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The 6 Questions You Should Ask Before Choosing Your Next Motion Supplier

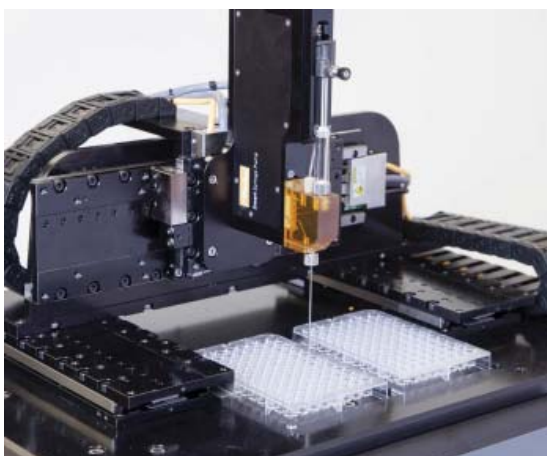
By Brian Handerhan

ENGINEERING YOUR SUCCESS.

6 Questions to Ask Before Selecting Your Next Motion Partner

Accelerate your development process and reduce your project risk by selecting the right partner with the right processes to ensure your success.

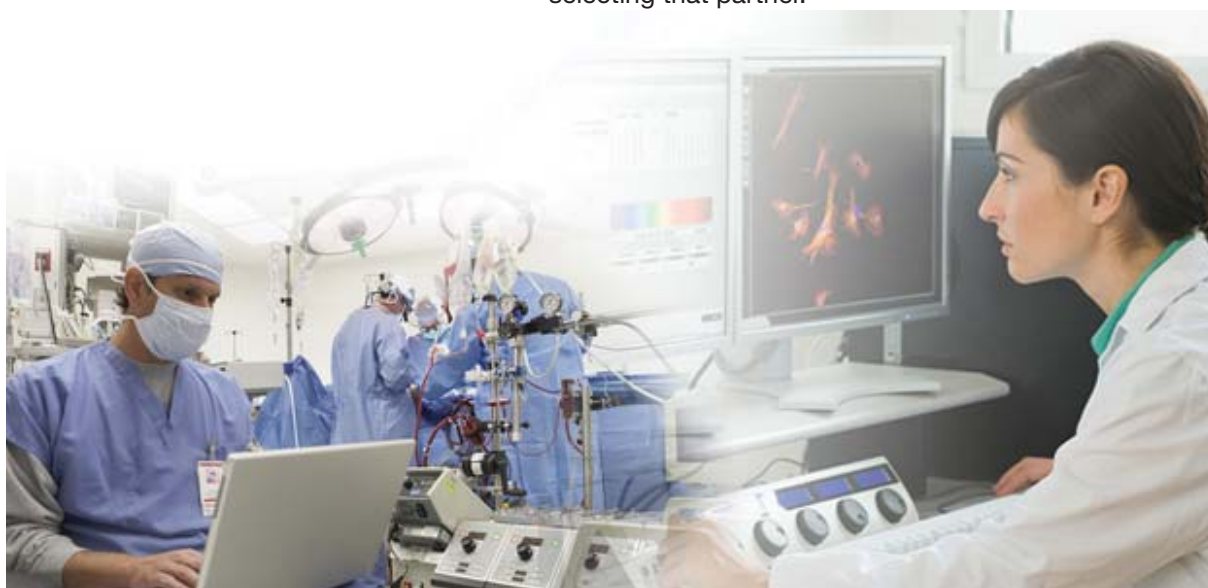
Analyze the life cycle of a medical device or laboratory instrument and you'll realize that 80% of the cost optimization opportunity is locked in once the design is finalized. That doesn't leave much room for further cost reduction, especially where this type of equipment is concerned. The design freeze is a definitive milestone, so it is critical to ensure that the rest of the development process allows for optimizing that initial 80% of the opportunity.



The first key point for any manufacturer in terms of cost optimization is determining what they will do themselves versus what they will partner with others to do for them. There are elaborate financial Make vs. Buy models, but this decision really boils down to one question: "Is this a core competency of my organization?"

Today more OEMs are realizing they either don't have the technical staffing to support motion control R&D or they've determined their real opportunity is in producing the consumables their customers require rather than the instrumentation. That leads them to outsourcing as much of the instrumentation design as they can.

Where motion control is concerned, there are six key questions you need to ask and have answered before selecting that partner.



1. Do you have a Stage Gate Process?

More importantly where partner selection is concerned, does your potential design partner have one? And even more important than that, can that process sync up with yours?

A stage gate process outlines and defines the steps (with deliverables) required during each project stage. Separating each stage is a gate indicating successful completion of each landmark, followed by a management review to verify that all deliverables are complete before making the critical go or no-go decision advancing project to the next stage. It's at this point where the management teams from both the client and provider organizations determine, based on the quality of the deliverables, whether this project can go forward, needs to be killed or should be sent back to have additional work completed.



