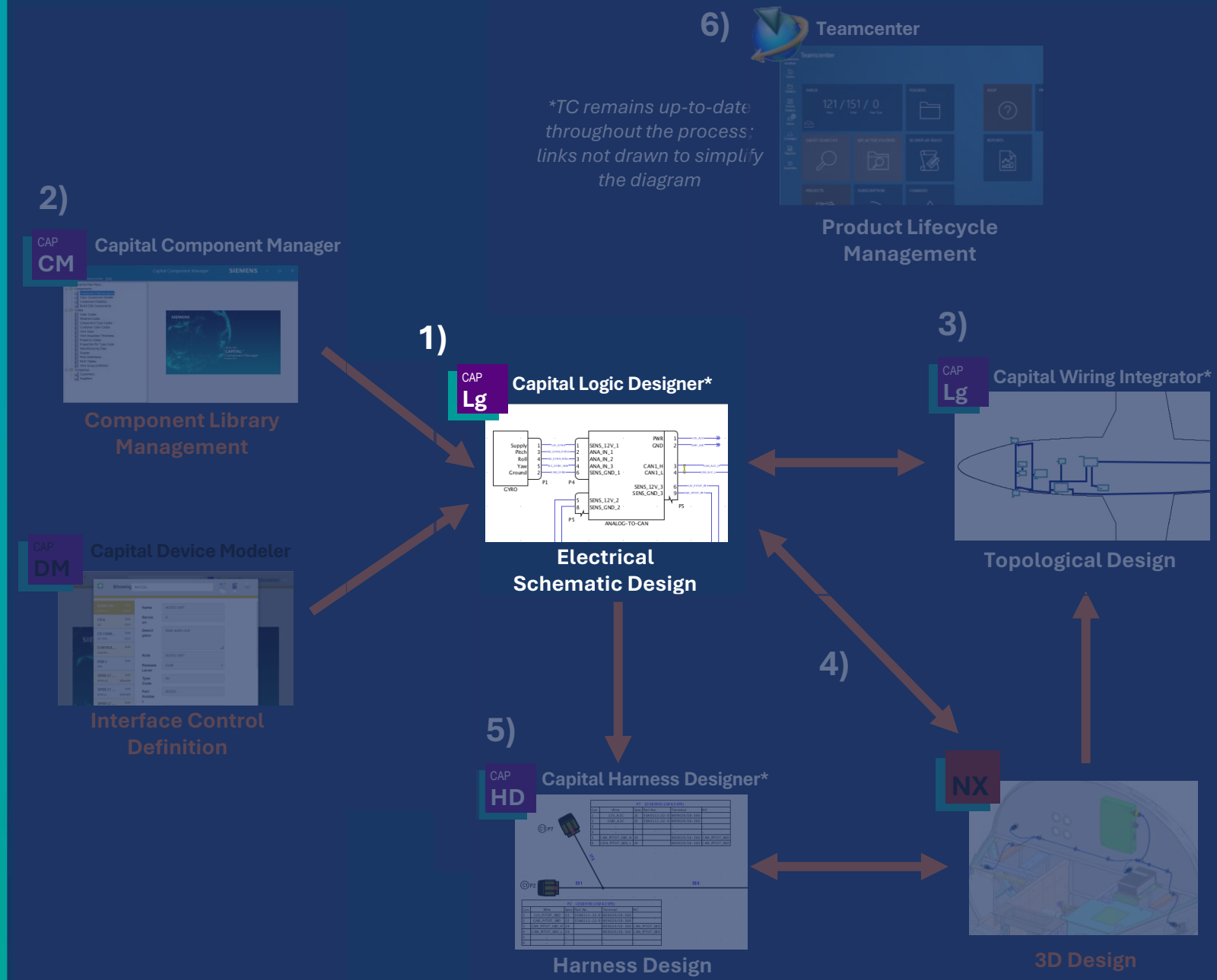
Control E/E design lifecycle and configuration

