

# Developing a Partnership with IDEX Health & Science

Working with a Qualified Product Development Supplier



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# A LOOK INTO EFFECTIVE PRODUCT DEVELOPMENT PARTNERSHIPS WITH IDEX HEALTH & SCIENCE

Successful design and manufacturing projects require in-depth product development processes. Likewise, when collaborating with an outside supplier, having a Product Development Partner (PDP) in place will streamline operations across the board. Although each vendor is unique, qualified vendors should be committed to their own PDP and have a proven history of solving complex problems. In this paper, we will provide you with a glimpse of the collaboration process that IDEX Health & Science provides as an overview of the typical process steps you can expect.

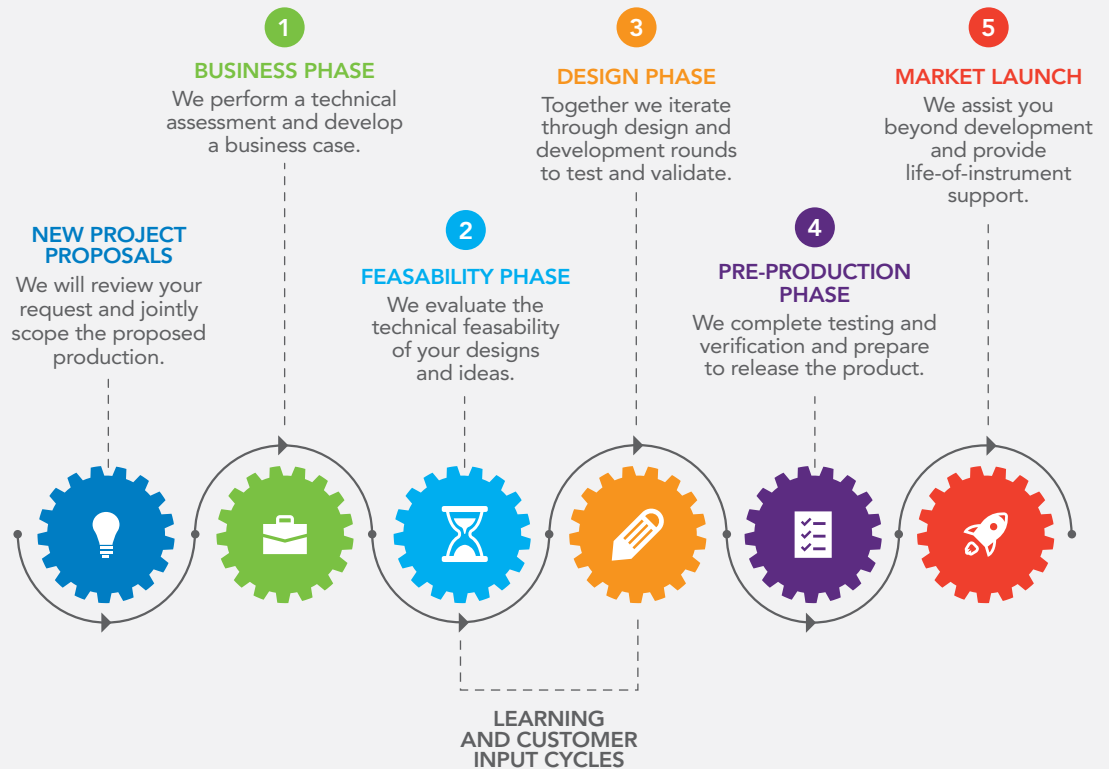


# Our Product Development Process

Using our proven process, we solve your unique problems by innovating projects through efficient product development. We deliver quality technology on time to secure your success in highly competitive markets. The more complex a system gets, the more complicated the process required to build it becomes. We simplify product development with our disciplined process that aligns our expertise with your business objectives to take you from conception to market easier.

## How We Partner – The IDEX Health & Science PDP

When engaging IDEX Health & Science on a product development project, partners should expect the following flow of gate activity:



The IDEX Health & Science PDP offers the flexibility of scaling, based on product development complexity. For example, a relatively small change to a current design may not require a Feasibility Phase. If the project team is confident, or risk is deemed low, in applying known technology to a new design, they can debate and gain consensus on a decision to remove any tasks deemed excessive or irrelevant. At this time, justification of the decision to remove tasks must be presented at the phase gate reviews.



