Tony Hemmelgarn

President and CEO
Siemens Digital Industries Software

Notes and forward-looking statements

This document contains statements related to our future business and financial performance and future events or developments involving Siemens that may constitute forward-looking statements. These statements may be identified by words such as “expect,” “look forward to,” “anticipate,” “intend,” “plan,” “believe,” “seek,” “estimate,” “will,” “project” or words of similar meaning.

We may also make forward-looking statements in other reports, in prospectuses, in presentations, in material delivered to shareholders and in press releases. In addition, our representatives may from time to time make oral forward-looking statements. Such statements are based on the current expectations and certain assumptions of Siemens’ management, of which many are beyond Siemens’ control. These are subject to a number of risks, uncertainties and factors, including, but not limited to those described in disclosures, in particular in the chapter Report on expected developments and associated material opportunities and risks in the Combined Management Report of the Siemens Report (siemens.com/siemensreport), and in the Interim Group Management Report of the Half-year Financial Report (provided that it is already available for the current reporting year), which should be read in conjunction with the Combined Management Report.

Should one or more of these risks or uncertainties materialize, should decisions, assessments or requirements of regulatory authorities deviate from our expectations, should events of force majeure, such as pandemics, unrest or acts of war, occur or should underlying expectations including future events occur at a later date or not at all or assumptions prove incorrect, actual results, performance or achievements of Siemens may (negatively or positively) vary materially from those described explicitly or implicitly in the relevant forward-looking statement.

Siemens neither intends, nor assumes any obligation, to update or revise these forward-looking statements in light of developments which differ from those anticipated.

This document includes – in the applicable financial reporting framework not clearly defined – supplemental financial measures that are or may be alternative performance measures (non-GAAP-measures). These supplemental financial measures should not be viewed in isolation or as alternatives to measures of Siemens’ net assets and financial positions or results of operations as presented in accordance with the applicable financial reporting framework in its Consolidated Financial Statements. Other companies that report or describe similarly titled alternative performance measures may calculate them differently.

Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

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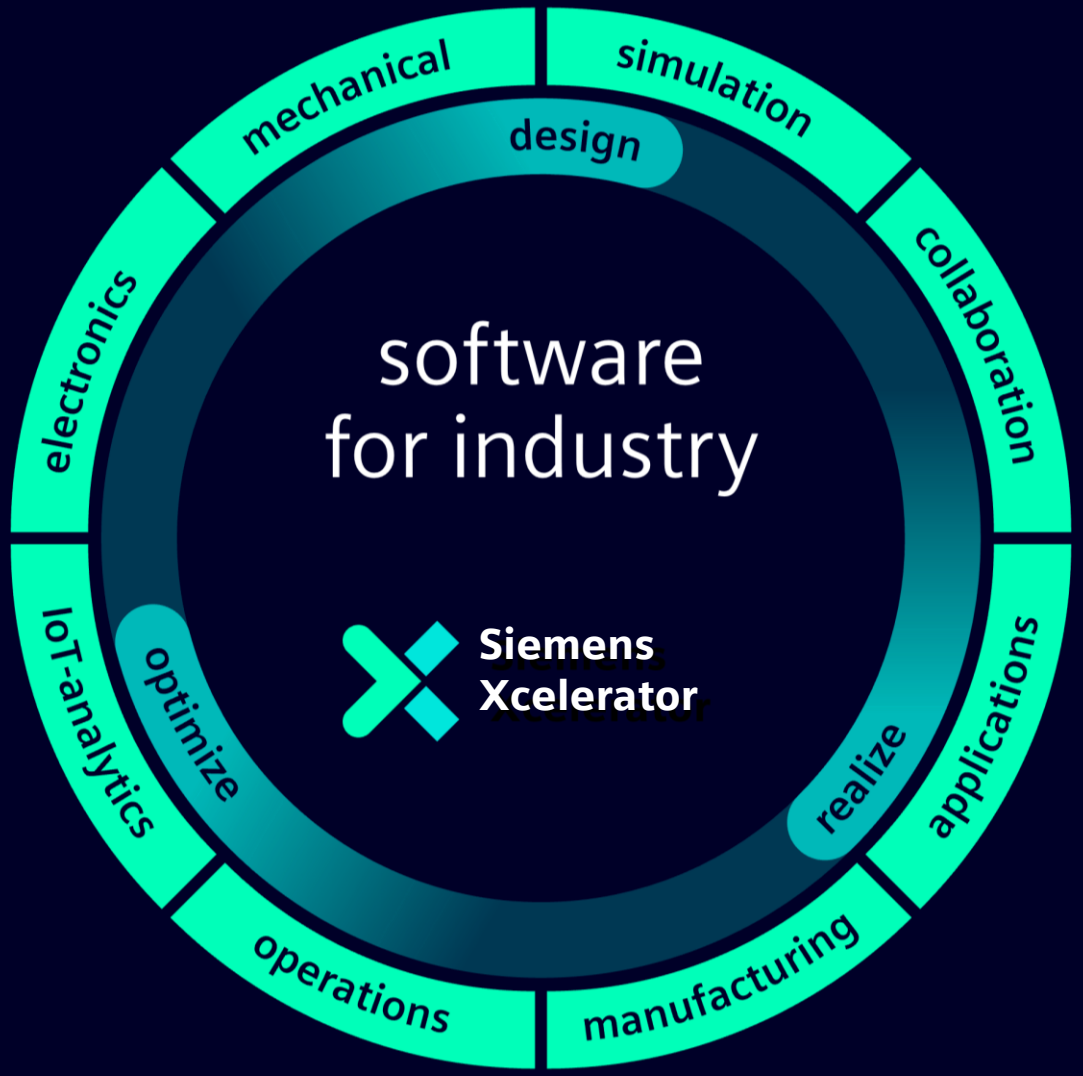
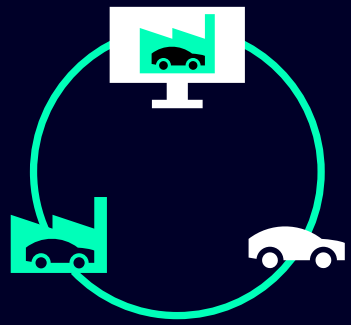
Online
Maintenance
Offline
Show maintened devices: 54
Onboard devices
Apply artifact
Assign devices
My assistance
4
These devices are offline
Notification
10
New firmware updates available for these devices
Notification
3
New configuration changes sugge
Notification
My activities
Change log device S7-1200
Last maintenance
Last activities
Last patched vulnerabilities
My device lists
AI





Comprehensive digital twin

Personalized Adaptable / Modern

Flexible / Open ecosystem

SIEMENS

Siemens AI Solutions

Analyze

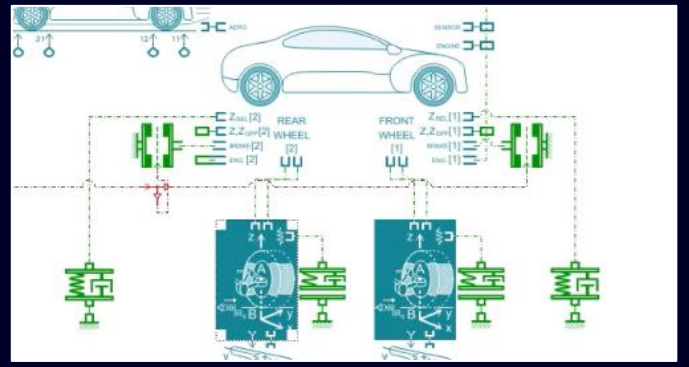
- “Show me how to…”
- Provide guidance on UX
- Navigate data

