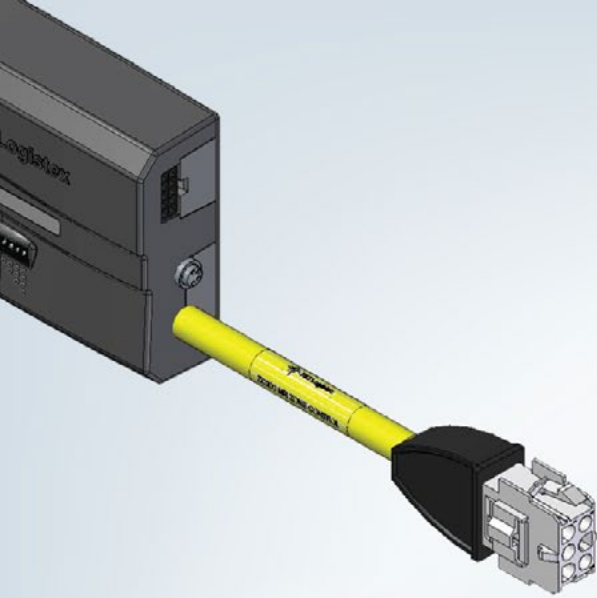




OVERCOMING  
PRODUCT  
DESIGN'S  
TOUGHEST  
OBSTACLES

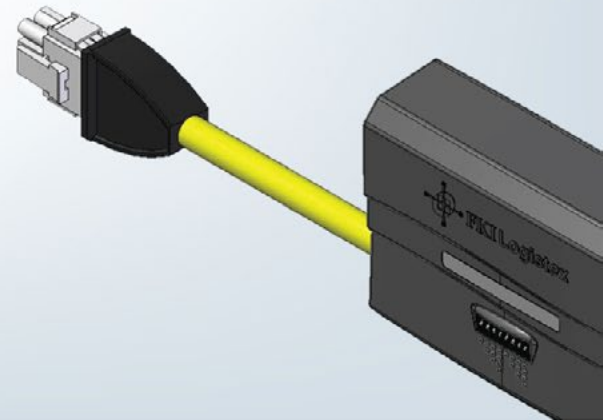
How Your Relationship with  
Your Supplier Can Help

*Humphrey*<sup>®</sup>



The  
product  
design  
process is  
a beautiful  
thing.

It starts  
with a  
need, and  
it ends  
with a  
solution.

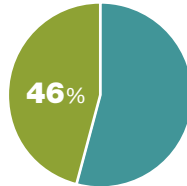


# It can also be challenging.

Manufacturers across all industries are under increasing pressure:



Design cycle times are being compressed, as competitive forces drive products to market faster



46% of engineers are juggling more concurrent projects, compared to 2013 rates

Product quality standards and performance requirements continue to rise and the bar has been set very high for product designers. Having a plan—and a collaborator—is essential. Read on to discover what designers have said about obstacles in the design process, and what can be done to overcome them.



## Most Difficult Challenges in the Design Process<sup>1</sup>

1. Just not enough time
2. Incomplete information
3. Difficult to compare options and alternatives
4. Information & technologies change rapidly
5. Inaccurate information
6. Incompatible software & file formats

# Information Overload

On average, designers spend **45% of the detailed design phase** finding and aggregating information, data, and tools. Sorting through databases and websites in search of the right information can be frustrating.

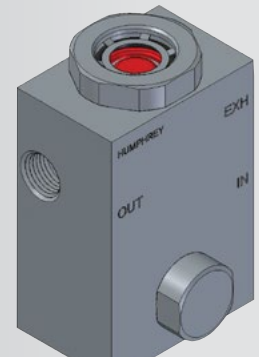
*“It is not so much difficult  
as it is time consuming.”*

*—European Contract Manufacturer*



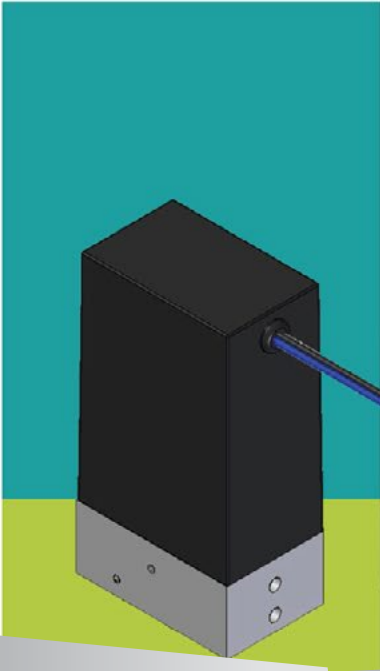
## How your supplier relationship helps:

Having a true partnership with your suppliers—all experts in their specialized fields—can drastically cut your search time. Rely on their familiarity to get the right tools and specifications in your hands quickly.



# Evolving Tools

The design process is constantly evolving. New sketching tools for design concepts, collaborative product development tools, and even virtual reality suites for product design are on their way. While these tools are designed to be intuitive, changing tools can be somewhat disruptive.



## Key strategy:

The best way to be prepared is to stay connected.

Communities like the **PDMA** can be helpful. Suppliers are also well-equipped to share knowledge and experience regarding product development, and can give insight into the pros and cons of new tools and resources.



A 3D CAD model of a mechanical assembly. It features a dark grey rectangular block with two cylindrical protrusions on its top surface, mounted on a larger, light grey rectangular base. The base has several circular openings and two cylindrical protrusions on its front face. A small, grey, rectangular component with two pins is shown to the right of the main assembly. The background is split into a teal upper half and a light green lower half.