## New Project Proposal (NPP)

Initial project engagement should clearly define the desired outcome and there should be discussions of perceived challenges to the greatest extent possible. In due course, a product or market manager will collect the information available and draft a New Project Proposal (NPP). The NPP will summarize all answers based on the questions listed in “what is required” from the kickoff meeting. The following information is required for an NPP:

**Requirements** – A comprehensive (as much as possible) list of product requirements including form, fit, function, interface (physical connections, communication protocol), software commands, and behavior. This list defines what is required to release the product to a production workflow.

- › Note that requirements may not be clear, especially when trying new technologies that may couple with systems in unpredictable ways.
- › It is also important that the teams working together discuss these uncertainties and how they may impact scope, timeline, and budget (i.e., risk assessment).

**Risk Assessment (To Date)** – Plan to identify risk that can be defined at any stage of the project life cycle. The team should evaluate identified risks and outline mitigation actions. A risk assessment plan should be periodically updated and broadened as the project increases bearing in mind that risks become more defined with complexity.

**Timeline Expectations (Initial)** – Determine the initial timeline to work within, listing specific dates as the core of all goals and objectives. This helps keep the project on track and ensures all core team members can manage the work ahead of them.

**Allocated Budget (Expectations)** – The budget determines the boundaries of the project and how money will be allocated to implement the activities described in the proposal. It should give a clear picture of all expenditures involved in carrying out the project.

**Team Definition** – Identify key stakeholders and potential team members who will be actively involved in the project, or who may be positively or negatively impacted during the implementation of the project. Assign well-defined roles and responsibilities to each member setting clear expectations and understanding of responsibilities. The team definition should include:

- › Key Contacts
- › Decision Makers
- › Technical Leads
- › Subject Matter Experts
- › Functional Managers
- › Executive Leadership
- › Project Leadership
- › Working Project Teams

**Communication Expectations** – Establish communication protocol between project teams and set clear expectations for how and when updates will be shared. Determine who will be responsible for, and who needs to be looped in on, each project communication.



## Business Phase

During the Business Phase, the business justification is developed using input from the customer. At this time, the project team is also formed and initial project tasks are launched, including:

**Project Meetings** – Define the project team, then appoint the meeting leader and meeting facilitator, to schedule, monitor, take minutes, and keep meetings on track. Also choose which team members will receive copies of the minutes.

**Develop Scope** – Develop initial internal scope, timeline, and budget for the project.

- › Requirements are reviewed by the teams to confirm alignment. There may be several iterations early in the project based on complexity of the effort.
- › Initial verification/validation requirements are captured to ensure test equipment and methods are considered.
- › Initial risk assessment is documented.
- › Determine how often the teams will meet to drive action items and task alignment.

**Define and Plan** – Set up general project information including top-level part numbers, import/export compliance tasks, and confirm that NDAs are on file, and so forth.

**Technical Assessment** – A technical assessment is conducted based on the detailed information documented in the previous phase. The duration of this task will be determined by the complexity of the project/product requirements, such as:

- › Determining the needs for technology development, prototyping, testing, and scale-up.
- › Considering materials, time, tools, fixtures, and equipment that may be required.



## Feasibility Phase

Once the project passes the Business Phase, the Feasibility Phase starts. The IDEX Health & Science team will begin assessing technical solutions or building blocks to ensure there is confidence in proceeding to more detailed design and prototyping work. At this time, iteration of concepts shared between teams should be expected. Based on the teams' efforts, the product requirements and specifications are reviewed again to ensure quality and accuracy of the requirement set.

There may be Concept Development Units (CDU) exchanged between teams to supplement the technical risk assessment with actual data. This may be required to reduce risk of assigning unachievable specifications to functional product requirements before entering the Design Phase.



## Design Phase

The Design Phase integrates the technical concepts into a prototype design that will be tested in accordance with the agreements reached by the project teams earlier in the development process. IDEX Health & Science applies standard work tools such as Design for Excellence (DFX), finite element analysis, FMEA, and tolerance analysis to optimize prototype performance before investing in formal test units. If testing in the application is required for final approval of the design specification, IDEX Health & Science will provide prototypes used to verify product performance.

Production concepts and tooling are also considered during the Design Phase and may require significant parallel development with product design. The functional roles work collaboratively to minimize the time required to release the product to production as much as possible. There are times when the equipment required to verify product performance can be transferred into production after proper qualification in the Pre-Production Phase.