Optimize

- “Which option solves…”
- Optimize products
- Balance trade-offs

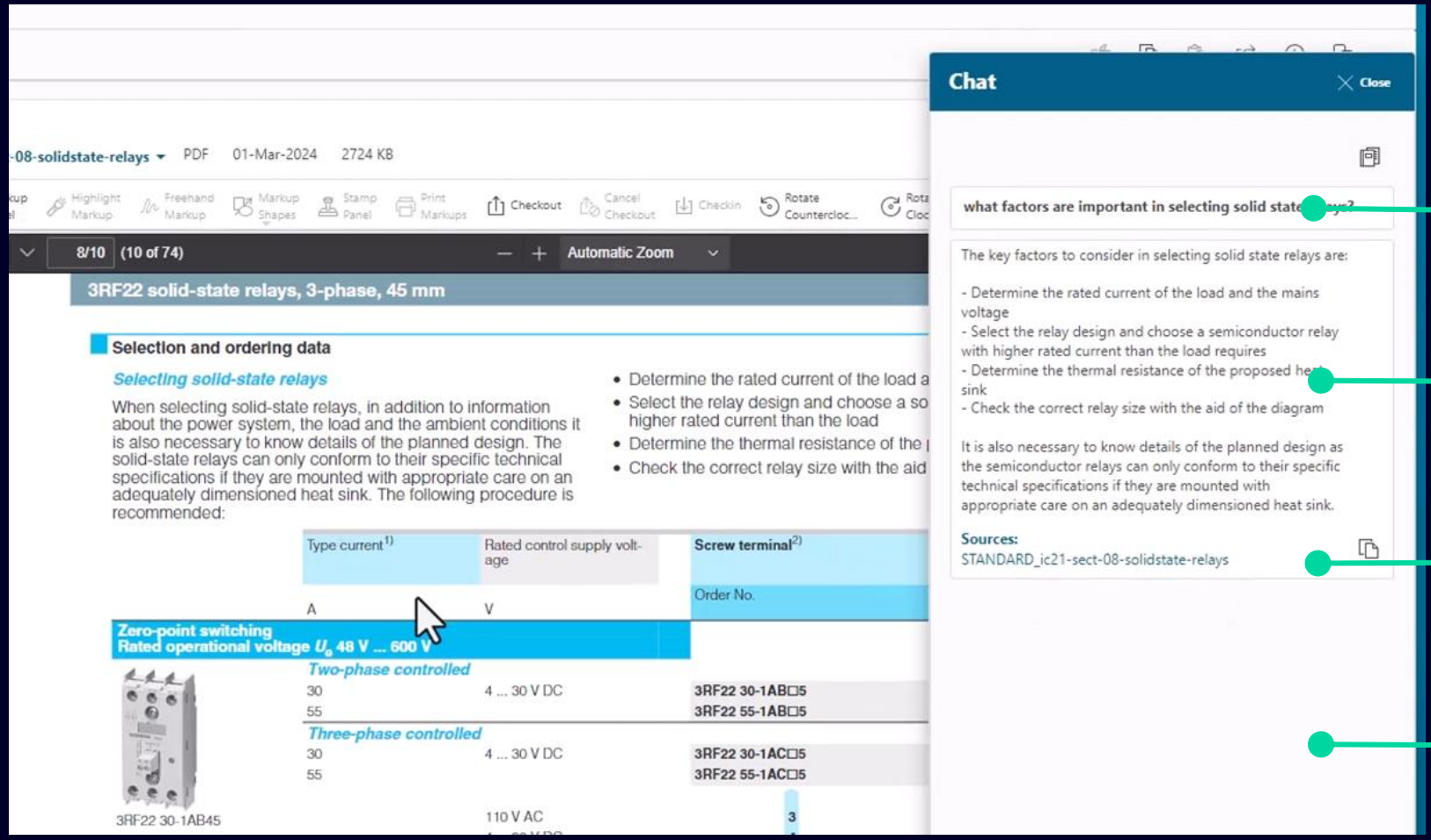
Generate

- “Create a model of…”
- Perform multi-domain tasks
- Create engineering content



Teamcenter Assistant
AI Chat

Ask anything, get the right answer



Ask natural language question

Answer from your company's data

Direct link to relevant sources

Honors access control

SIEMENS

Date Modified: 01-Mar-2024 Release Status: Type: PDF

Properties

Object: STANDARD_ic21-sect-08-solidstate-relays

Name: STANDARD_ic21-sect-08-solidstate-relays

Description: Solid state relays technical specification

Owner: ed (ed)

Group ID: Engineering

Checked-Out:

Checked-Out By:

Checked-Out Date:

Checked-Out Change Id:

Where Referenced

List Selection Mode Select All Export To... Paste

Solid-State Relays and Contact...
029427
Revision: A

Motor Electronics
Motor Electronics
Revision: A

Preview

STANDARD_ic21-sect-08-solidstate-relays PDF 01-Mar-2024 2724 KB

Show Markups Markup Panel Highlight Markup Freehand Markup Markup Shapes Stamp Panel Print Markups Checkout Cancel Checkout Checkin Rotate Countercloc... Rotate Cloc

8/10 (10 of 74) Automatic Zoom

3RF22 solid-state relays, 3-phase, 45 mm

Selection and ordering data

Selecting solid-state relays

When selecting solid-state relays, in addition to information about the power system, the load and the ambient conditions it is also necessary to know details of the planned design. The solid-state relays can only conform to their specific technical specifications if they are mounted with appropriate care on an adequately dimensioned heat sink. The following procedure is recommended:

- Determine the rated current of the load a
- Select the relay design and choose a so higher rated current than the load
- Determine the thermal resistance of the
- Check the correct relay size with the aid

Type current 1) A	Rated control supply voltage V	Screw terminal 2) Order No.
Zero-point switching Rated operational voltage U_e 48 V ... 600 V		
Two-phase controlled		
30	4 ... 30 V DC	3RF22 30-1AB□5
55		3RF22 55-1AB□5
Three-phase controlled		
30	4 ... 30 V DC	3RF22 30-1AC□5
55		3RF22 55-1AC□5
	110 V AC	3
	4 ... 30 V DC	4

3RF22 30-1AB45

Type current 1) A	Rated control supply voltage V	Spring-loaded terminals 3) Order No.
Zero-point switching Rated operational voltage U_e 48 V ... 600 V		
Two-phase controlled		
30	4 ... 30 V DC	3RF22 30-2AB45
55		3RF22 55-2AB45
Three-phase controlled		
30	4 ... 30 V DC	3RF22 30-2AC45
55		3RF22 55-2AC45

3RF22 30-2AB45

Chat

Close

what factors are important in selecting solid state relays?

The key factors to consider in selecting solid state relays are:

- Determine the rated current of the load and the mains voltage
- Select the relay design and choose a semiconductor relay with higher rated current than the load requires
- Determine the thermal resistance of the proposed heat sink
- Check the correct relay size with the aid of the diagram

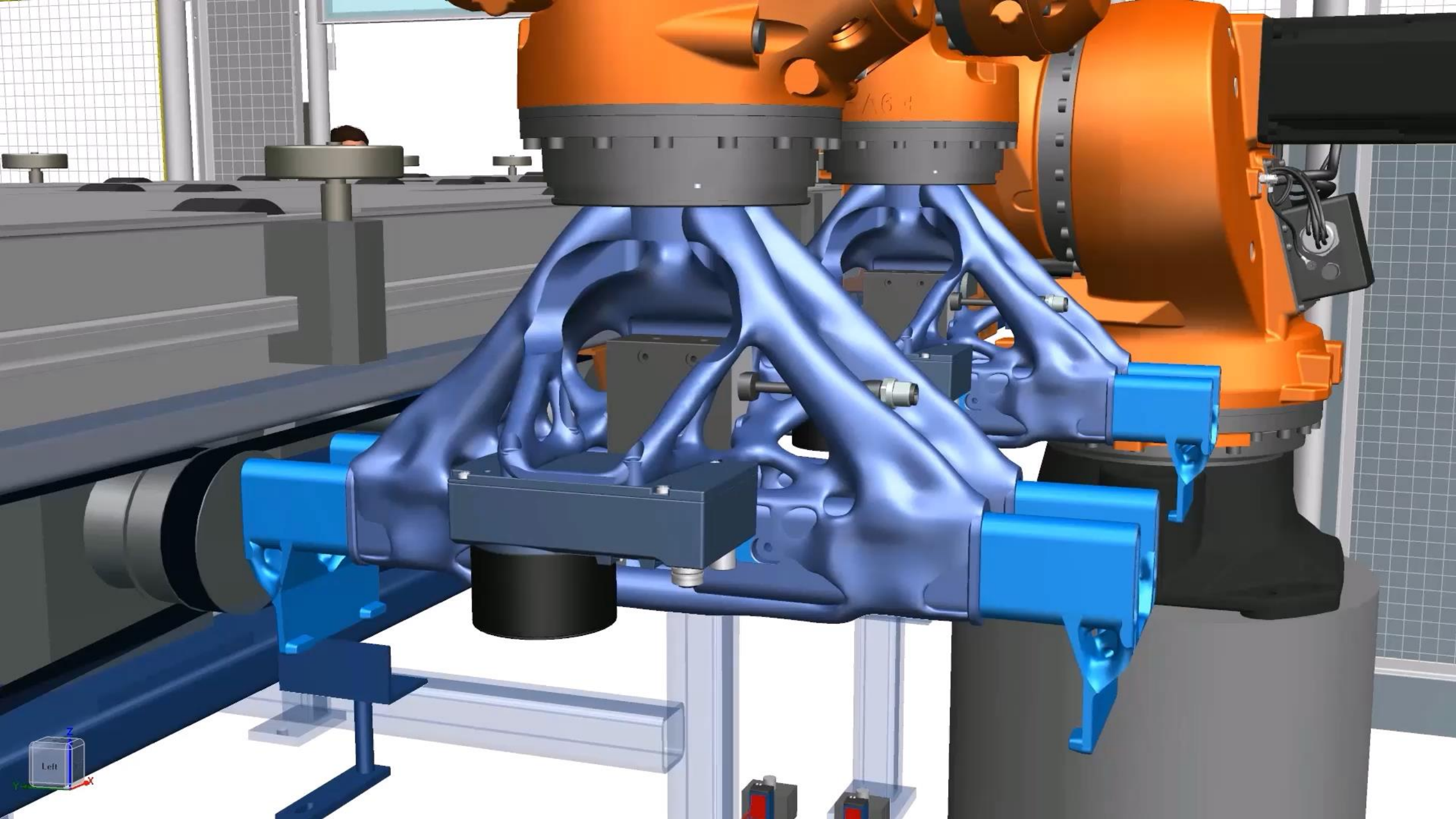
It is also necessary to know details of the planned design as the semiconductor relays can only conform to their specific technical specifications if they are mounted with appropriate care on an adequately dimensioned heat sink.

Sources:
STANDARD_ic21-sect-08-solidstate-relays

what factors are important in selecting solid state relays?

Most CAE tools remain in the hands of highly skilled analysts– PhDs with 15 or so years of experience. But engineers possessing PhDs represent a rather limited market. Other companies often create interesting technology, but they don’t address the generalist.

