



MANUFACTURING

TECHNOLOGY INSIGHTS

AUGUST - 08 - 2019

ISSN 2644-2493

MANUFACTURINGTECHINSIGHTS.COM

Top 10 Motion Control Systems Solution Providers - 2019

It is often said that change is the only constant. As the world rides on the wave of digitalization, now the OEM industry has reached an inflection point. Implementation among early adopters has gradually given way to broader market penetration as end users and OEMs developed clear understanding of how the technology fits into their particular business models. The needs of those groups, in turn, put the responsibility for implementation on motion control suppliers, a dynamic that is transforming automation.

Today, OEMs place a greater emphasis on motion control. Programming and validation can be time-consuming and complex, particularly when it involves highly coordinated motion control. The goal of motion suppliers has been to develop applications that do the work for the OEMs and integrators, lessening their burden. This is particularly beneficial for machine builders who lack deep motion control expertise. The trend of simplifying software continues with making machine controllers and PLCs configurable instead of programmable. The approach

enables OEMs and integrators to get their systems up and running far more rapidly than if they needed to develop custom code. When they need to modify a platform for a specific application or customer, they only need to reconfigure rather than re-engineer the application from scratch.

To help companies navigate through the best-breed motion control systems solution providers Manufacturing Technology Insights has compiled a list of leading motion control systems solution providers. A distinguished panel comprised of CIOs, VCs, and industry analysts, along with Manufacturing Technology Insights' editorial team have evaluated and shortlisted organizations that have significantly stood out in the motion control arena for the year 2019. The companies featured in this issue through their business knowledge and industry prowess have established their eminence in the motion control solution sector.

We present to you Manufacturing Technology Insights' "Top 10 Motion Control Systems Solution Providers – 2019."



Company:
QuickSilver Controls, Inc.

Description:
Provides high-performance, cost-effective motion control products, servo controllers, and motors for use in the original equipment manufacturer market

Key Person:
Donald Labriola P.E.
President

Website:
QuickSilverControls.com

QuickSilver Controls, Inc. Pioneering Next-Gen Motion Control

Today, the world has transformed into an enchanted land. From self-driving vehicles to life-like mannequin robots, nothing comes as a surprise anymore, given the sophistication of the technology involved and its rapid evolution in the recent past. As astounding these machines seem from the exterior, there are uncountable servo motors and analog parts underneath the layers that are at work, showcasing the complete picture of innovation at its prime. Narrating this untold saga of the modern-day motion control landscape with its proprietary hybrid servo motors is QuickSilver Controls Inc. (QCI).

Founded in the year 1996, QCI genesis goes back to experiments in 1984 spinning Hybrid step motors as servos motors. The company was founded by Don Labriola, President, QCI, who has vast experience in systems engineering and motion for medical applications and designing for UL CSA and regulatory testing. By gaining crucial expertise in the field of hybrid servo motors and learning various safety, regulatory, motion, and analytical aspects of front-end-low-level analog systems, the founder took the company into the direction of integrated hybrid servo motors—a game-changing technological phase shift, both for the firm and the industry.



Whether it is to assist our clients in sizing the product or helping them in picking the right motor addition, we are with them all along the way to provide them with expertise and unmatched flexibility



As the company expanded into the domains of military, packaging, entertainment, animatronics, precision pumps, as well as medical applications, QCI became a versatile and cutting-edge solution in the motion control industry. QCI developed patented drive and damping methods to minimize heating and acoustical noise as well as to handle large inertial mismatches. Labriola mentions, “We have witnessed that in laboratories or medical offices, having a bothersome noise is something that is intolerable for



Donald Labriola PE.

doctors as well as the patient. The machines are required to be quiet while ensuring smooth and accurate readings.” The drive techniques developed at QCI eliminate much of the motor noise, including the high-frequency squeal common to most chopper/inverter drives.

Citing several other successful implementations, Labriola mentions a medical use case of a hybrid servo motor in the therapy device used to help rehabilitate injured and disabled patients by improving ambulatory movements. The combination of flexing and controlled vibration

helps to activate the muscles to respond better to the nerve impulses. The single servo motor powers the device to bear up to 300 pounds of force while also providing a vibration of up to 1 G at 30 Hertz.

On the military side, QCI’s products are used within high-efficiency HF antennas that automatically tune themselves to the required frequency. The motion control is concealed within the antenna packages, using their high torque capability to adjust the resonant frequency rapidly.

In the area of animatronics, QCI has worked on multiple projects – from the motion for the dolphin in Dolphin Tale, to moving the android bartender in Passengers, to providing motion control for characters in high-end amusement parks. The state-of-the-art Animatronic Lincoln expressive humanoid robot head packs 48 axes of control for ultra-realistic and life-like facial expressions - an impeccable dexterity that can very well inspire the futuristic design of the humanized robots.

QCI currently supports NEMA 11 through 34 frame motors, with Integrated SilverMax sizes 23 and 34 now available. QCI has plans to extend the integrated series into the smaller sizes and is also looking into adding additional interfaces for higher level control.

QCI’s team is unique in working collaboratively with the client and presenting them with customized solutions and products. The company’s tech support group works hard to assist the customers in finding the best solutions to enable the success of customer systems. “Whether it is to assist our clients in sizing the product, programming the product, or helping them in picking the right motor accessories, we are with them all along the way to provide them with expertise and unmatched flexibility,” concludes Labriola. 