## Pre-Production Phase

Once design is complete, the production cell is installed and qualified, and includes any equipment required to support assembly and test. Pilot runs and Pre-Production Unit (PPU) runs are completed to ensure production processes and materials will yield units that meet verification standards defined by the project team. Production Verification Testing (PVT) is conducted to confirm product quality and the Product Manager may provide a summary of the PPU builds, as well as testing conducted in the application, before release. After the project exits the Pre-Production Phase, forecasted production unit volumes can be ordered.



## Market Launch Phase

If a project is market facing the final stage will be Market Launch. This phase is used to help us reach sales goals, obtain customer feedback, and evaluate other targets. Once a creative brief is filled out, the team will set goals and KPIs for the launch.

Next, they will review a list of potential marketing activities that align with those goals. These can be anything from brochures, videos, advertising, and social media strategies. From there, content and materials are built out and a calendar is set for launch. As the launch progresses, metrics will be analyzed to ensure we are reaching our set KPIs. It's important to pivot quickly if something isn't generating the expected results. Once the launch is completed the team will check in on metrics and created a continued promotions plan.



## How We Partner

With your design goal in mind, we partner with you on the concept, modeling, design, prototype, and validation of your optofluidic pathway.

[www.idex-hs.com/how-we-partner](http://www.idex-hs.com/how-we-partner)

# MEET THE EXPERTS

## Tyler Liebig, Business Line Director



Our product development process is designed to scale the level of innovation needed for a given project. When fluidic design choices are clear, the product development process is simplified down to the least required number of steps to commercialize instrumentation with the lowest risk and predictable timeline. The development process really shines when key fluidic challenges are not resolved or are unknown. In these cases, our teams leverage the Feasibility Phase of the development process to work closely with the customer and understand key decisions or unknowns around the fluidic challenges. Our team develops a plan to rapidly innovate and iterate, expeditiously bringing novel innovations into the final product.



## Meet More of Our Experts

Review some of the experts behind our innovation and technologies, leading the way and guiding the world towards a healthier and safer society.

[www.idex-hs.com/experts](http://www.idex-hs.com/experts)



# FORBES INSIGHTS STUDY

## Unlocking Innovation in Your Supply Chain

Though the list of opportunities — and their associated challenges — are nearly endless, the question is, how can companies – or entire industries – that are facing fast-evolving technical demands innovate, compete, and win? To answer this question, IDEX Health & Science partnered with Forbes Insights to survey 180 executives from the life science sector as well as pharmaceuticals and aviation/aerospace.

**68%** OF LIFE SCIENCE EXECUTIVES BELIEVE THAT ACTIVE AND MEANINGFUL ENGAGEMENT WITH SUPPLIERS IS ESSENTIAL TO SUCCESS

— Forbes Insights research in association with IDEX Health & Science

## 5 Important Insights to Reduce Risk in Your Supply Chain

### Insight #1

The rate of change is accelerating, and no company, no matter how experienced, large or innovative, can afford to go at it alone.

### Insight #2

We have entered the era where collaboration and successful supplier partnerships improve fulfillment, costs, and quality, as well as processes.

### Insight #3

Closer collaboration with suppliers yields substantial benefits. More than half of executives are already taking steps to expand or improve the degree of engagement with a wide range of external relationships including partners, competitors, industry associations, and customers.

### Insight #4

Life science is “behind” the collaboration curve. A full 37% of life science executives lean toward a “do it all” orientation, versus only 28% in pharma and 22% in aerospace.

### Insight #5

Most executives are now recognizing the need for, and benefits of, stronger partnerships. Nearly three-quarters of respondents in the Forbes Insights survey say they need to improve their capabilities in collaborating with suppliers.



## Download White Paper

Read the Forbes insight study, *Unlocking Innovation In Your Supply Chain*:

[www.idex-hs.com/forbes-report](http://www.idex-hs.com/forbes-report)

# PARTNERSHIP SUCCESS STORIES

## Keep Your Eye on Innovation. Let Us Handle the Integration.

Through strategic partnerships, IDEX Health & Science engineers innovative components that result in optimized optofluidic systems. At IDEX Health & Science, we don't just build components; we also create innovative solutions that maximize performance and enable the complete optimization of the entire optofluidic pathway.