Balance autonomy and concurrency

Drive overall process via Workflows

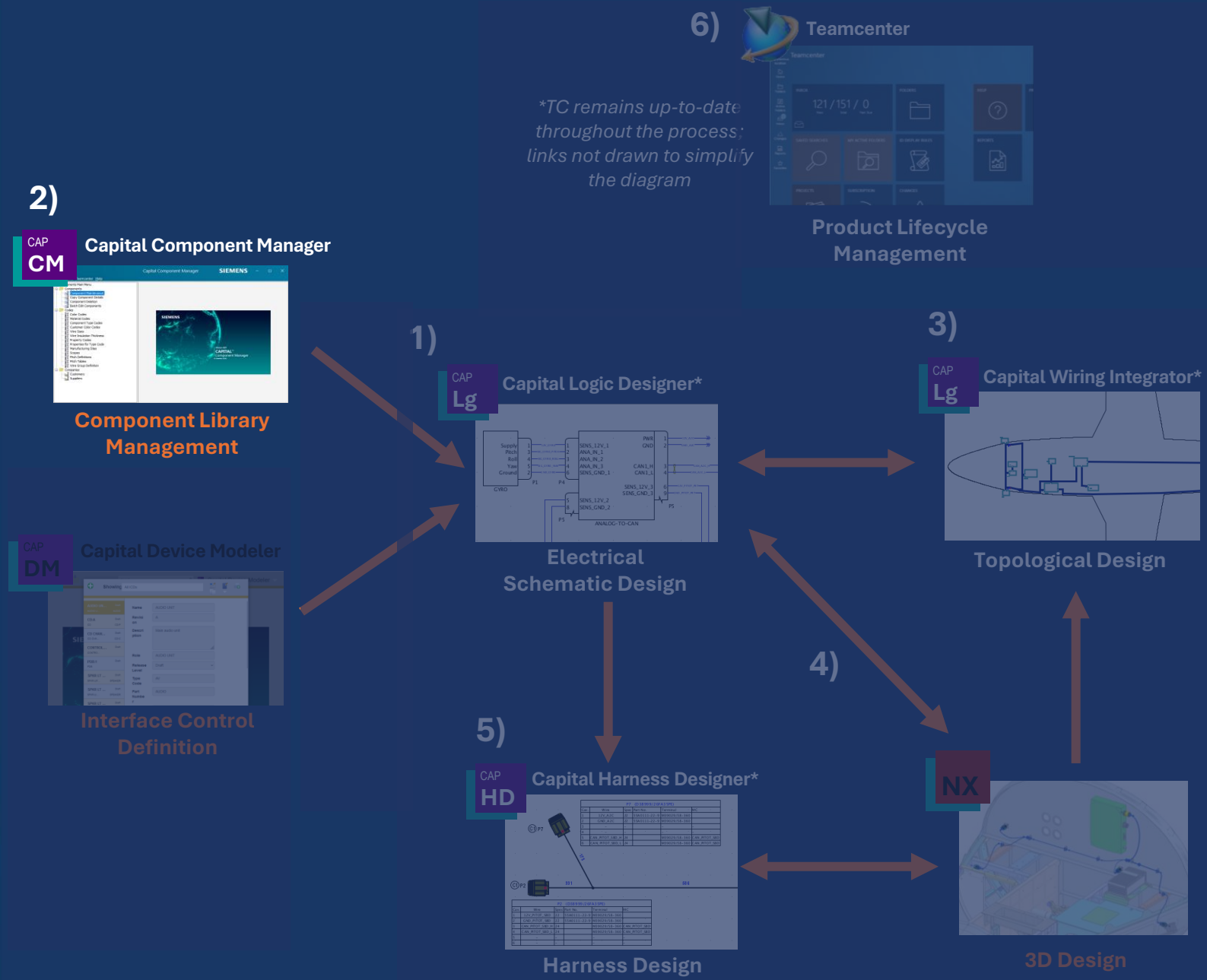
1. **Electrical Schematic design**