Rasna, 1995


Left

Finish Optimize Study Design Space Shape Constraint Construction Body Scenery Body Connection Analysis Constraint Analysis Load Environment Loads Subcase Manager Optimization Constraint Make Active Clone Study Show Result Result Settings Remove Results Label Animation Result Report View Graph Foreground Processing Delay Update

Topology Opti... Setup Modify Analysis Preferences

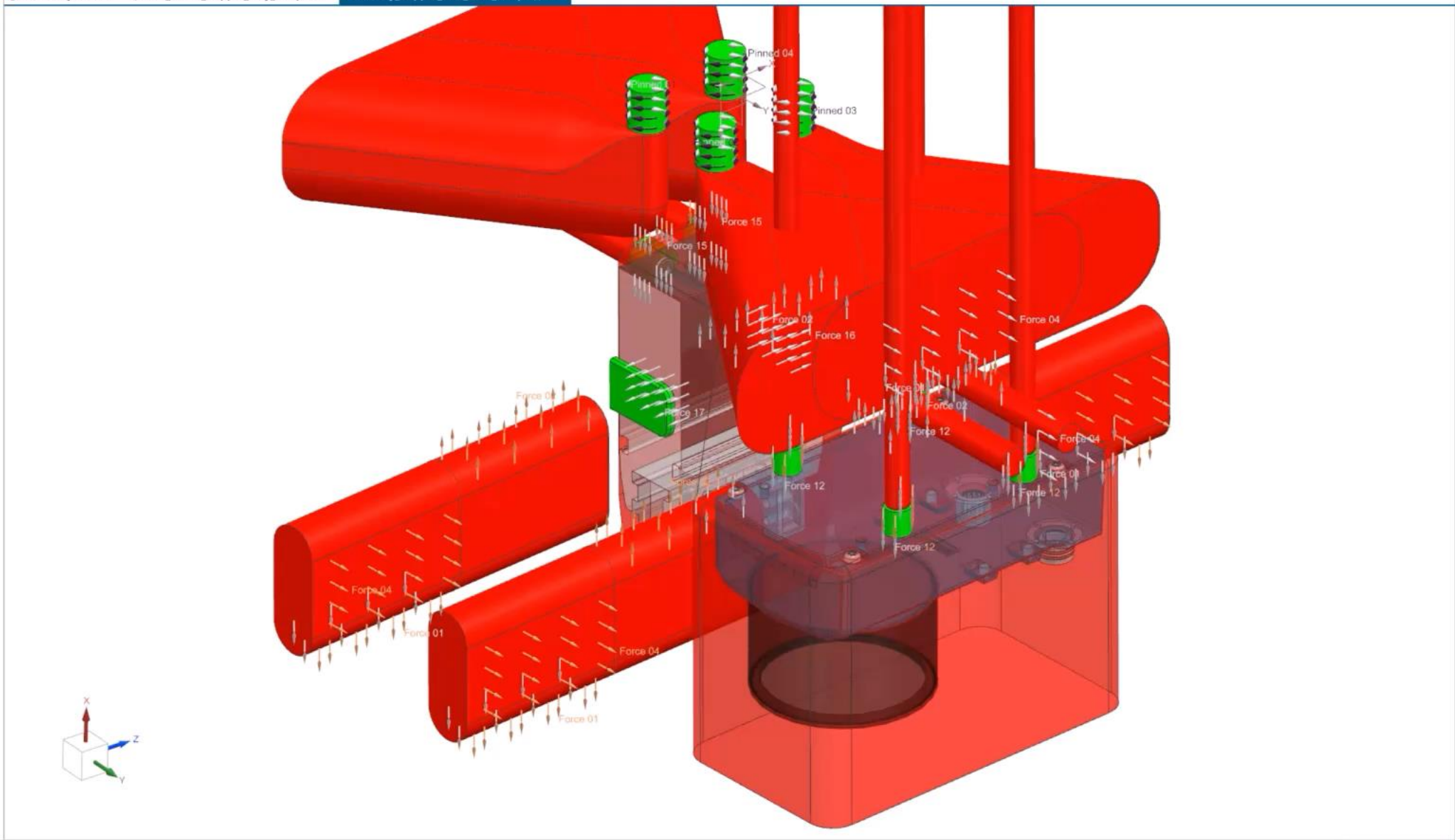
Menu No Selection Filter Entire Assembly

Optimization Navigator

Title

- Thicken "OUT_Bottom_Surface" (162)
- Thicken "OUT_Top_Surface" (163)
- Extrude "OUT_Festo" (72)
- Extrude "OUT_Screw_Mount_Festo_4" (62)
- Extrude "OUT_Screw_Mount_Festo_4" (62)
- Extrude "OUT_Screw_Mount_Festo_3" (60)
- Extrude "OUT_Screw_Mount_Festo_3" (60)
- Extrude "OUT_Screw_Mount_Festo_Finger
- Extrude "OUT_Screw_Mount_Festo_Finger
- Mirror Geometry (173)
- Extrude "Connector_Festo_Gripper" (168)
- Cylinder "OUT_Festo_Cable" (93)
- Mirror Geometry (167)
- Extrude "OUT_Actuator_Movement" (166)
- Mirror Geometry (177)
- Extrude (175)
- Shape Constraints
  - Planar Symmetry 01
- Optimization Constraints
  - Max Mass Limit 01
- Scenery Bodies
- Connections
- Analysis Constraints
  - Pinned 01
  - Pinned 02
  - Pinned 03
  - Pinned 04
- Environment Loads
- Analysis Loads
  - Force 01
  - Force 02
  - Force 03
  - Force 04
  - Force 05
  - Force 06
  - Force 07
  - Force 08
  - Force 09
  - Force 10
  - Force 11
  - Force 12
  - Force 13
  - Force 14

Discovery Center | HMI_Robot_Gripper_Assy_V01.prt | Battery_Gripper_HMI_2023_V07.prt(!)

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Simcenter Amesim - [C:\Users\adlika4\Work\Amesim\TonyVideo\FinalDemo\FinalDemo.ame *]

File Edit Sketch Configure Simulate Interfaces Tools Help

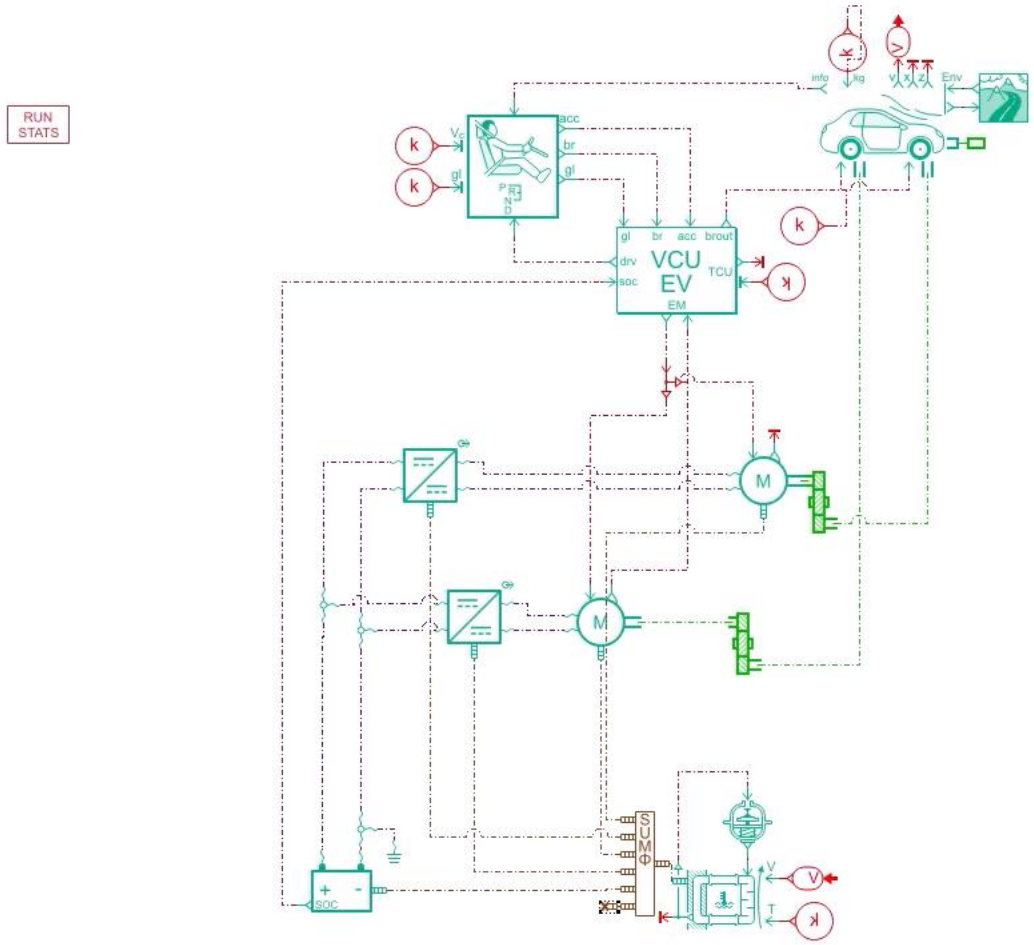
SIEMENS

SKETCH SUBMODEL PARAMETER SIMULATION

Update App space Plots Animations Dashboards Scripts Table Editor

Global parameters Study parameters Copy Parameters Paste Parameters Sketch Animation

FinalDemo.ame *



Hi Simcenter!

New Chat

11:44 AM

Selected action: All-Wheel Drive System

11:44 AM

All right, I will create an All-Wheel Drive system for you.

11:44 AM

Running

Type your message here...