### Some of our Case Studies Include:

#### Enhance Valve Capabilities

**Customer Requirement:**

Our partner required precise control of multiple reagents.

**Our Solution:**

Our rotary shear valves provide complex flow-switching without accidental flow pumping. These features enhance the applications that use multiple reagents, where carryover or accidental flow would hinder the analysis.

#### Enhance Sampling

**Customer Requirement:**

Our partner asked us to help minimize carryover and fluid loss during sample introduction.

**Our Solution:**

Our support team worked closely with the customer to teach valve operation, sample loop, overflow, rinsing, and pressure equalization methods. These procedures were used in the instrument after collaborative validation, resulting in a significant increase in system reliability.

#### Autofocusing Between Consumable & Instrument

**Customer Requirement:**

Our partner required alignment across applications from tens to hundreds of microns.

**Our Solution:**

Our engineers installed a Ronchi Grating directly onto the consumable, allowing active alignment by autofocusing. Since the grating is located in a defined proximity to the detection channel, the instrument can easily detect the position of the disposable and fine-tune for optical read-out.



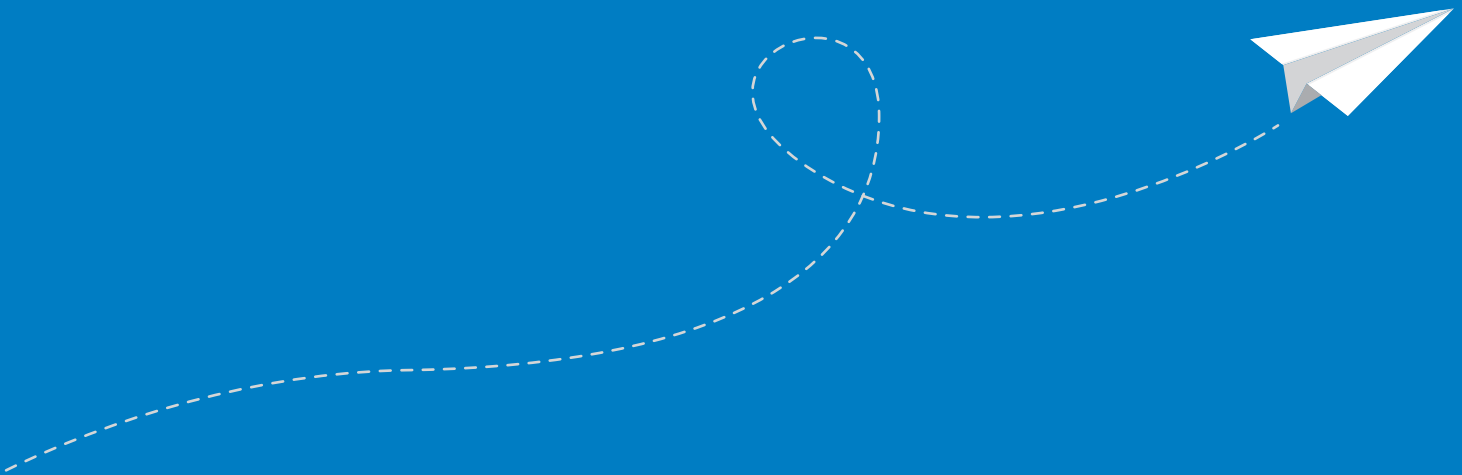
## View More Partnership Success Stories

Browse through our case studies at the link below to see how partnership is the new innovation.

[www.idex-hs.com/case-studies](http://www.idex-hs.com/case-studies)

# CONCLUSION

It is without question that new products and services are the lifeblood of all businesses. It is also clear that customers demand superior quality products with high specifications at competitive costs. Despite committed people and innovative ideas, companies can still break down if they aren't prepared to systemize their development functions with a sound NPD strategy, talented individuals, and skilled supply partners to become a productive whole. Developing as a whole allows the entire team to gain a clear understanding of all the building blocks involved in complex development. Using innovative approaches, such as a PDP and interrelationships with suppliers, improves quality, reduces cost and time, and satisfies company goals and customers in a sustainable way.



## Custom Optofluidics Design & Support

If you need assistance with a specific application or would like to request custom design support, please follow the below link to connect with an expert.