Flexible and intuitive schematic design



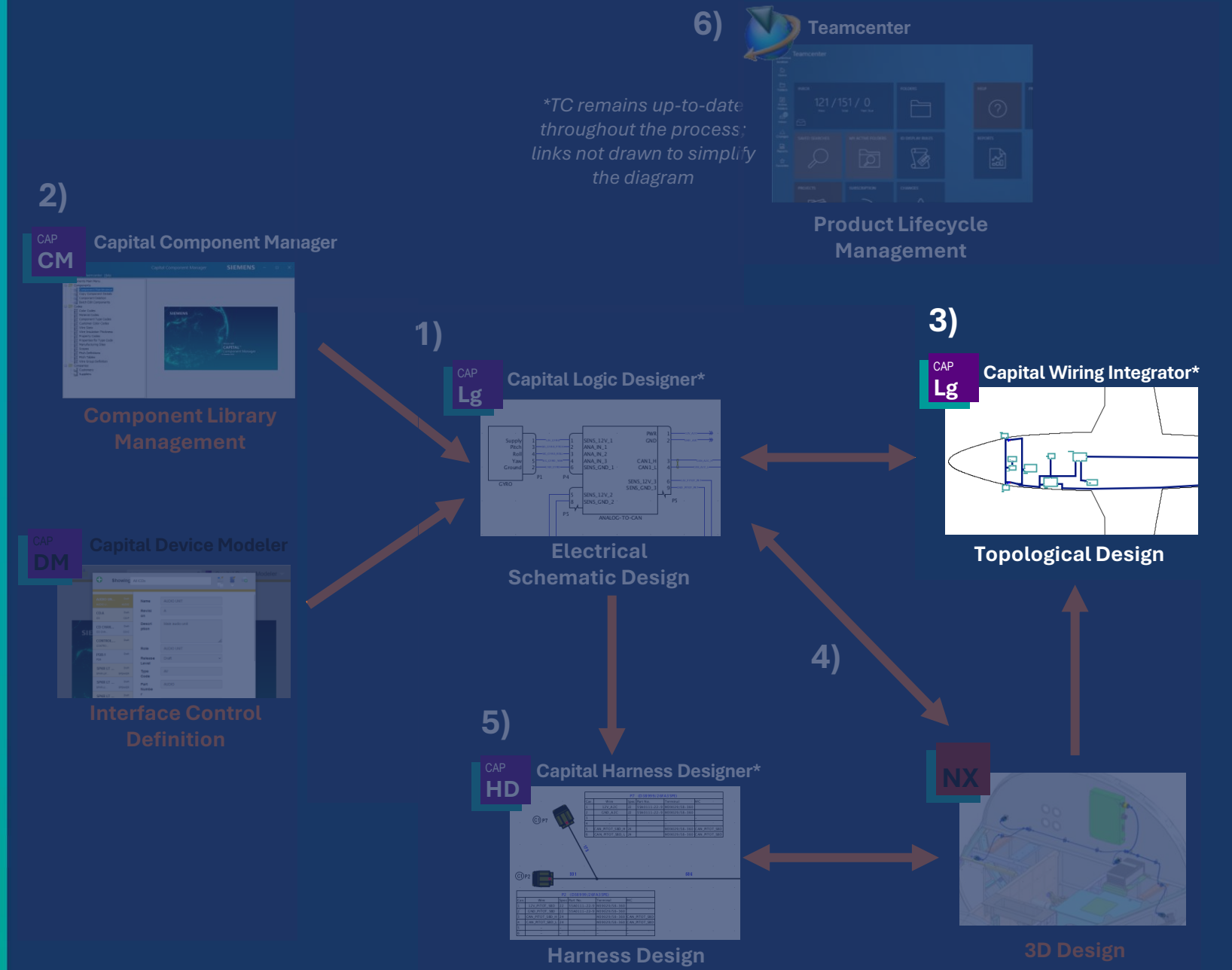
2. Component Library Management