1__Synthesis_of_Aspirin_(Experiment).pdf

file 1 / 2 100%

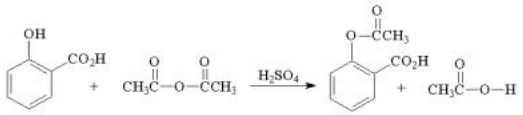
LibreTexts

1: Synthesis of Aspirin (Experiment)

Over history, many compounds obtained from nature have been used to cure ills or to produce an effect in humans. These natural products have been obtained from plants, minerals, and animals. In addition, various transformations of these and other compounds have led to even more medically useful compounds. During this semester, you will have an opportunity to isolate some pharmacologically active natural products and to synthesize other active compounds from suitable starting materials.

Analgesics are compounds used to reduce pain, antipyretics are compounds used to reduce fever. One popular drug that does both is aspirin. The Merck Index, which is an encyclopedia of chemicals, drugs and biologicals, lists the following information under aspirin: acetylsalicylic acid; monoclinic tablets or needle-like crystals; mp 135 °C (rapid heating); is odorless, but in moist air it is gradually hydrolyzed into salicylic and acetic acids; one gram dissolves in 300 mL of water at 25 °C, in 100 mL of water at 37 °C, in 5 mL alcohol, in 17 mL chloroform.

SYNTHESIS OF ASPIRIN (acetylsalicylic acid)



1. Place 2.0 g (0.015 mole) of salicylic acid in a 125-mL Erlenmeyer flask.
2. Add 5 mL (0.05 mole) of acetic anhydride, followed by 5 drops of conc. H_2SO_4 (*use a dropper, H_2SO_4 is highly corrosive*) and swirl the flask gently until the salicylic acid dissolves.
3. Heat the flask gently on the steam bath for at least 10 minutes.
4. Allow the flask to cool to room temperature. If acetylsalicylic acid does not begin to crystallize out, scratch the walls of the flask with a glass rod. Cool the mixture slightly in an ice bath until crystallization is completed. The product will appear as a solid mass when crystallization is completed.
5. Add 50 mL of water and cool the mixture in an ice bath. Do not add the water until crystal formation is complete.
6. Vacuum filter the product using a Buchner funnel. You can use some of the filtrate to rinse the Erlenmeyer flask if necessary.
7. Rinse the crystals several times with small portions (5 mL) of cold water and air dry the crystals on a Buchner funnel by suction until the crystals appear to be free of solvent. Test this crude product for the presence of unreacted salicylic acid using the ferric chloride test. Record the weight of the crude solid which probably contains water.
8. Stir the crude solid with 25 mL of a saturated aqueous sodium bicarbonate solution in a 150 mL beaker until all signs of reaction have ceased (evolution of CO_2 ceases).
9. Filter the solution through a Buchner funnel to remove any insoluble impurities or polymers that may have been formed. Wash the beaker and the funnel with 5 to 10 mL of water.
10. Carefully pour the filtrate with stirring, a small amount at a time, into an ice cold HCl solution (*ca* 3.5 mL of conc. HCl in 10 mL of water) in a 150-mL beaker and cool the mixture in an ice bath. Make sure that the resulting solution is acidic (blue litmus paper) and that the aspirin has completely precipitated out.
11. Filter the solid by suction and wash the crystals 3X with 5 mL of *cold* water each. Remove all the liquid from the crystals by pressing with a clean stopper or cork. Air dry the crystals and transfer them to a watch glass to dry. Test a small amount of the

Chat

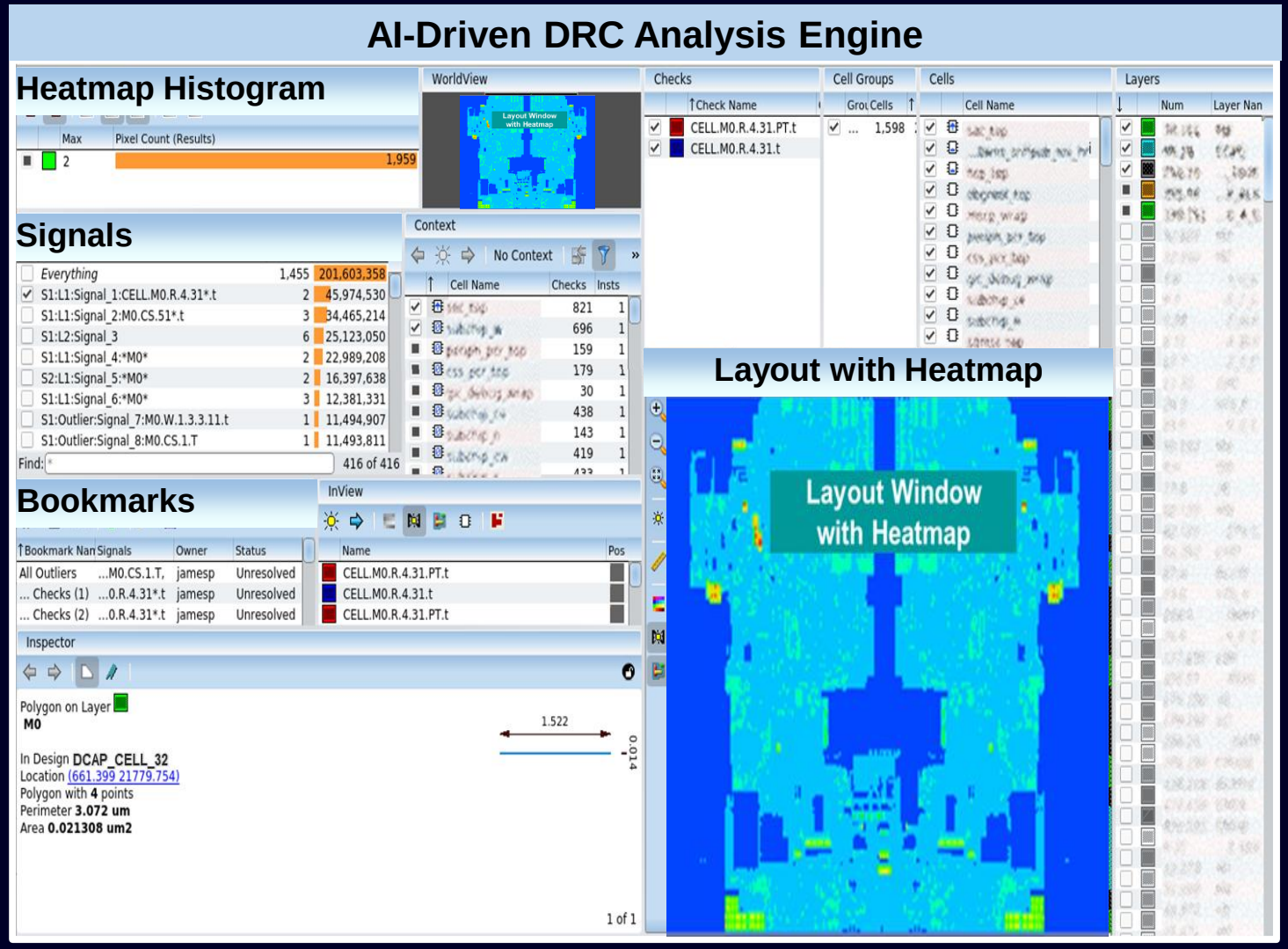
Example questions:

- What are the materials required to make aspirin?
- What are the equipment required for this?
- Can you add a step for each stage with instructions?

Generate BOP

Ask any question ...

Calibre AI-Driven Design Rule Check Analysis Engine



"We can load, browse, navigate and debug large results much better than our current flow."

- Easy chip-level analysis
- Fast-dynamic heatmaps
- Technology-agnostic signals
- Cross-user debugging
- Signal generation time reduced to minutes from hours

