

Selecting a System Integrator for a Mobile Machine Control System

How To Pick the Right Mobile Control System Integrator

There are many reasons for wanting to implement a new control system on your mobile machine. However, you first have to ask yourself “is my machine right for a control system and will the market I serve accept it?”

In addition, you need to consider how the people that operate your machine will adjust and react to a new control system. Just because your competitor is doing it this way does not mean it is the right thing to do. If you have gone through this exercise and you still feel like this is in your company’s best interest, what do you do next?

Should You Work with a Control System Integrator?

There are several questions that should be answered prior to making this decision.

- Do you have the engineering expertise to implement a new control system?
- Do you have the engineering capacity to do this?
- Has anyone on your team ever worked with Tier 4 diesel engines?
- Do you have anyone on your staff that can write PLC code?
- Do you have any HMI design experience in-house?
- Has anyone on your team ever controlled proportional valves?

If the answer is “no” to these types of questions, then you should consider working with a competent system integrator.

If you have made the business decision to pursue help integrating your mobile machine control system, then before you start, you need to identify the shortcomings of your existing system (controls, hydraulics, and/or electrical), and what value you want to add to your machine. Having a clearly defined objective will save you a lot of money when it comes to developing a working prototype and production machine.

Selecting The Right Control System Integrator

Hydraulic & electrical control experience

Why do you need someone with expertise in both of these fields? To properly design a machine, and understand how it should function, you need someone that knows the entire machine, not just a PLC programmer. They need to understand how all of these components work together and how to optimize all of their features.

Good relationships with major suppliers

Why is this important? Well, when issues arise and support is needed, those relationships are critical to finding time-sensitive answers to problems.

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Component mastery

With this knowledge comes the understanding of how things are supposed to work. An example of this would be proportional valves and their intricacies.

Personnel breadth & depth

Does this company only have one or two engineers on staff that can support you? What type of help can you expect when they have limited resources. What is the knowledge base of this support staff? What is their availability, do they travel extensively? Look for an integrator with a team of engineers that can support your needs.

A partnership approach throughout machine lifespan

Look for a company that is committed to your success. If you contract someone to just write PLC code for you versus an integrator/component supplier, will they have an incentive for long-term continued project success? Will they be there for you when you need software and/or field support, and component support? Do they have the systems in place to archive your software revisions? You need someone that is committed to being a partner, not someone who is just a programmer.

Willingness to provide constructive criticism / opposing opinions

Because a good system integrator has experience, they can share thoughts on the design of your equipment, and make recommendations. Expect push-back from them based on those experiences.

Prior Like-Job Experience

Ask for a resume of projects that they have done, is there anything similar to what you are asking them to do. This might be a bit of a challenge due to NDA's, but you should be able to get a good idea on their comfort level with your type of equipment.

If you are building mobile equipment, consider working with a competent system integrator. Cross Company's Mobile Systems Integration Group have designed, and integrated hydraulic systems, electric components, and CANbus based control systems for over 15 years. Let us become an extension of your engineering team!