[www.idex-hs.com/partner](http://www.idex-hs.com/partner)



# ABOUT IDEX HEALTH & SCIENCE

IDEX Health & Science is the global authority in fluidics and optics, bringing to life advanced optofluidic technologies with our products, people, and engineering expertise. We make your vision a reality by solving complex problems and mitigating risk through strategic partnership.

## Strategic Partnerships

The key to the future is collaboration, and at IDEX Health & Science we put the focus on what matters — the success of your systems. To make your vision a reality, we make even the toughest designs seamless, all while helping you balance budgets, time-to-market, and mitigating risk. With IDEXology, your ideas stay safe and protected while we solve complex problems together.

## Your Specs and Our Expertise

In today's fast-paced market, innovation needs to be more than just an idea. It isn't good enough to only focus on the continual improvement of products. True innovation occurs when great ideas actually happen and make their mark on the world. In order to break new ground and expand your competitive edge, ideas not only need to be different, they need to be better. At IDEX Health & Science, it's not just about engineering every element of an instrument. We use IDEXology to help you see how each part comes together in higher-level designs, from the smallest component to the future of our industry.

## Your Roadmap and Our Plan

You have a roadmap and we have a plan to keep you on course. From concept to prototype to final production, we solve complex problems together, each stage playing a vital role for the growth and advancement of your vision. We create your most challenging designs so seamlessly that the very notion of a "subsystem" must be called into question. IDEXology is the backbone of agile engineering. It expedites innovation and allows you to design tomorrow's technology today.

## Your Vision and Our Focus

To make your vision a reality, we share our market-leading optofluidics knowledge and support, combined with unique partner innovation tools such as our Rapid Response Programs, to help you accelerate your time to market by generating new opportunities with high-impact, effective ideas that support business growth and increase profitability.



# Core Capabilities

## Fluidics

At IDEX Health & Science, we don't just build components; we also create innovative solutions that maximize performance and enable complete optimization of the fluidic pathway.

- › Column Hardware
- › Degassers
- › Fluidic Connections
- › Manifolds
- › Pumps
- › Pump Components
- › Sensors
- › RI Detectors
- › Valves

## Microfluidics

We thrive on complex problem-solving opportunities. As the number one provider of microfluidic consumables across the globe, we are ready to help you solve the next big thing with the broadest portfolio of capabilities.

- › Microfluidic Consumables
- › Sample-to-Answer Solutions
- › Supporting Labware

## Imaging & Illumination

Reliable by design and fueled by innovation, we are the market leader in providing “enabling” optical subsystems, vertically integrated from laser and optical components through system design, manufacturing, and metrology.

- › Filter Wheels & Switchers
- › Illumination Light Engines
- › Optical Filters
- › Optical Subsystems
- › Sensors & Cameras
- › Imaging Objectives

## Subsystems & Assemblies

We deliver the most complete portfolio of premium optofluidic technologies, components, and capabilities and help you develop subsystem and integrated assemblies. Simplification is paramount to successful instrumentation, and as a partner, we can help you eliminate costly trial-and-error cycles with solutions that differentiate and outperform your competition.

- › Solutions for Critical Elements of Your Fluidic Path
- › Consumable Microfluidic Devices
- › Complete Opto-Mechanical Assemblies
- › Manufacturability & Reliability
- › Lower Development Costs
- › Minimize Time to Market Risks

## Global Leaders

Whether you're pursuing a complex consumables design or a life-of-instrument flow cell, we support and guarantee your success with extensive experience that unites the intersections of fluidics, optics, and chemistry. We are a strong force of committed people and innovative products for your complete optofluidic pathway, continually increasing our product offering, expanding our market relevance by connecting to new customers, and positioning ourselves as global leaders in optofluidics engineering.

## Worldwide Optofluidics

As a global company, IDEX Health & Science has an international network of direct sales professionals and distribution partners in place to provide personal service to every customer. Our experts are ready to visit your operation, assess your needs, and develop intelligent solutions for your challenges.

## Corporate Responsibility

IDEX Health & Science is committed to preserving the environment. Our continuous improvement programs hold our facilities accountable to reduce waste, prevent pollution, and conserve resources. Many products comply with REACH and RoHS regulations.



## Partner with IDEX Health & Science

If you're ready to make your visions a reality, contact us and we'll show you how to take your company to the next level.

[www.idex-hs.com/partner](http://www.idex-hs.com/partner)



For ordering, technical support, and contact information please visit [www.idex-hs.com](http://www.idex-hs.com)