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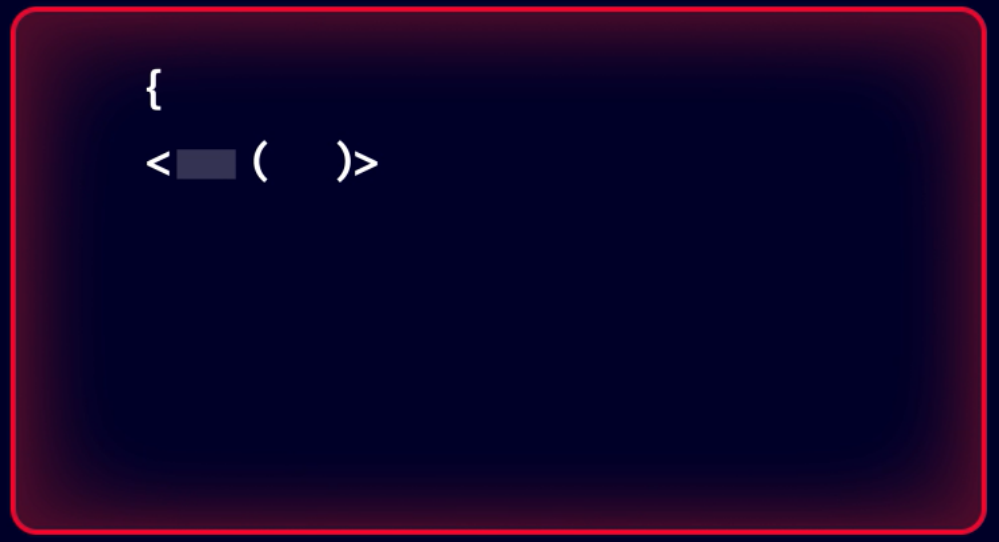
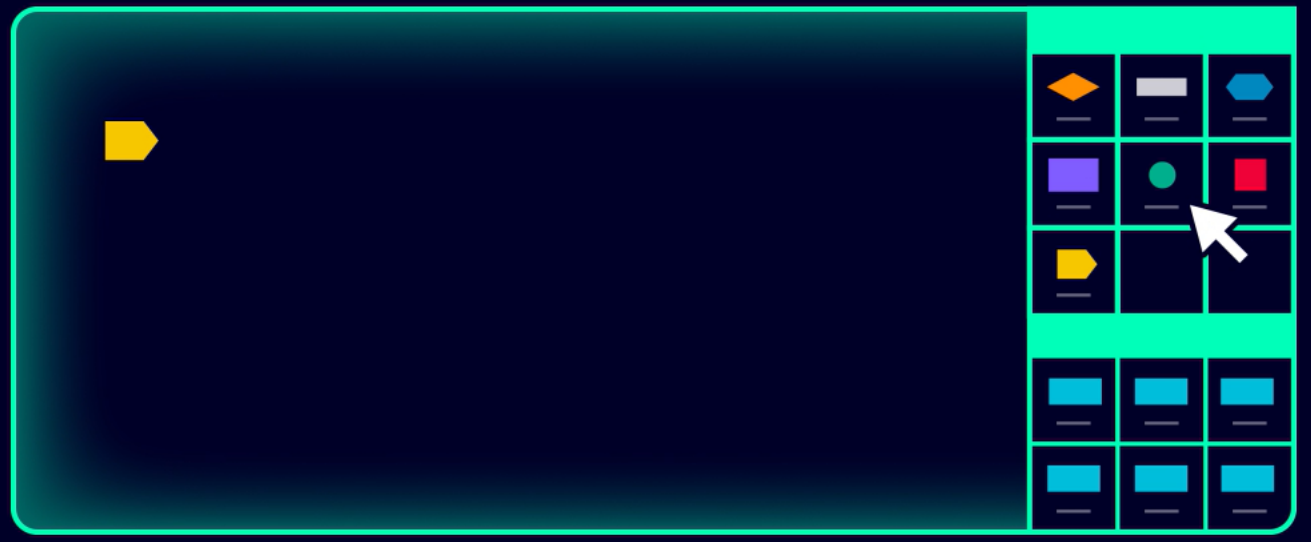
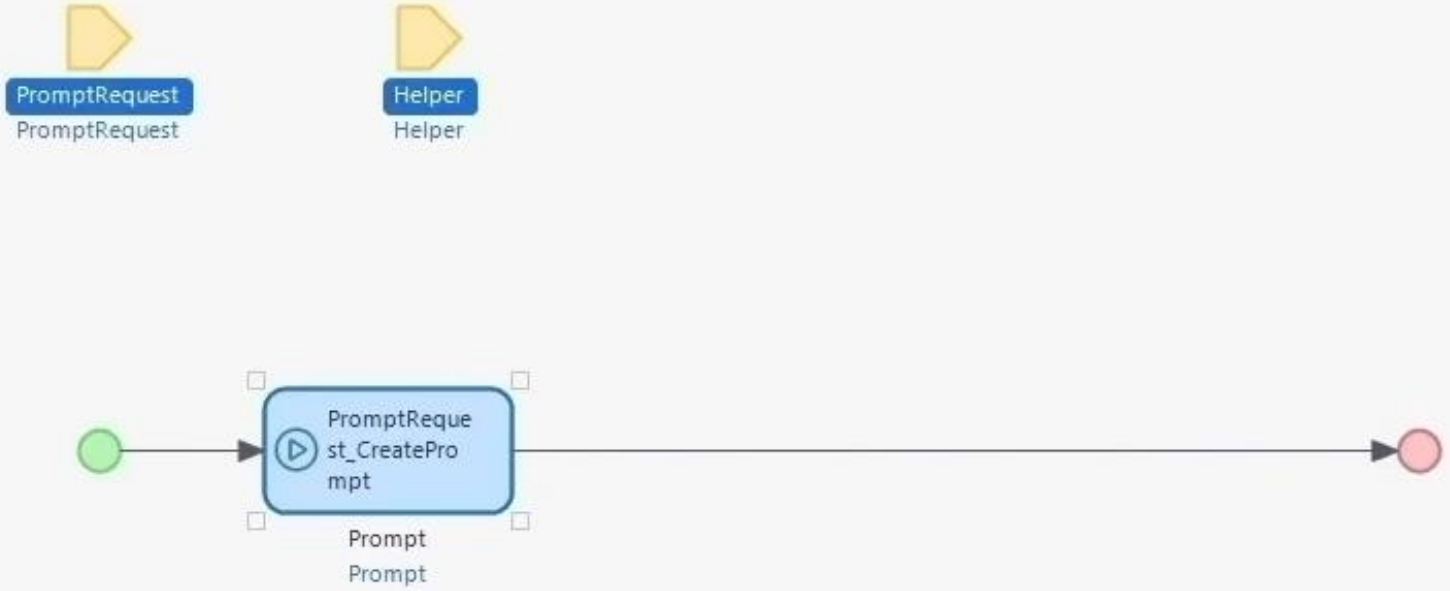
mendix







Changes 2 Errors 1 Console

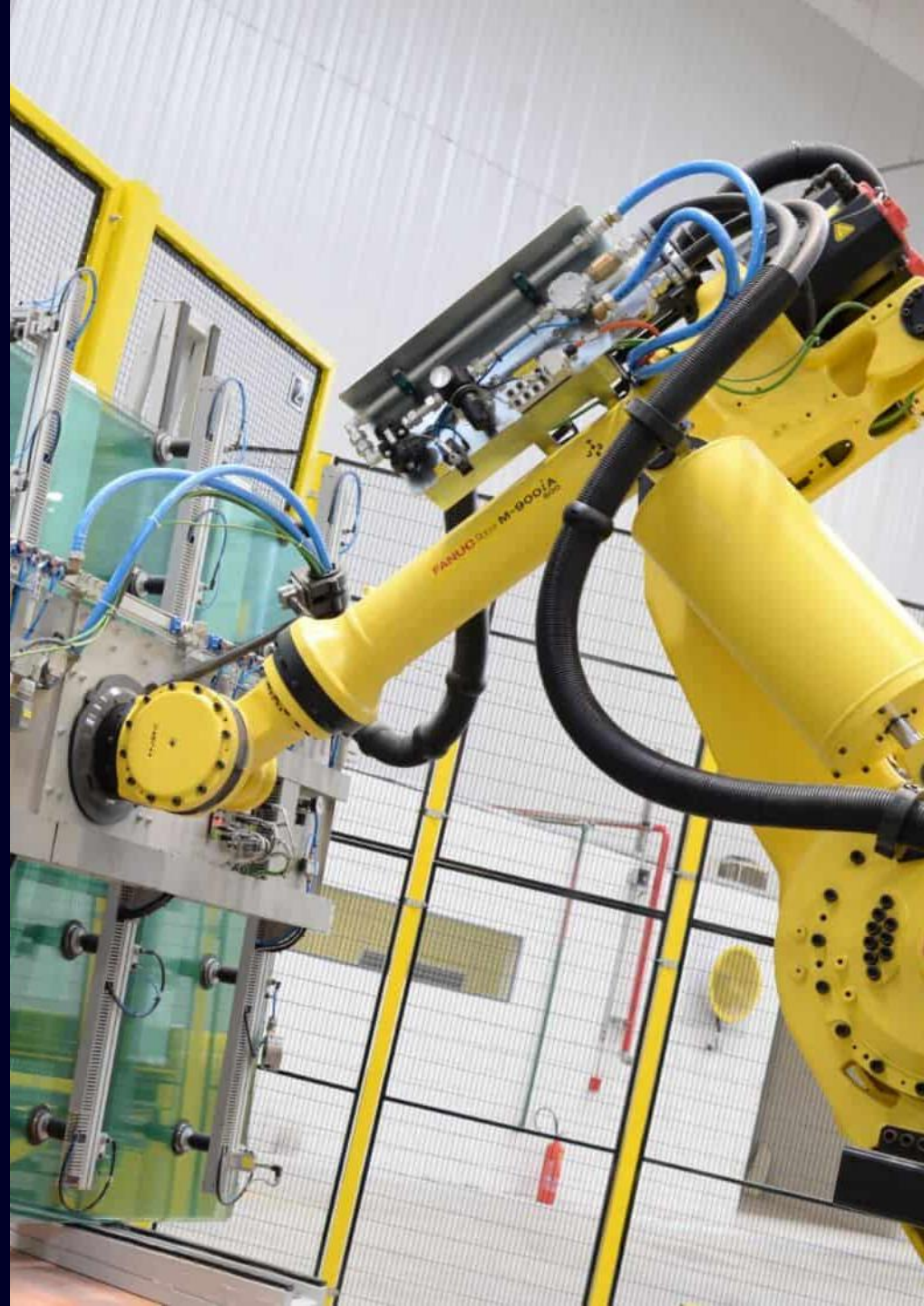
Restart Stop Clear Scroll Lock Advanced Export

vivix

aws

Deloitte.