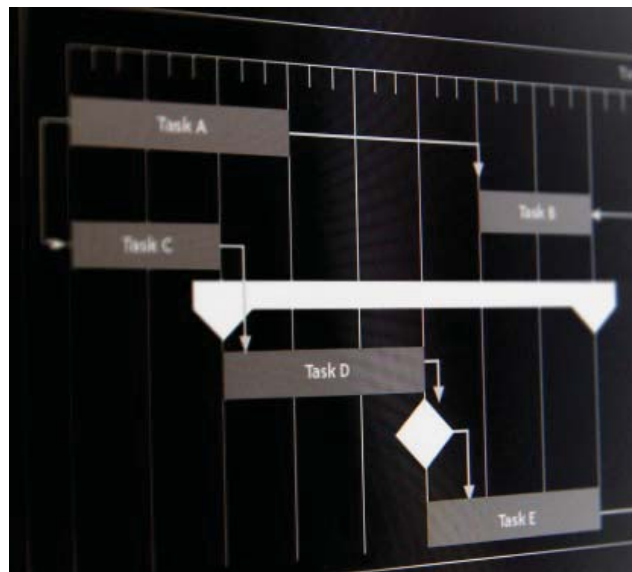
Parker's stage gate process, called Winovation, was structured to smooth-out project turbulence. It is a standardized process that has been rolled out across hundreds of Parker Divisions and is constantly being improved as part of the continuous improvement culture. The Winovation process is rigid enough to drive standardization in deliverables, yet flexible enough to allow it to be scaled to match the complexity of a given project.

It calls for collaboration between project managers on the OEM and vendor sides. They participate in a regular conference call to manage the action item list and ensure the right deliverables and the right timing. This also protects Parker from falling behind the client's schedule and ensures that client decisions steer Parker design.

2. Do you use trained program managers or project managers to run your development projects?

President Dwight Eisenhower said, "In preparing for battle I have always found that plans are useless, but planning is indispensable." When I interpret this quote in the context of our business, I read it as "In instrument development, plans are useless, but good project management that can deal with challenges that our plans could not foresee is indispensable."

As such, our practice is to have a project manager assigned to each OEM development project. We bring them into the program as early as possible to guarantee they are exposed to both the commercial and technical client details. Internally, we have created a project manager career path with both internal and external training programs for our project management staff that can culminate in becoming an industry certified project manager.



3. What is your quality management system and how will it ensure a low RPPM (Return Parts Per Million)?

Whether your internal terminology leans towards Advanced Product Quality Planning (APQP) or Design for Six Sigma (DFSS), you want suppliers that can deliver the highest quality product. Both tools look to achieve this through a focus on variability reduction in both the design of the product and the design of the manufacturing process.



Parker leverages a robust APQP process including the use of Failure Mode Effects Analysis (FMEA), Process Failure Mode Effects Analysis (PFMEA) and Control Plans. Additionally, we focus training such that our engineering managers, quality managers, and advanced manufacturing managers are Six Sigma black belts. The focus is to reduce variability and ensure that both the product and the process are robust.



4. Do you have a process to manage your design efforts to meet a target cost?

The key process to reach cost optimization is to employ a Quality Function Deployment (QFD) type tool to manage the exchange that occurs between function and cost. QFD is a methodology to take qualitative user demands and turn them into quantitative engineering requirements. Versions of the methodology include an extension into Value Engineering, whereby a value (or target cost) can be arrived at for each subsystems of a device or instrument. Whether the design is being completed by an in-house team or through an

outside partner, this Value Engineering Matrix becomes one of the key design review tools allowing project management and systems engineering to monitor the impact that design decisions are having on cost. This allows for meaningful discussion and decision making relative to cost and performance of the key sub-systems.

Keep in mind, one of the big challenges in this market space is that you don't often have the opportunity to go through that value analysis after the product is released because once you've received your regulatory certification, you won't want to change anything. At that point it will be cost-prohibitive. The best opportunity for design optimization is before freezing the design.

5. What is your long term production strategy and how will you ramp up to production volumes?



As a former operations manager, one of my largest concerns was selecting a partner that did not have the capability to ramp production to meet our production ramp up.

Parker has a global footprint, with the ability to manufacture anywhere in the world that our customer is going to end up wanting to manufacture. This lets us get fairly local, which makes for a lean supply chain. We leverage that supply chain based on the volumes the OEM generates and make good use of the talent wherever that OEM has a presence.

6. Do you have a culture of continuous improvement?

Whether you refer to it as operational excellence, continuous improvement or lean manufacturing, unless you are improving processes, reducing lead times and reducing variability at a rate above your competition, they will gain an advantage over you in the near future. In this world of outsourcing and partnering, the companies you partner with could end up being the weak link in your value chain. Choosing a partner with the ability to improve their segment of the process and assist you in improving the process beyond their four walls will ensure you keep your value chain whole and add value.



The opportunities for lean improvement extend well beyond the plant floor and into the office and support functions of organizations all over the world. If bound by the separation of the “concrete floor” and the “carpet floor” much of the opportunity for improvement and waste reduction are not available.

Organizations that rely on management thinking and decision making to drive action are not as effective. Although high level decision makers can be very decisive, delays happen because the decisions have to be made based on their availability or that of a committee. Organizations with engaged employees who are empowered to make decisions at their level yet understand enterprise functionality will be the most effective.

About the Author:

Brian Handerhan is a Business Development Manager focusing on Parker's Life Science Automation group. Brian has over 20 years of experience in the implementation of automation across a broad range of industries. His primary expertise has been as a process improvement leader, change agent, and P&L owner. He now focuses that broad experience working with industry OEM's to develop lasting business relationships built on both operational and technical value.



Parker Hannifin

Parker can be found on and around everything that moves. We manufacture highly engineered components and systems that facilitate motion and the controlled flow of liquids and gasses for a wide variety of global markets to increase the productivity and profitability of our customers. Parker's focus on solving some of the world's greatest engineering challenges sparks our passion for innovation and secures our future growth. Our technological expertise creates a more sustainable future for us all.



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