Correct by construction schematics



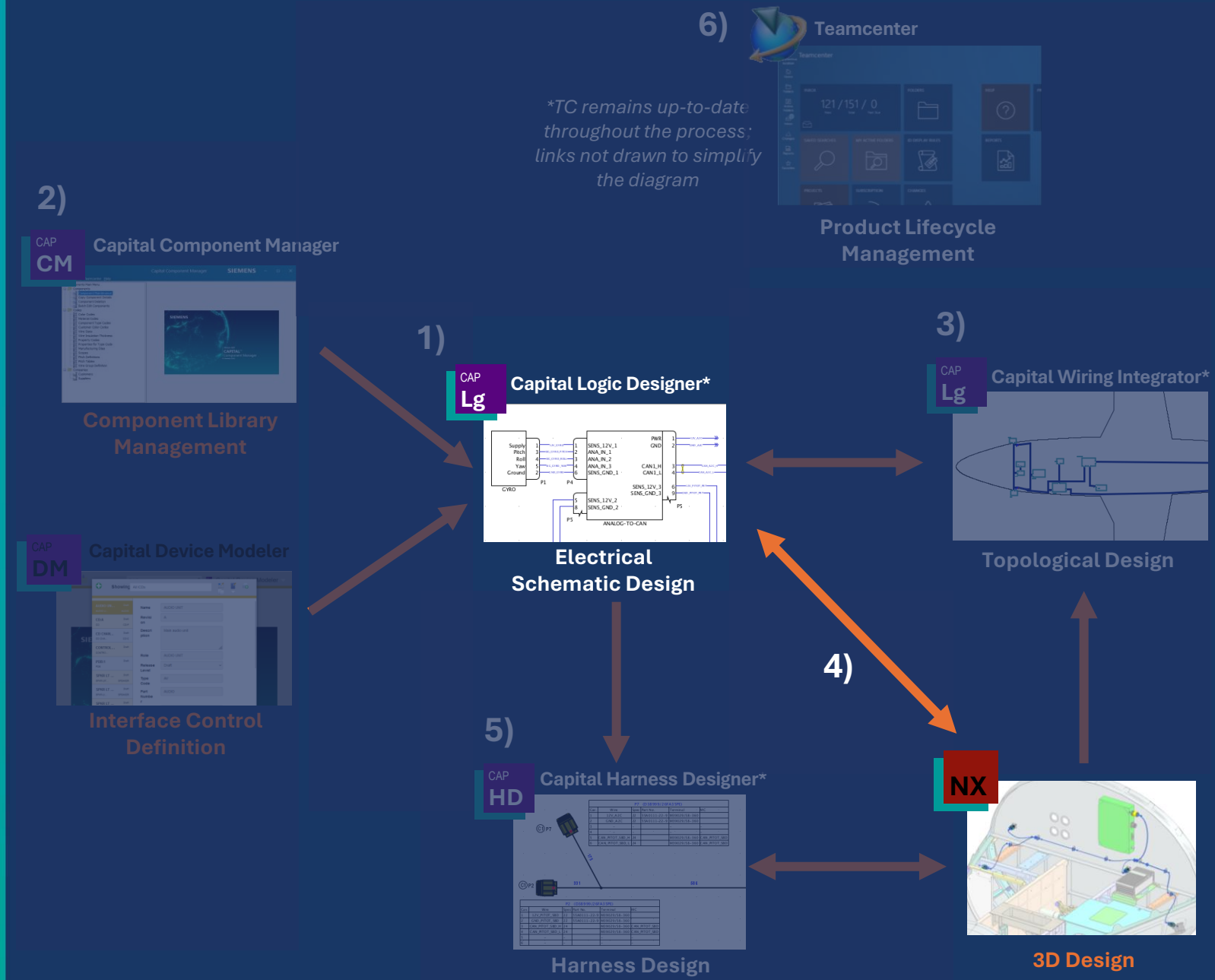
3. Topological Design

Optimise full aircraft wiring installation