# Incomplete, Inaccurate, or Incompatible Component Information

Product design requires reliable information: simulation models, failure rates, and lifecycle data you can trust. It's no wonder that engineers have rated incomplete information as the second most difficult challenge in the design process, followed closely by inaccurate information and incompatible file formats.<sup>2</sup>

## How your supplier relationship helps:

Having a supplier who is familiar with your process and your goals will ensure that you receive relevant, trustworthy, and compatible data and specifications.

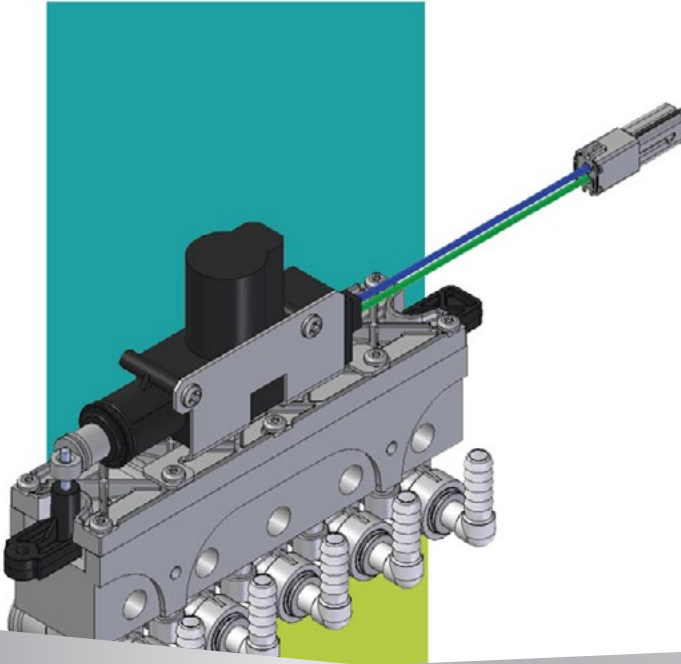


# Communication Breakdown

More companies are adopting an approach to product development focused on collaboration between team members from different disciplines and backgrounds. While this approach risks introducing miscommunication and confusion, it can also help reduce design cycle time, and make new products possible.

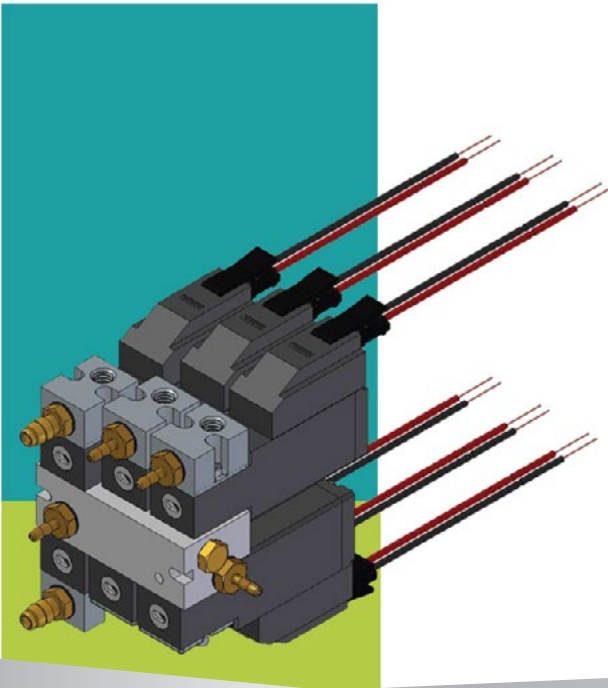
## Key strategy:

Studies point to several fundamental characteristics of successful multidisciplinary teams, including clearly defined roles, appropriate resources, and a precise definition of success outcomes.<sup>3</sup> Close supplier relationships can help ensure your team has the resources needed for success.



# “It Doesn’t Exist”

Product designers overcome new challenges every day, so discovering that no off-the-shelf components exist to meet a project’s needs isn’t the end of the world. However, workarounds and ad-hoc solutions can be time-consuming and expensive. Solutions that make the most of existing processes and technologies are needed to move forward efficiently.



## How your supplier relationship helps:

Creating custom or tailored solutions is easier when you have an expert teammate to help pinpoint the best way to bridge the gap between existing and needed components. Your relationship with your supplier can help develop the perfect solution for your project.





# About Humphrey Products

Every step is easier when you have a committed supplier with experience and a focus on helping you meet your goals—a supplier with a reputation for reliability who will work alongside you to overcome the most challenging aspects of product design. Humphrey is one such partner. Over 100 years of service, Humphrey has grown into a leader in pneumatic and fluid valves, tailoring valves for unique solutions, and even engineering fluid handling systems. Humphrey is a trusted collaborator to organizations around the world. Discover how our expertise and dedication to service can help overcome your obstacles. Get in touch by calling 1-800-477-8707 or visiting **[www.humphrey-products.com](http://www.humphrey-products.com)**.

# Humphrey®

(Endnotes)

<sup>1</sup>REFERENCES

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<sup>2</sup>Pamela J. Gordon, CMC, Kimberly Allen, PhD, Technology Forecasters Inc. *Design-with-Efficiency: Toward a Streamlined Process for Electronics-Industry Design Engineers*.

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<sup>3</sup><http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3662612/>