

Cabling the digital twin?

Today

Tomorrow

Electrical engineering design without 3D integration?

Electrical engineering design is part of the digital twin!

Electrical Engineering Design

- Exact planning isn't possible because the crucial details can only be determined using a prototype.
- It requires intensive manual work with many updates and changes.
- A lot of work hours are expended creating documentation.



- Exact planning is possible using the digital twin.
- Adapting and changing the digital twin is fast and easy.
- The digital twin makes an automated documentation possible and improves collaboration between departments.

Production

- Lengths for connections are determined manually, leading to high personnel costs and time expenditures.
- Complex, manual documentation of the routing pathes and pin designations.



- All the routing pathes are planned in the digital twin and the correct lengths for connections are calculated automatically. Unambiguous documentation can be passed on to the production team.
- The digital prototype provides uniform, detailed information for systematic pre-assembly.

Quality

- Routing pathes aren't yet determined, they must be manually calculated in the workshop.
- Is there adherence to the material and manufacturing specifications?
- A lack of design possibilities means production specifications must be created, yet no two products are the same.



- The routing pathes are clearly defined. This makes it possible to commission the internal production department as well as external service providers.
- Bending radii and cross-section violations can easily be determined by validating the digital twin and then be adjusted in the design. Faulty connections are impossible to design.
- Planned quality ensures reproduceable results. Identical products are created through uniform production specifications.

Collaborating with Other Departments

- Collaboration between different disciplines is difficult without equivalent work tools. This can make the project status unclear.
- The systems don't support the exchange of important information.



- Equivalent work tools mean that various departments can work in parallel, quickly react to changes and thereby save a lot of time.
- A completely digital twin leads to a single source of truth, a data source that can be managed within the PLM system.

The lack of digital design for the routing increases the risk that design changes will lead to delays and that the product won't be delivered on time.

Integrating the routing pathes into the digital prototype improves development results and all downstream processes.

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