mx mendix



Industrial Metaverse

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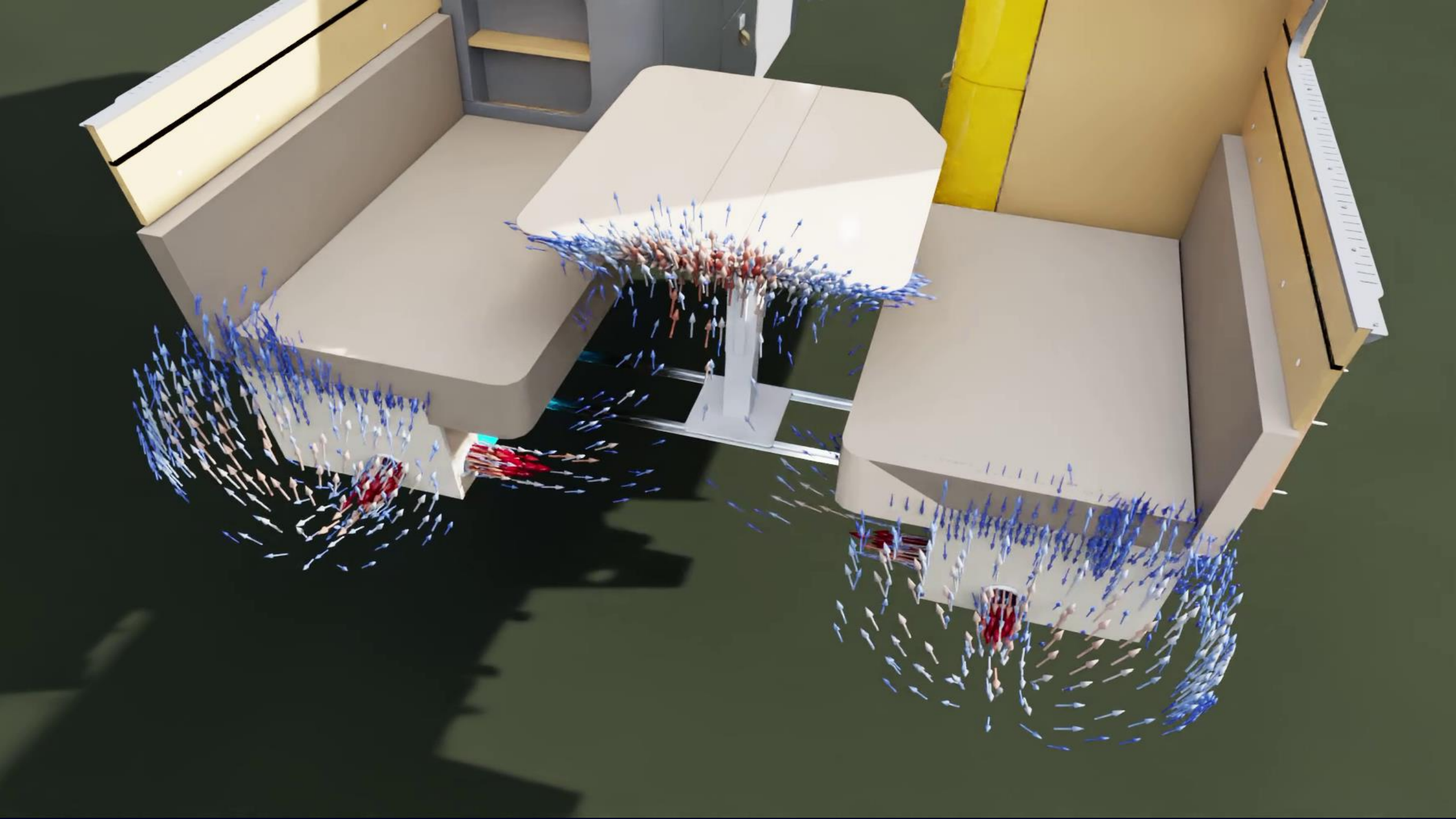
HD HYUNDAI



Business updates

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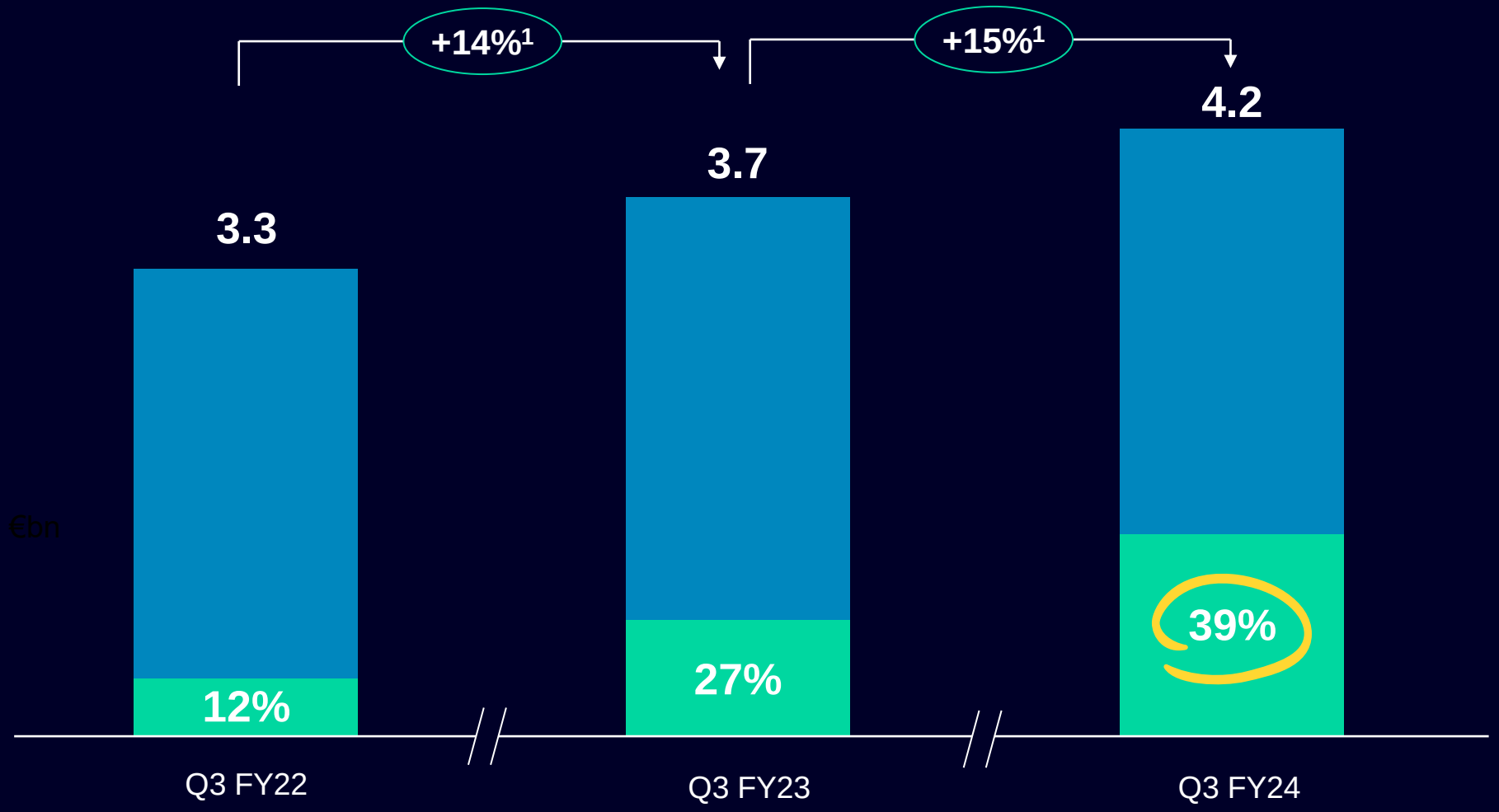
DI SW Annual Recurring Revenue (ARR)



Cloud ARR up
>1.7x year over year

Target update:
40% Cloud ARR by FY2024

1 year ahead!

