It is 2019.

**Why is it still so difficult
to manage complex hardware
development projects?**

VALISPACE

THE SMART COLLABORATION
PLATFORM FOR ENGINEERS

The world's most innovative hardware companies
use Valispace to keep complexity under control.

AIRBUS   **OHB** LUXSPACE   **GOM**SPACE   **tekever**   **COMMONWEALTH FUSION SYSTEMS**   **DLR**

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Collaborative engineering
from the web browser

A 'silent majority' of engineering data is buried in hundreds of inconsistent documents, Excel spreadsheets and emails.

Examples include power consumptions, data rates, velocities, temperatures, capacities, charging cycles, operating modes, coefficients, efficiencies,...

- Values are often copy-pasted by hand into simulation tools and reports.

- Changes take very long to propagate to all parties.

- Inconsistencies and misunderstandings between engineers and disciplines lead to costly errors and schedule overruns.
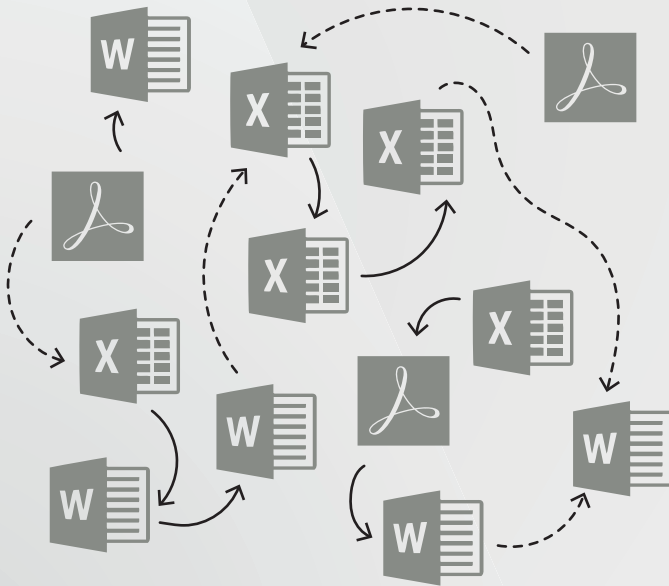
A Data Driven Systems Engineering (DDSE) tool such as Valispace:

- Manages non-CAD data & engineering values.

- Integrates different software tools through one single data hub: single source of truth.

- Automatically propagates changes through documents and simulations: technical change management.

Today ← **Valispace** →

4bx+5 =1220kg

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Valispace complements
your PLM tools and documentation process

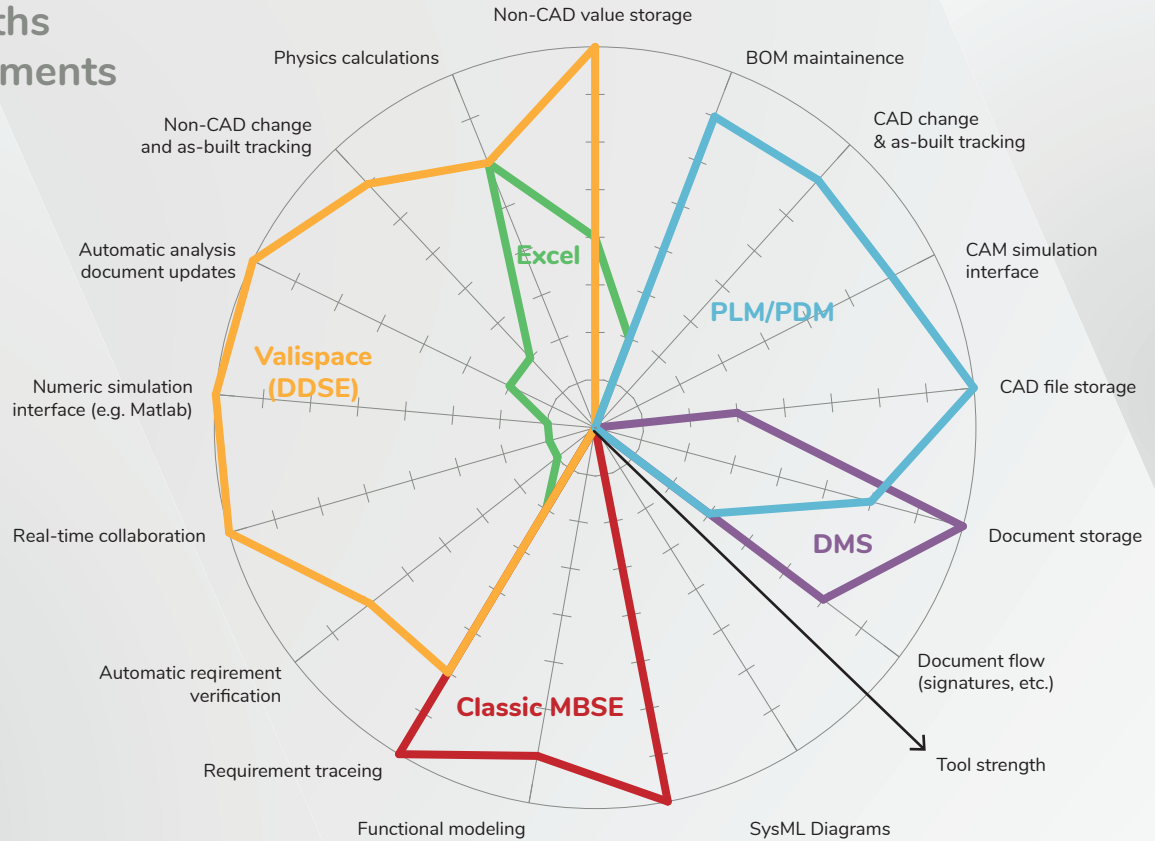Our company has a PLM/PDM system, but:

▰ **My PLM only manages CAD data well. Where do I put the other things I usually keep in Excel?**

▰ **If I have a PLM system already, how come I still need to do my analysis in Excel?**

▰ **If I change my CAD file in my PLM, why do I still have to update tens of documents by hand?**

Single source of truth for non-CAD data

▰ Store and maintain the full lifecycle of decisions and discussions, from napkin sketch until final delivery.

▰ Collaborate and get feedback from customers and subcontractors, with the built-in advanced permission system.

▰ Instead of exchanging emails and presentations, document your design and analysis directly in Valispace.

▰ Seamless integration with Matlab, Excel, Word, Python, etc.

▰ A perfect complement to PDM/PLM systems as well as MBSE tools.

Tool Strengths and Complements

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Agile hardware development:
five days from idea to full-featured virtual prototype

It takes us months to go from product idea to prototype.

- **How can we reduce the pre-development phase to a few days?**

- **How can we evaluate even with increasing product complexity, which potential new products or features are feasible?**

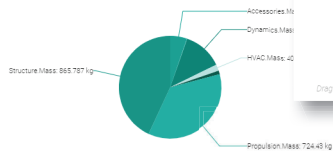- **What is the right way to do agile hardware development?**

Simultaneously connect your entire team to one design platform where design variables from all disciplines are stored

- All data points can be connected through formulas (similar to Excel), allowing for changes to ripple through automatically.

- When design variables change, Valispace sends out real-time updates and notifications, as well as tracebacks. Documentation is updated automatically and simulations are run again.

- Automatically generated engineering budgets keep you up to date, even between different design choices that you're trading.

What is concurrent engineering?

All engineers in a project work on the same data at the same time.

Discussions are data-driven and decisions can be made quickly.

In an early design phase, 10 engineers can create a first product design in 5 days.

In a late design phase, up to hundreds of engineers can collaborate for years using the same data source even across company borders.

VALISPACE

Digital engineering: track the progress of your team's hardware designs in real time

I am the project manager, but if I am asked about the total power consumption of our product in development, it takes me two phone calls and three emails to find out the latest value.
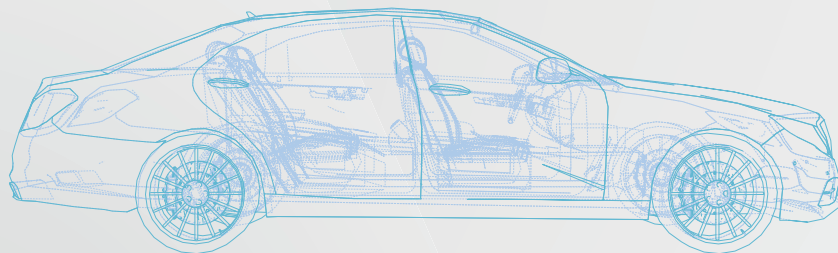
- **How should I keep a technical overview over our project and its progress, if all the data is spread out in thousands of documents and spreadsheets?**

- **How do we make sure that at the end of the project we fulfill all the initial requirements?**

Keeping an overview has never been easier. By using Valispace in your team, you increase transparency both for yourself and the team. Data are immediately digitized for day-to-day use and preparing for future reusability of project data.

- Everybody in your team has access to the right information at the right time. prepare data to be used within the project as well as in future projects. It is the companies that structure their data and extract knowledge from it that will survive and thrive.

- At the same time, Valispace allows for automation of many engineering operations. Margin tracking, requirement verification and countless more manual operations are fully configurable through scripts and fully integrated within the landscape of engineering tools.

Simon increased the number of battery modules from 12 to 14.

Valispace is calculating...

Battery Mass:	312kg	▸ 349kg
Battery Capacity:	80kWh	▸ 94kWh
Charging Time:	4.2h	▸ 4.5h
Car Mass:	1943kg	▸ 1980kg
Max breaking distance:	66.5m	▸ 66.9m
...		

Valispace is executing...

- 6 simulations re-executed
- 15 documents updated
- 72 requirements verified
- 19 engineers notified

Total implementation time: 42 seconds

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Drag and drop
engineering

Our clients demand more and more customization.

- **How do I manage all my products that are almost, but not quite, the same?**

- **How can I create quick technical proposals for new contracts with components from our product line?**

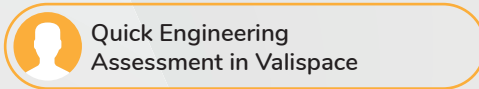- **Where do I store the as-built status, to gain insights for future projects?**

Customizing and combining existing designs is key to setting up new projects quickly and writing proposals in an efficient way.

