

smart tools ←

There's An App For That!

How technology can help you cope with the labor shortage

BY JIM BERGMAN

It's no secret that industries, including HVAC, electrical and automotive, are experiencing a looming labor shortage. This crisis exists because employers demand "job-ready" employees, and prospective employees are simply not able to bridge the skills gap without appropriate education and training.

Over the next 10-15 years, the weak growth rate of labor productivity and the retirement of baby boomers are expected to further exacerbate the issue. A recent study by Conference Board, a non-profit business membership and research group, analyzed 457 occupations and ranked construction workers ninth in its labor shortages index. It found that the occupation faces a higher risk of labor shortage than 91.4% of all others examined. Skilled trades, such as electricians and HVAC Technicians, are at an especially high risk of experiencing a scarcity of labor.

Because of this labor shortage, we are putting fewer experienced technicians on the front lines every day—and not without issues. To make it worse, the savings from lack of labor are not offset by lost opportunities and call-backs. Ultimately, these problems will cost the contractor and the industry its reputation.

Clearly the solution is more skilled laborers. But if you can't have more, then what about improving the skills of the labor you already have—faster and more productively?

The answer is technology. We have an opportunity to embrace new ways of learning and solving problems all the while documenting the results. Moreover, when it comes to the technical side of the business, there are software applications, or apps, that can help with almost anything. Well implemented, they can significantly increase the efficiency and productivity of your team.

Apps and hardware evolved from simple calculators and tools to more robust, full-blown software solutions. Hardware now connects to ordinary smartphones, and the better apps focus on increasing employee productivity. In turn, they also work as an educational device on the job. Think of it as not just making measurements, but also doing something with them.

Elimination or reduction of paperwork is only the tip of the iceberg when you consider the power of a well-built application to assure standards compliance, assist and decrease the time to diagnose problems, maximize first-time fix rates, and lower a company's liabilities with layers of documentation, including certificated approvals.

Changing from our paper-oriented/process industry is not easy, but it is not as tough or expensive as perhaps once thought. Digital checklists and processes can actually be reviewed and approved in real time, shared, and stored. Issues such as technology failures, battery life, cellular range, data limits, internet access and things as simple as fat-fingering data into an application pale in comparison after you consider your employee won't walk out the door leaving a furnace with dangerous levels of CO (even though the level was dutifully recorded on the checklist).

Connected tools also now push the data directly into the app without the need to fat-finger it into a smart phone. This not only eliminates transcription errors and dirty phones, but it is significantly more efficient. The data can be "home" before the technician.

Here are a few, great resources that can transform the ways technicians work in the field. The cost for these apps is zero for almost all functions.

- ♦ **TechLink by Supco** can be used to solve electrical problems, assist with ignitor selection and evacuation, and diagnose problems at a very granular level right down to individual component tests.

- ♦ **The BluVac App by AccuTools** troubleshoots evacuation problems while documenting the entire evacuation process. This is a great app for both documenting and automatically determining the pass/fail for the decay/leak test using the BluVac+ Professional gauge.

- ♦ **MeasureQuick by Manifold Cloud Services Ltd.** is an application for connecting Bluetooth-enabled tools to diagnose hundreds of air conditioning and heating faults, calculate capacities and efficiencies, and assist with compliance standards. Because MeasureQuick con-

nects with Bluetooth-enabled tools from multiple manufacturers such as Testo, Fieldpiece, The Energy Conservatory, Accutools, Supco Redfish and others, the tools can all be used together to solve a host of more complex problems while providing a robust data aggregation and reporting platform.

- ♦ **Sporlan's Smart Pro/R** can be used to set multiple expansion devices at once when commissioning multiple cases, and has a completely mappable set of temperature and pressure sensors. The hardware is temperature compensated and designed specifically for refrigeration applications.

While apps aren't by any means the only answer, they are an answer to some of our looming labor problems. Employees do not need to know everything—they simply need to know where to find it.

A longer version of this article appears on our blog at www.rses.org/journal.aspx

Jim Bergmann can read and understand a psychrometric chart. 1 part executive, 1 part entrepreneur, 3 parts geek, 1 part engineer, and 2 parts technician. Way too many parts.

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A Heat Pump That's Blowing Cold Air:

The next step is to replace the run capacitor. A microfarad reading of 9.7 indicates that a capacitor such as this, in the application of a compressor operation, is weak and unable to accomplish the required PSC circuit that allows the compressor motor to start and run. To complete this service call, we need to install a new capacitor in accordance with the manufacturer's specifications, confirm that the compressor starts and runs OK, and clean the indoor coil to ensure proper indoor air flow.