1 ARR: FX comparable

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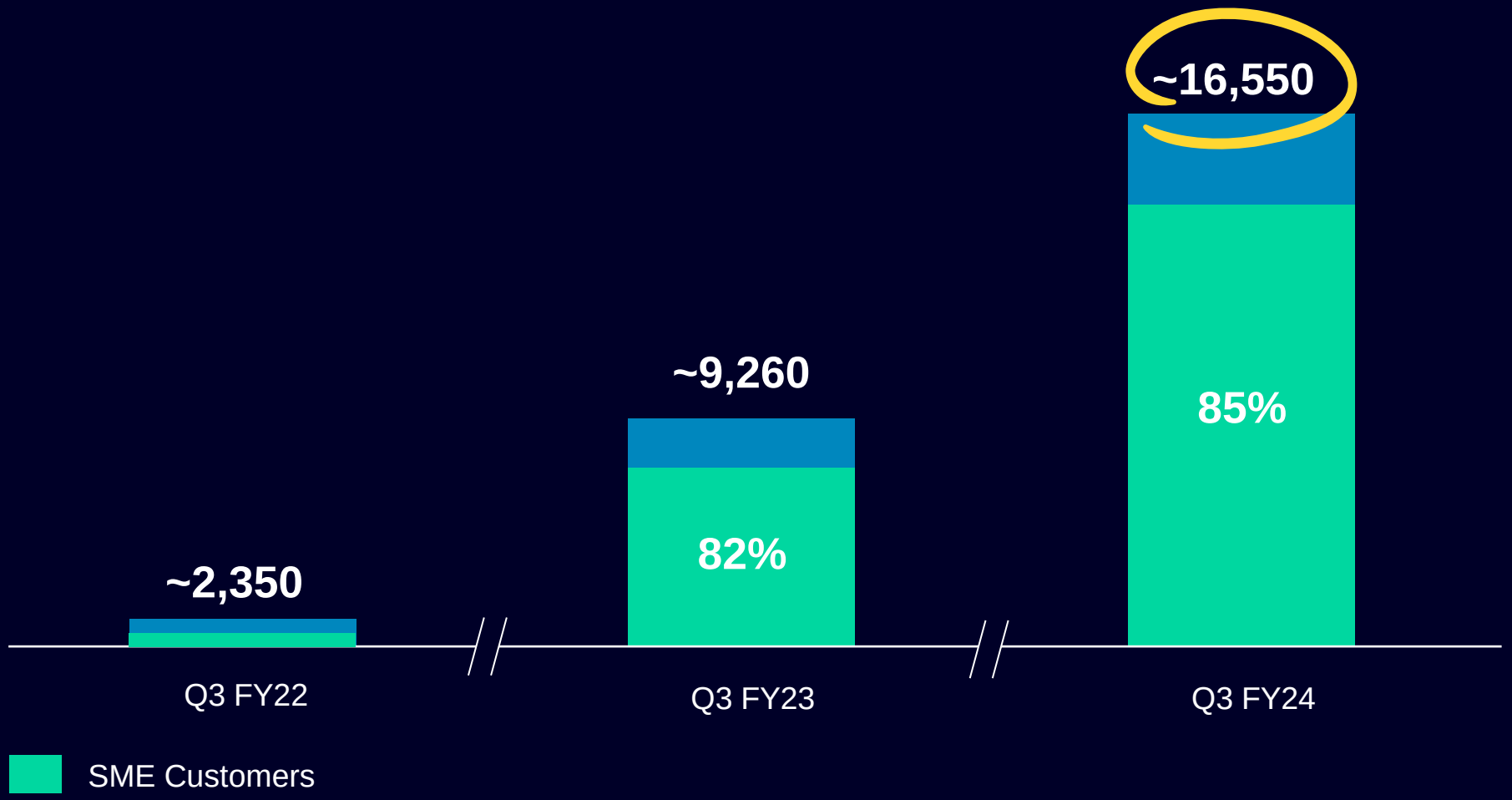
SaaS transition with high momentum

Customers (accumulated)



72%

new customers

SIEMENS

100%

Siemens Xcelerator is used to develop all commercial aircraft across the aerospace supply chain.
The top 12 global A&D companies are Siemens Xcelerator customers.

SIEMENS

100%

of the largest car manufacturers use Siemens Software

22 out of 24

Top automotive OEMs use manufacturing planning and advanced robotics solutions.

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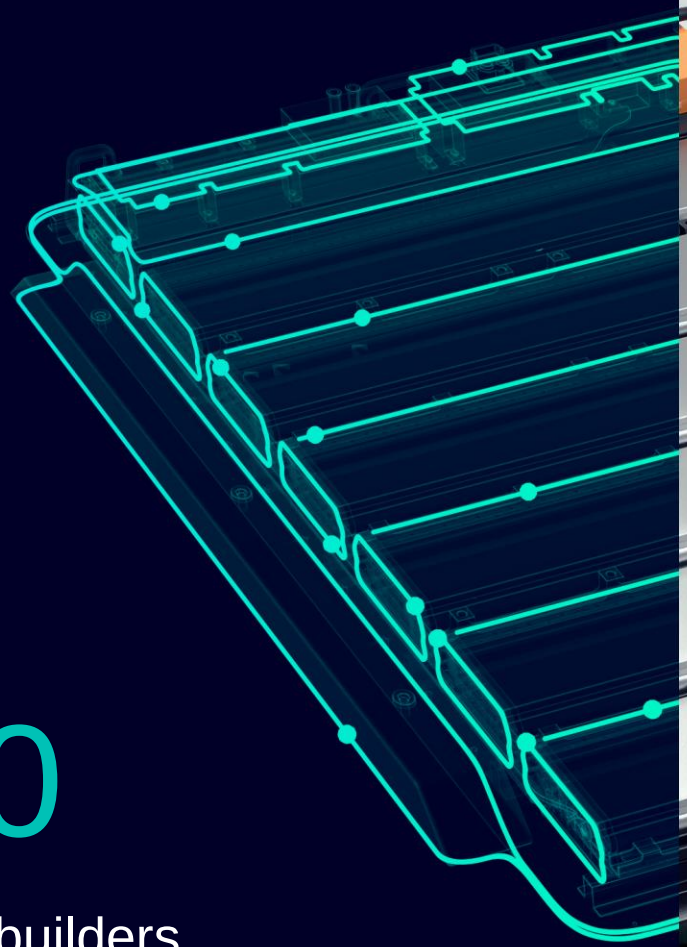
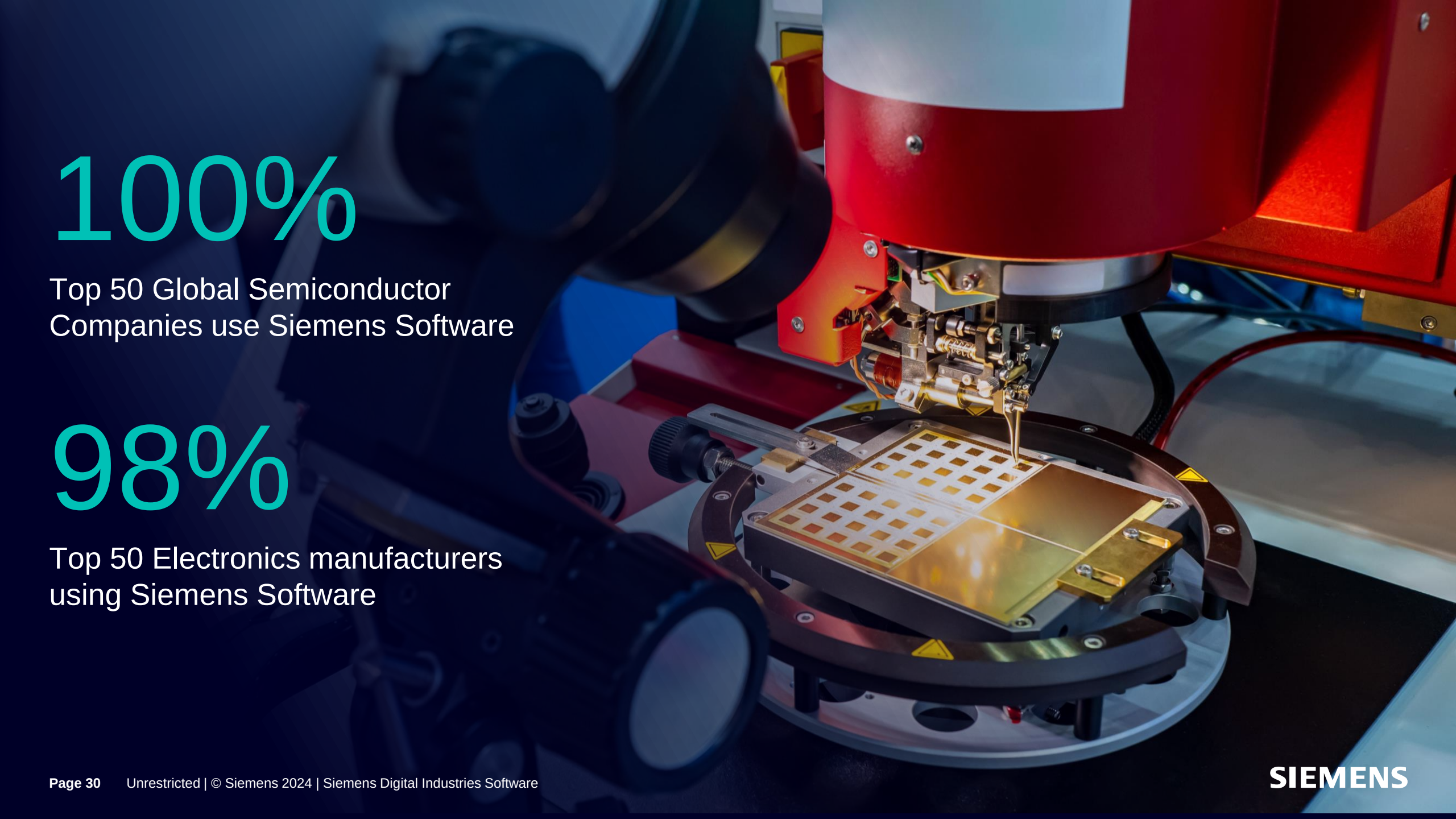