- Create new technical proposals within minutes instead of days, by reusing building blocks from your internal catalogue.

- Instantly create engineering and cost budgets and breakdowns, allowing you to focus on the real work.

1 "We need a custom drone that can take pictures and has a range of at least 400m"

Quick Engineering Assessment in Valispace

Payloads
- ☑ Camera
- ☐ IR Camera
- ☐ Lidar
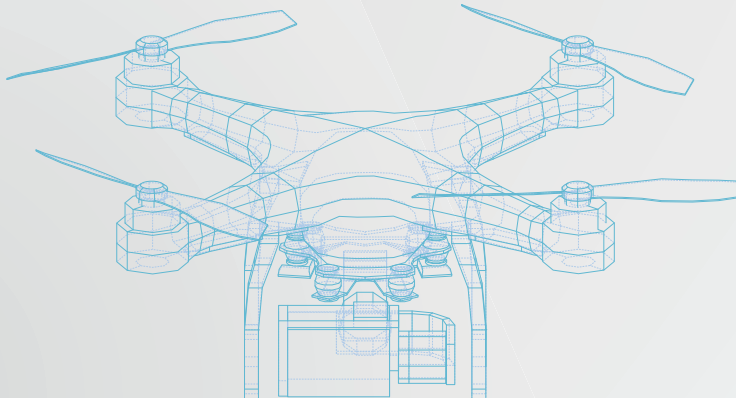
Motors
- ☐ XS-P400
- ☐ M-P2000
- ☑ L-P4500

Batteries
- ☑ 2200mAh
- ☐ 4400mAh
- ☐ 8800mAh

Rotor Cage
- ☐ Yes
- ☑ No

Rotor
- ☐ Flex LowQ
- ☑ Flex HiQ

Valispace is calculating...

Total Mass:	12.3kg
Max range:	490m
Lift:	9kg
Material cost:	969€
Assembly cost:	677€
Assembly time:	12d

Valispace is generating proposal

PROPOSAL

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Requirements engineering
does not need to be a burden

TODAY

- **DOORS is heavy and expensive, can some of our engineers work on these requirements in a more lightweight way?**

- **Is there a way to automatically check our requirements continuously against our current design?**

- **Can we review & collaborate on requirements without sending around word files and spreadsheets?**

WITH VALISPACE

- Start immediately with your existing requirements from DOORS or Excel.

- Easy querying and visualization of requirements and dependencies.

- Keep track of the rationale and the history of any requirement.

- Automatic verification of requirements against your design and tests.

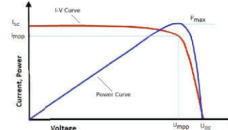- Ensure compliance with international standards for quality and safety.

Complex products often have a variety of requirements coming from different stakeholders. With the right tool, the interaction between requirements, design, production and testing changes from time-consuming overhead to an enabler for building a strong confidence in the product.

VALISPACE

Connected
simulations

We simulate a lot. But often we find out we have to rework and rerun simulations, because they were using out-of-date inputs.

- **How do I make sure that everyone works on the same parameters?**

- **How can I avoid searching for the latest inputs from colleagues when I want to rerun my simulation?**

- **How do I avoid having to redo my simulations, because I was not aware that the inputs were outdated?**

WITH VALISPACE

You can easily connect all of your simulations to one central place for data storage.
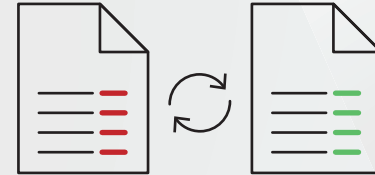
- An Octave simulator is built into Valispace for advanced calculations that can be automatically triggered.

- It is easy to connect to Matlab and many other simulation tools through the Valispace Python and REST API.

- When connecting to these simulation tools, all results from simulations will be automatically updated in Valispace so your work is always based on the latest numbers

Connected
documentation

TODAY

Technical documentation is necessary, but:

- ▰ **How do I avoid updating the same document over and over again with the latest values?**

- ▰ **How do I know how my design has changed since our last review?**

- ▰ **Can't progress reports just be auto-generated?**

- ▰ **How can I know whether the value in this document is outdated or how it has been calculated?**

WITH VALISPACE

- ▰ Automatic document updates let your engineering team focus on solving problems instead of updating files.

- ▰ Valispace has a seamless integration with Word and Excel.

- ▰ If someone updates a value in Valispace, it also shows up in the documents and excel files of his colleagues.

THE SMART COLLABORATION PLATFORM FOR ENGINEERS

How does it work?

Value is what you get.

Valispace is available in on-premise and cloud versions. Pricing ranges from 50 to 150 euro per user per month.

So for the price of one engineering hour per month, you digitize your entire engineering process and save over 15% of development costs.

Let's work together.

In a pilot project, we define together with you a digitized engineering process for a specific use case, can transfer and connect your existing data & tools and train your team.

Get in touch at contact-us@valispace.com to set up a pilot project.