Asset Utilization & Centralized Controls

Steve Craig, president of AAC, points out that “Asset Utilization—how much of the workforce you can reuse across one type of product is finished and another—starts without a major change in the factory’s productivity. This concept of quick change-over and flexibility is especially critical to the productivity of custom molders who are typically experiencing shortened product life cycles, uncertain quantities of sales, and the pressure to add more value to those products. Bring continuity. The key is for them to have a one-time investment to develop a common protocol or controller that would allow the end-user to harness the power of modern computing power while actually reducing costs.”

Control Flexibility

AAC decided on a PCI-based computer running Red Hat Linux as the operating system for the Raptor robots. Using a SynqNet controller allowed great flexibility out-of-the-box, according to David Lee, Product Development Manager for AAC. “Dannero’s Motion’s powerful software features and SynqNet motion network technology gave us a clear path to implement and build the Raptor lines. In addition, this technology would be key in future platforms as well.”

SynqNet was selected for the AAC application based on a number of factors. Servo performance, reduced wiring, and simplified implementation times were primary reasons, but more importantly, cost vs. performance was a major driver in the AAC selection. As David points out, “it’s all about designing the optimum system to your specification as specifically as possible, and see many opportunities to reduce costs with the Raptor product line while increasing performance. We saw that centralized control platforms and SynqNet digital network technology would greatly enhance performance while reducing system costs.”

As future projects change, the user would not be burdened with additional controls overhead and could modify the system within a minimum of expenses. Flexible PCI-based controls coupled with the SynqNet digital network is a perfect fit for addressing this industry-wide concern.

AAC implemented an innovative and extremely aggressive motion specification to not only build the most performant controller-robot from the ground up, but to also make it a platform that could form the basis of many new and future workcell developments. The proposed schedule was to have a viable product within one year from project inception. To help them with the aggressive schedule and next-generation design, AAC contacted value-added reseller Target Electronic Supply, Inc. Based on the AAC’s Raptor specifications, as well as their critical Common Controls Platform development, Target saw a perfect fit for Danaher Motion’s Raptor assembly and is leading the industry with some of the fastest top-entry industrial robots available today. In response to a growing need for faster, smarter, and easier to use robots, AAC embarked on a new injection molding robot design primarily reuned in the plastics industry. This concept of quick change-over and flexibility was to produce a common protocol or controller that would allow the end-user to harness the power of modern computing power while actually reducing costs. As future projects change, the molder would not be burdened with additional controls overhead and could modify the workcell with a minimum of expenses. Flexible PC-based controls coupled with the SynqNet digital network technology was the obvious choice for addressing this industry-wide concern.

As future projects change, the user would not be burdened with additional controls overhead and could modify the system within a minimum of expenses. Flexible PCI-based controls coupled with the SynqNet digital network is a perfect fit for addressing this industry-wide concern.

AAC implemented an innovative and extremely aggressive motion specification to not only build the most performant controller-robot from the ground up, but to also make it a platform that could form the basis of many new and future workcell developments. The proposed schedule was to have a viable product within one year from project inception. To help them with the aggressive schedule and next-generation design, AAC contacted value-added reseller Target Electronic Supply, Inc. Based on the AAC’s Raptor specifications, as well as their critical Common Controls Platform development, Target saw a perfect fit for Danaher Motion’s Raptor assembly and is leading the industry with some of the fastest top-entry industrial robots available today. In response to a growing need for faster, smarter, and easier to use robots, AAC embarked on a new injection molding robot design primarily reuned in the plastics industry. This concept of quick change-over and flexibility was to produce a common protocol or controller that would allow the end-user to harness the power of modern computing power while actually reducing costs. As future projects change, the user would not be burdened with additional controls overhead and could modify the system within a minimum of expenses. Flexible PCI-based controls coupled with the SynqNet digital network technology was the obvious choice for addressing this industry-wide concern.

AAC implemented an innovative and extremely aggressive motion specification to not only build the most performant controller-robot from the ground up, but to also make it a platform that could form the basis of many new and future workcell developments. The proposed schedule was to have a viable product within one year from project inception. To help them with the aggressive schedule and next-generation design, AAC contacted value-added reseller Target Electronic Supply, Inc. Based on the AAC’s Raptor specifications, as well as their critical Common Controls Platform development, Target saw a perfect fit for Danaher Motion’s Raptor assembly and is leading the industry with some of the fastest top-entry industrial robots available today. In response to a growing need for faster, smarter, and easier to use robots, AAC embarked on a new injection molding robot design primarily reuned in the plastics industry. This concept of quick change-over and flexibility was to produce a common protocol or controller that would allow the end-user to harness the power of modern computing power while actually reducing costs. As future projects change, the user would not be burdened with additional controls overhead and could modify the system within a minimum of expenses. Flexible PCI-based controls coupled with the SynqNet digital network technology was the obvious choice for addressing this industry-wide concern.

AAC implemented an innovative and extremely aggressive motion specification to not only build the most performant controller-robot from the ground up, but to also make it a platform that could form the basis of many new and future workcell developments. The proposed schedule was to have a viable product within one year from project inception. To help them with the aggressive schedule and next-generation design, AAC contacted value-added reseller Target Electronic Supply, Inc. Based on the AAC’s Raptor specifications, as well as their critical Common Controls Platform development, Target saw a perfect fit for Danaher Motion’s Raptor assembly and is leading the industry with some of the fastest top-entry industrial robots available today. In response to a growing need for faster, smarter, and easier to use robots, AAC embarked on a new injection molding robot design primarily reuned in the plastics industry. This concept of quick change-over and flexibility was to produce a common protocol or controller that would allow the end-user to harness the power of modern computing power while actually reducing costs. As future projects change, the user would not be burdened with additional controls overhead and could modify the system within a minimum of expenses. Flexible PCI-based controls coupled with the SynqNet digital network technology was the obvious choice for addressing this industry-wide concern.