19 of 20

Top battery machine builders use Siemens Software

SIEMENS



100%

Top 50 Global Semiconductor Companies use Siemens Software

98%

Top 50 Electronics manufacturers using Siemens Software

SIEMENS

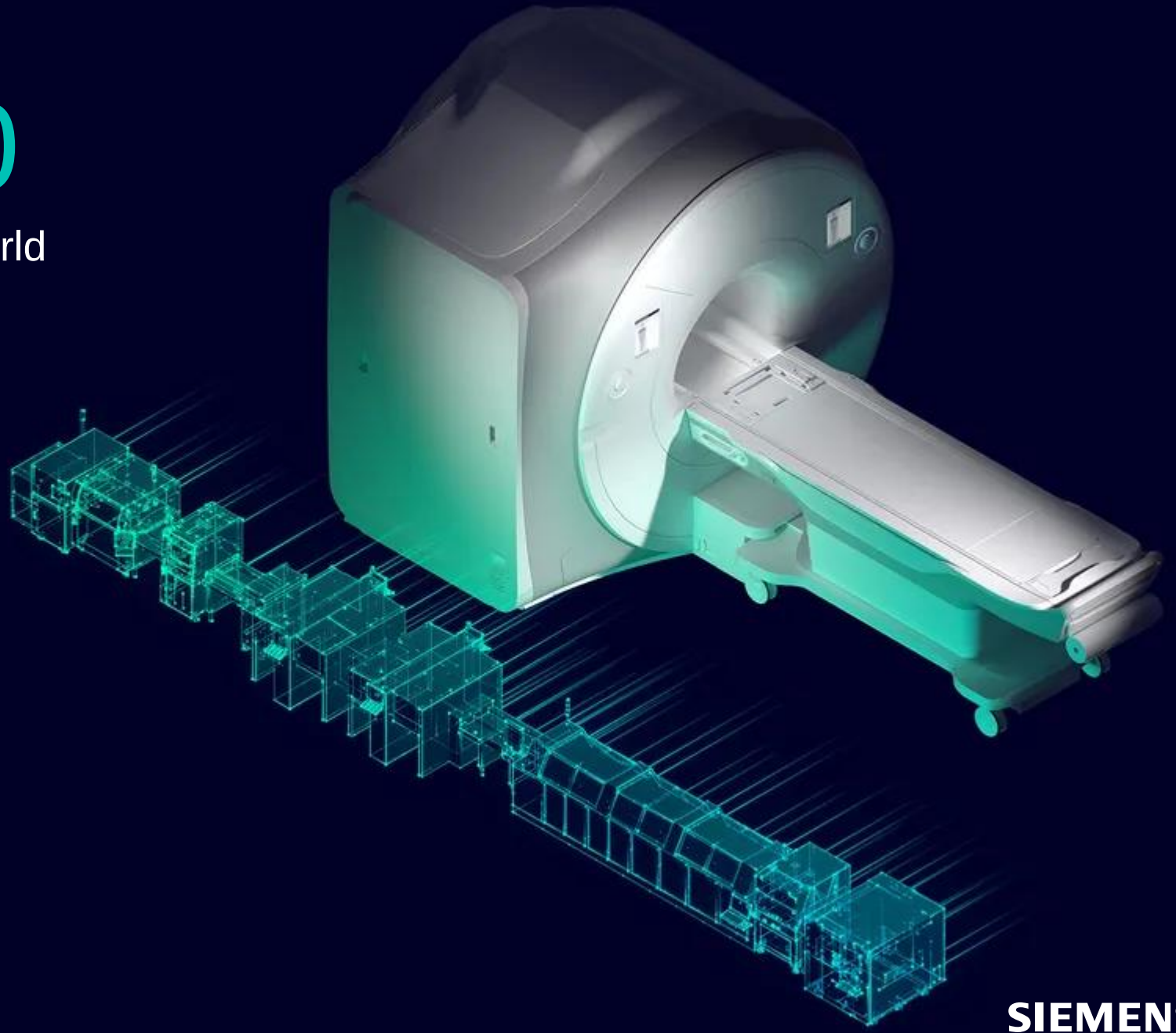
80%

of tequila manufactured globally
is made using Siemens Software

33 out of 40

top MedTech companies in the world

use Siemens Software



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Winning with NX X

100+
New NX X Customers in FY24

5 days
Or less from
PO to live

Day 1
Built-in data
management

5
Clicks to get started

Helixx Mobility

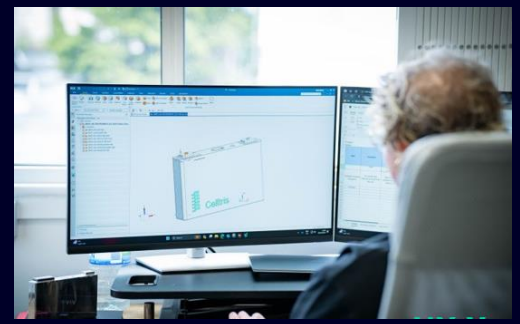
Automotive & Transportation
United Kingdom

Selected NX X and NX X Value Based Licensing providing more capabilities and flexibility than existing software at a lower cost of ownership.

Dovetail Electric Aviation

Aerospace & Defense
Australia

Outgrew existing solution and move to next tier was too complex. Selected NX X and NX X Value Based Licensing providing more innovation capabilities.



Beacon Battery Design

Battery
United Kingdom

Had trouble with existing software crashes effecting productivity and efficiency. Selected NX X for significant performance improvements and collaboration flexibility.

SIEMENS

Winning with Teamcenter X

12,000+

Users on the cloud and growing

2x

New customers year over year

Space Machines

In-space transportation and logistics

Selected Teamcenter X to create one unified digital environment for rapid prototyping and sharing of design and manufacturing information.

Workhorse

American electric vehicle (EV) truck manufacturer

Selected Teamcenter X to integrate their design, engineering, and supply chain functions and replace costly systems that heavily rely on IT resources.

Panasonic

Multinational electronics manufacturer

Selected Teamcenter X to support digital transformation initiatives and reduce IT infrastructure maintenance labor hours and total cost of ownership.

SIEMENS

Mendix: #1 low-code platform

2,000+
Customers

400+
New logos

50M
Application
End Users

300K
Mendix
Platform Users

Selection of industrial customers

SIEMENS

We've created the largest 3D data ecosystem in our industry: 12M+ users

10M+
PLM Components application end-users

5M+
Parasolid-enabled 3D model creators

100M+
JT files managed by 8 manufacturers alone

SIEMENS

The Power of the Supplyframe Design-to-Source Intelligence (DSI) Network

15M+
Engineering & Supply Chain Professionals

600M+
Components: Largest Electronics Database

70+
Web Properties & Search Engines

$2B
Influenced E-commerce transactions

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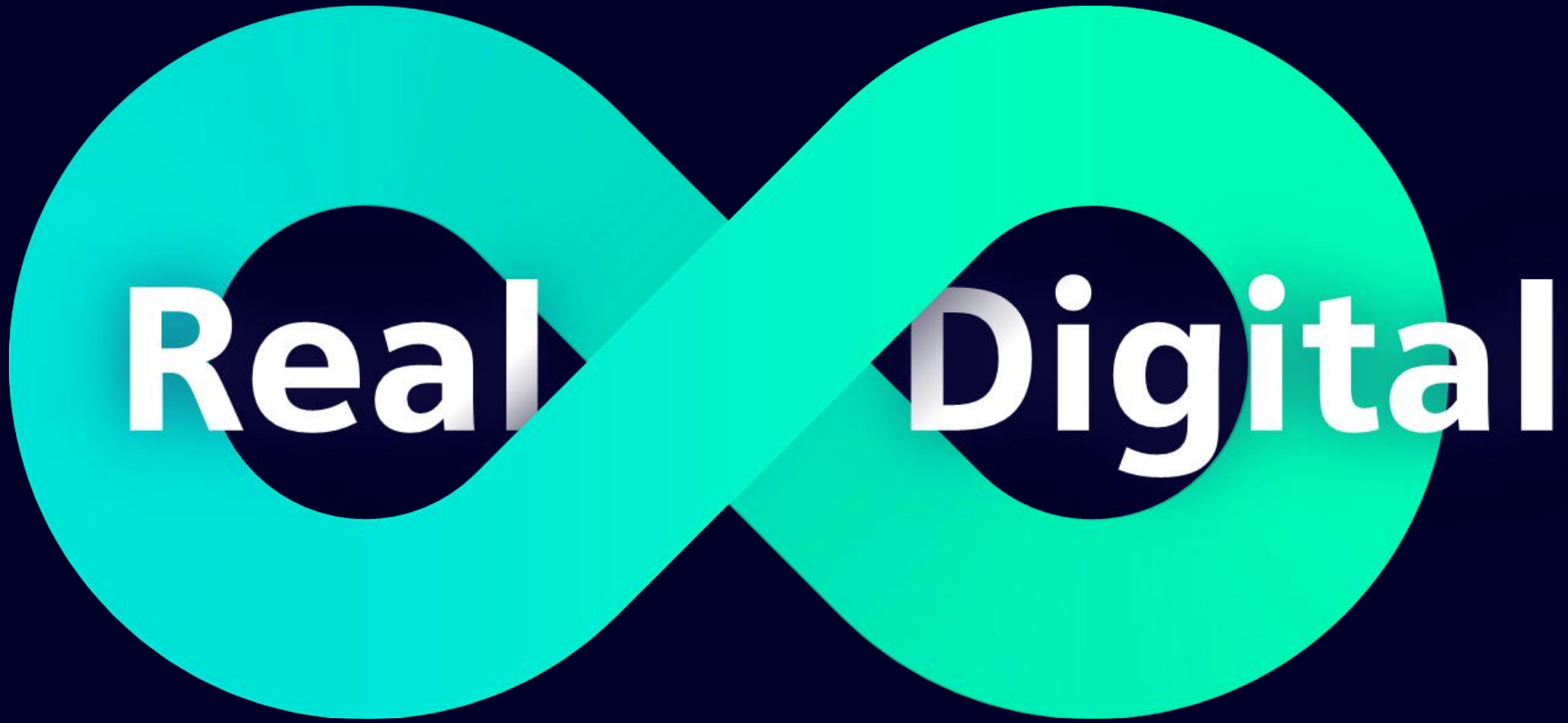

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Financial calendar

November 14, 2024
Q4 Earnings Release

November 14/15, 2024
Roadshow UK
(London)

November 20/21, 2024
Roadshow US
(Boston, New York)

November 26, 2024
Roadshow FR
(Paris)

November 27, 2024
Roadshow GER
(Frankfurt)

December 12, 2024
SI Capital Market Event
(Zug)

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