4. Schematic-to-3D Data Exchange

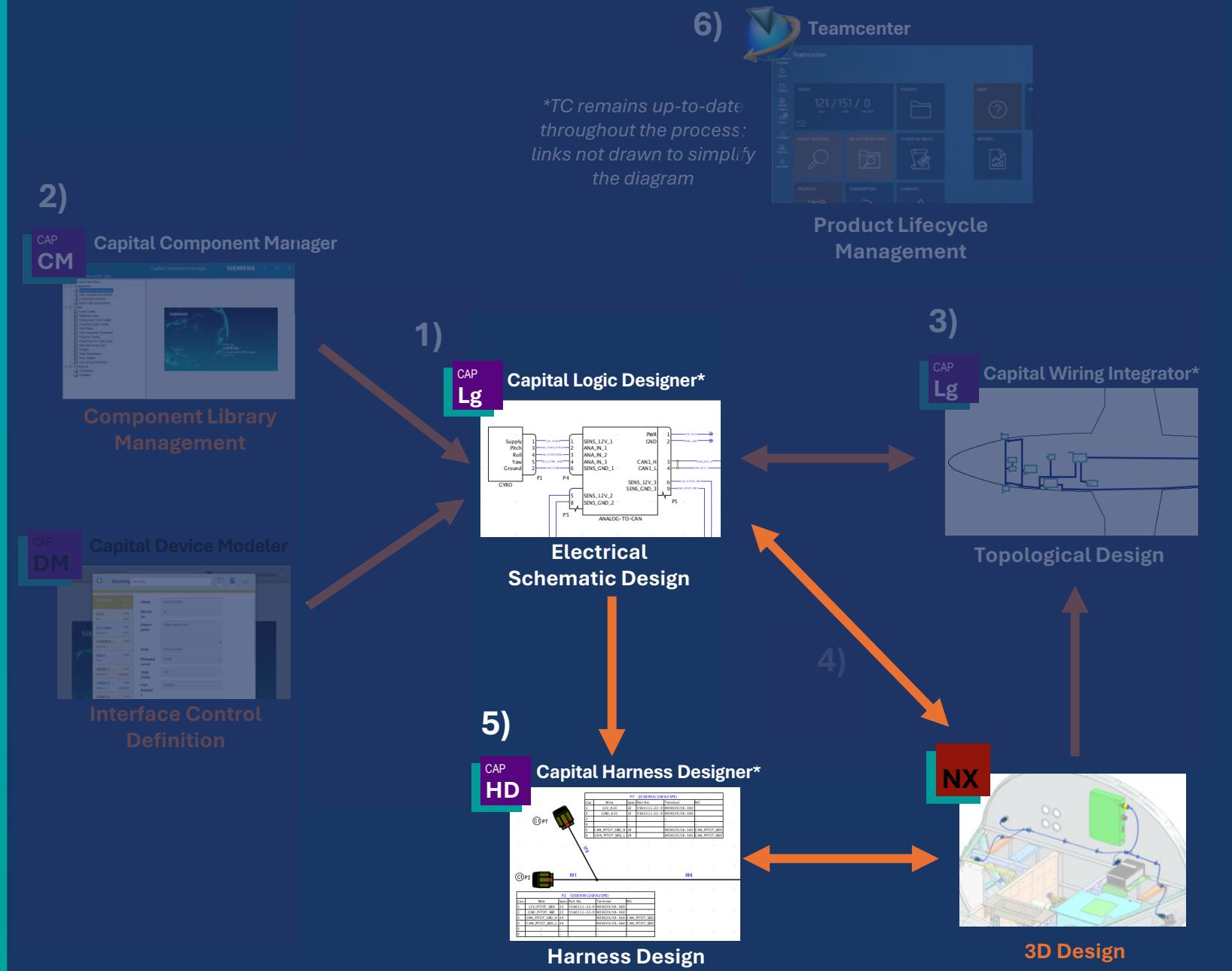
Break down silos and remove manual steps