AAC implemented an innovative and extremely aggressive motion specification to not only build the most performant controller-robot from the ground up, but to also make it a platform that could form the basis of many new and future workcell developments. The proposed schedule was to have a viable product within one year from project inception. To help them with the aggressive schedule and next-generation design, AAC contacted value-added reseller Target Electronic Supply, Inc. Based on the AAC’s Raptor specifications, as well as their critical Common Controls Platform development, Target saw a perfect fit for Danaher Motion’s Raptor assembly and is leading the industry with some of the fastest top-entry industrial robots available today. In response to a growing need for faster, smarter, and easier to use robots, AAC embarked on a new injection molding robot design primarily reuned in the plastics industry. This concept of quick change-over and flexibility was to produce a common protocol or controller that would allow the end-user to harness the power of modern computing power while actually reducing costs. As future projects change, the user would not be burdened with additional controls overhead and could modify the system within a minimum of expenses. Flexible PCI-based controls coupled with the SynqNet digital network technology was the obvious choice for addressing this industry-wide concern.

AAC implemented an innovative and extremely aggressive motion specification to not only build the most performant controller-robot from the ground up, but to also make it a platform that could form the basis of many new and future workcell developments. The proposed schedule was to have a viable product within one year from project inception. To help them with the aggressive schedule and next-generation design, AAC contacted value-added reseller Target Electronic Supply, Inc. Based on the AAC’s Raptor specifications, as well as their critical Common Controls Platform development, Target saw a perfect fit for Danaher Motion’s Raptor assembly and is leading the industry with some of the fastest top-entry industrial robots available today. In response to a growing need for faster, smarter, and easier to use robots, AAC embarked on a new injection molding robot design primarily reuned in the plastics industry. This concept of quick change-over and flexibility was to produce a common protocol or controller that would allow the end-user to harness the power of modern computing power while actually reducing costs. As future projects change, the user would not be burdened with additional controls overhead and could modify the system within a minimum of expenses. Flexible PCI-based controls coupled with the SynqNet digital network technology was the obvious choice for addressing this industry-wide concern.
In addition to real-time versus diagnostic, SynqNet allows for configuration and download of firmware over the network. For field buses, the SynqNet protocol coupled with a powerful SynqNet server means that what was once a labor-intensive effort that can now continue to leverage going forward. In order to be able to access, or ensure that all instances are configured, the most effective and most automated software is the only way to go. The reduced need for custom-type field support. An in-built capability to be set up in termed in setting up timeframes or software upgrades ensures cost-effectiveness.

Time in Money
Production Time
Since there is only a single cable between controller and drives, the wiring setup and debug was performed two years before prototype versions of the Raptor in a matter of hours. Mining sportily and reducing delay, helped AAC deliver on- time and within the timeline of key milestones. Additionally, due to the compact size of the controller housing, the space required to plug the cable in is lower, further reducing cable reach from the drives. This innovative CAD design of the motor ensures that for a three robot assembly line being delivered to market.

Injections Molding Cycle Time
With SynqNet, the injection molding processing, this is considered down-time,” explains Braig. “The goal is to maximize the amount of time the robot spends producing product, so reducing the time the robot is idle is critical for us. This is an obvious situation to trade-off as we take down cycle times as low as possible. But we also see the key to manufacturing throughput and efficiency increases, the increased use of axes and/or vision systems to quickly switch to the world of injection molding to “talk” to the robot.

Automation for Efficiency
Braig states, “Speed is not the only criterion in the plastics industry. To be able to maximize efficiency, “since the robot has a direct line of sight to the mold, it’s possible to inspect with a ‘smart camera’ tied directly to the PC, or a vision system. The parts can then be placed directly into sorting trays and further packaged as part of a complete workcell solution. All this, even our own automated functionality is responsible for effective quality assurance throughout the robot’s entire process flow.”

Integration
In the SynqNet platform, various controllers feature an Analog Devices DSP for dedicated motion processing and feature a direct memory map architecture across the computer’s PCI bus for efficient handling of tasks between host and controller. In particular, the XMP-SynqNet controllers feature the XMP, a powerful C++/UNIX parallel processor. Other types of programming environments can be used such as Visual Basic and Macintosh/Swift. Sophisticated MecaWare/Maxon servo control and handling utilities available from Danaher Motion also aided in compensating for other and non-compatible control overhead, while enabling me to graph multiple functions,塑胶行业仍是一个集成性高、需要时间段短的行业。但在合成过程中，机器人就可以控制各部分的运动和时间，从而达到“同时”完成任务。另外，使用视觉系统和机器人控制器，可以快速地进行产品分类和包装，进一步提高了工作效率。而整个工作流程，可以使用视图化软件直观地监控，确保了产品的质量和效率。

In addition, AAC’s next generation of robot solutions, SynqNet, will be “portable” to other environments. In addition, the additional types of programming environments can be used such as Visual Basic and Macintosh/Swift. Sophisticated MecaWare/Maxon servo control and handling utilities available from Danaher Motion also aided in compensating for other and non-compatible control overhead, while enabling me to graph multiple functions,塑胶行业仍是一个集成性高、需要时间段短的行业。但在合成过程中，机器人就可以控制各部分的运动和时间，从而达到“同时”完成任务。另外，使用视觉系统和机器人控制器，可以快速地进行产品分类和包装，进一步提高了工作效率。而整个工作流程，可以使用视图化软件直观地监控，确保了产品的质量和效率。