CDT TECH DAY

5. Harness Flattening and Harness Engineering

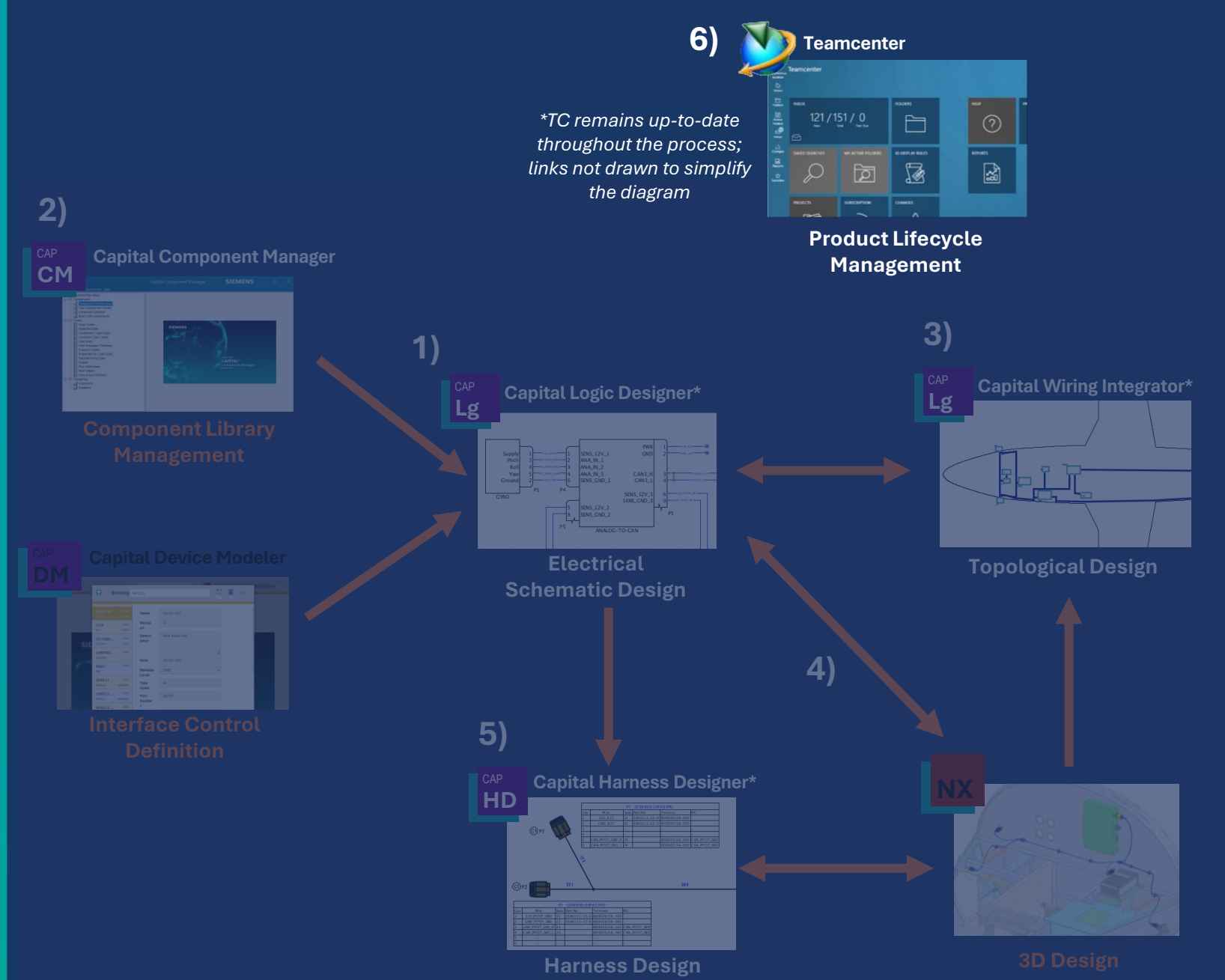
Automate to increase productivity and accuracy



CDT TECH DAY

6. Publish to Teamcenter

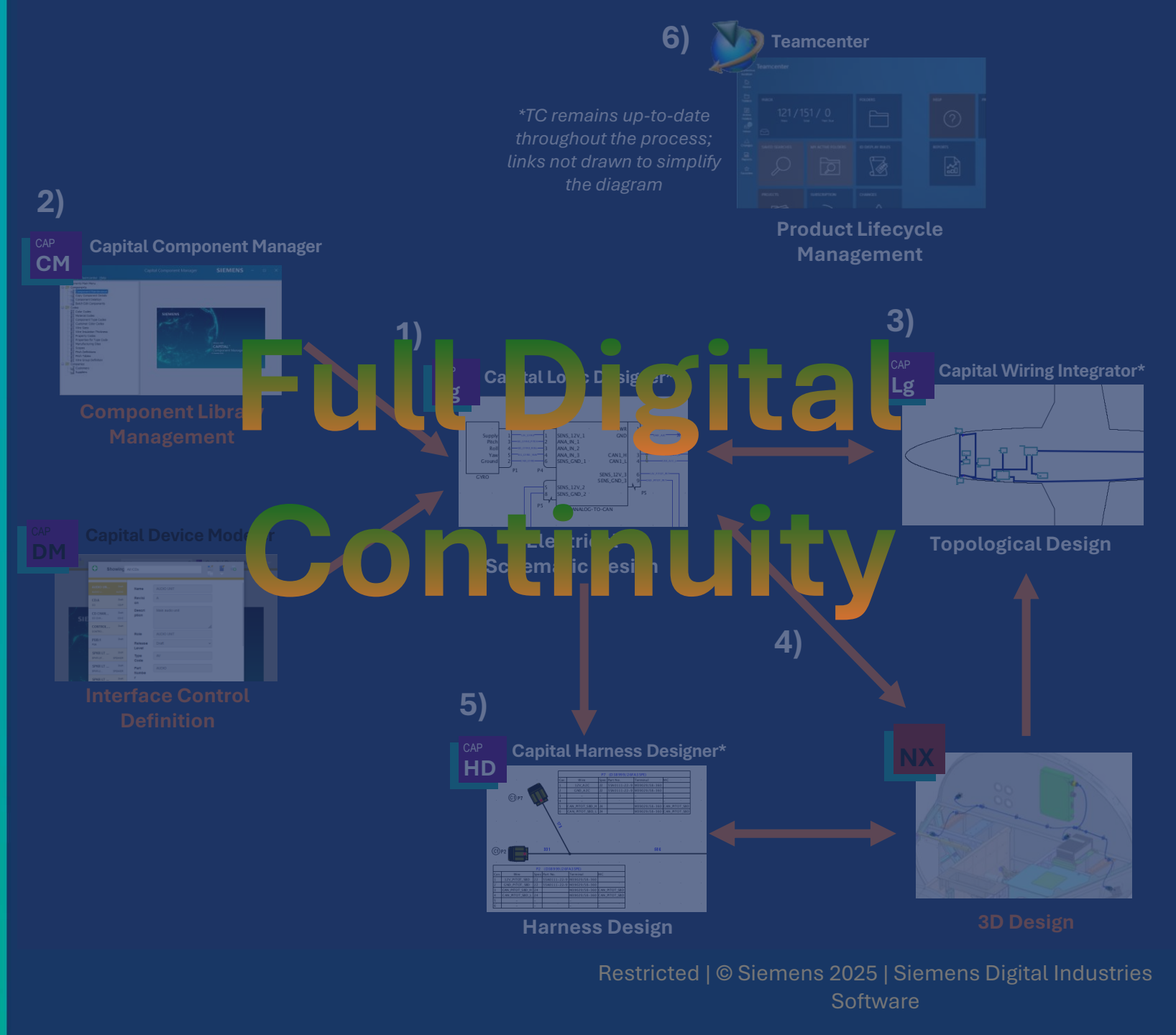
Fully integrated ecosystem with a single source of truth



CDT TECH DAY

1. Electrical Schematic design
2. Component Library Management
3. Topological Design
4. Schematic-to-3D Data Exchange
5. Harness Flattening and Harness Engineering
6. Publish to Teamcenter

CDT TECH DAY



QUESTIONS ?

CDT TECH DAY