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INDUSTRIAL AUTOMATION & PROCESS CONTROL

This issue of the INSIDER is a little late because I've been under the weather. I'm better now and I will try to get the March issue out in a more timely manner. --WB

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LAYING OFF KNOWLEDGE WORKERS

Since the Covid-19 Pandemic's outbreak, managers have been complaining that they have jobs going begging. Companies have been paying signing bonuses and other premiums to attract workers. But suddenly, even though there is essentially negative unemployment, we are beginning to see large tech companies like Amazon, Alphabet (Google), Microsoft, Meta (Facebook), Twitter, and others laying off large numbers of workers. This time, for the first time since the great recession, they are layoffs of knowledge workers and middle and senior managers. It isn't small numbers either, which would indicate that these companies are shedding deadwood. These are thousands of people, thousands of knowledge workers.

This is good news and bad news. It is good news for start-ups—a whole class of workers is just waiting for you to hire them. And they already know what they are doing in tech. They know how to work on projects. They know how to work in teams. They know how to think inventively. Because they have been doing it for all these years for the companies that just let them go.

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It is bad news in both the short term and long term for the companies that laid them off. Layoffs always cause internal upsets. Layoffs also *always* produce time slippage in projects and more so if the persons laid off are project managers, team leaders, and other management. Saying, "Well, George is gone, so you have to split up his duties among you!" just doesn't work very well. It takes valuable time to stop, drop back five, huddle and punt.

In the long term, those layoffs will hurt the large companies doing the layoffs. If you cut off your own fingers one by one (think a recent horrible movie) eventually you won't be able to play the fiddle. Now if

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you can switch to a drum, fine, but it won't be the same song. You can never get the expertise and experience of the people you laid off back.

Here's a great opportunity for start-ups and other companies that want to take advantage of the new pool of unemployed brains that can be had. Focus on the people the big companies lay off and hire them. You may be able to get them on the cheap, but even if not cheap, you can still get top notch talent that you couldn't get last year for love nor money.

This is a huge opportunity for small companies that want to accelerate their future growth curves. If you're doing, for example, time-series data analysis for, let's say, Google, you can sure as heck do time-series data analysis for, again let's just say, a large automation company, or a small data management company. And you can slot into the job with minimal run-up time. I used this example because I have a friend in that category. But there are many others, in many other categories, just like my friend, who can go to work tomorrow, and be productive on day 2. And these are brains who will not be likely to be shopping for a new job, at least for a while, too.

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It is already obvious that the growth of new social media venues like Mastodon and others is being fueled not only by the customers leaving Twitter and TikTok, but the brain drain from both companies. Twitter has about 25% of the employees it had this time a year ago, and the service is clearly suffering. Those people have to have someplace to go, and where better than other social media companies?

Too many people have been seeing the commercial with the zombie boss and the happy freelancers singing about "We'll staff up, we'll staff down!" No, that's not how real companies work. If you don't think so, argue with me.

IS THERE AN APP FOR THAT?

In July 2008, the software world was up-ended when Apple introduced the App Store, making it possible for customers to purchase third-party applications, or "apps" that would run on iPhones. The way Apple did this is to provide a semi-open API (application program interface) and allow third-parties to write apps based on it. Apple (and later Google) then vet the app and make sure it runs. Then the author of the app can post it in the App Store and sell it.

Now apps are making their way into industrial automation and process control. Years ago, when I was on the Board of the Smart Manufacturing Leadership Coalition (now CEESMI) I suggested that the future of industrial control software and asset management software was app-based.

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The typical industrial control software is monolithic. That is, it is one huge program or suite of programs that does everything from monitoring and controlling the process to collecting data on maintenance and repair. Most often, it is supplied by a single vendor who is vested in keeping the customer captive, not necessarily providing the very best, world class product.

The typical industrial control software is monolithic.

There are several issues with this.

First, it is a very large investment and must be upgraded on a regular basis, costing more, whether all the parts of the program need upgrading or just a small section of it does.

Second, it ties the customer to a single supplier. This often means that the supplier is locked in to supplying the field devices, control valves, and networking appliances too. You can buy anything you want, as long as it is painted blue, or green, or red or some other color of manufacturer.

Third, upgrades, or even patches, can break accidentally a different section of the program, leading to errors and more patching. "Patch Tuesday" has become nearly universal for large programs.

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Fourth, big monolithic software programs do not easily run on mobile phones, tablets, or laptops. Just for grins, I once ported a major controls software vendor's program to a hardened Panasonic palmtop. All the features actually worked, if you could see them on the tiny screen. Obviously, it didn't work very well.

Fifth, big monolithic software has holes and backdoors (even when they are accidental) that permit attackers to penetrate the control system or the asset management system.

There are many areas where a simple, single-purpose program can be used instead of the huge monoliths. These areas are perfect for "apps."

There have been several attempts to provide the equivalent of Apple's App Store, or Google Play for industrial software.

Probably the best known and best realized of these is Inductive Automation's application market. Inductive Automation did what I had suggested. They provided a platform and a semi-open API, and gave the developers a kit and let them go. There are now hundreds of third-party apps that have been written for *Ignition!*—the platform Inductive Automation provides. Of course, IA provides software too, but in some cases, they've brought the third-party developed software

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into their own ecosystem. Every year, they hold a conference and one of the big features of the conference is the application developers' marketplace. Inductive Automation gives awards for the best app at the conference.

Other companies have done similar things. UReason (www.ureason.com), a data management company based in Rotterdam NL, has produced an app for control valves that runs on smartphones and tablets, is AI-based, and provides data on predictive maintenance for valves and actuators up to and including interfacing with work order development software.

A company called IndustryApps (www.industryapps.net) based in Singapore is trying to duplicate the Apple App Store for Industry 4.0 applications. It is a neat idea, but they don't seem to be getting much traction.

The past ten years have convinced me that I was right all along. The future of controls software and CMMS software is going to be based on apps. App-based design gives controls and manufacturing software the agility that Industry 4.0 demands. I am looking at the Open Process Automation Forum and CEESMI to bring this vision to life.

INDUSTRIAL STORYTELLING, PART FIVE

What happens when the story you want to tell, and have been telling, doesn't match how your company really behaves? I bet you can count companies like that on all your fingers, take off your shoes, and count on your toes, and still not have enough digits to count them all. We remember companies who don't do what they say they will.

We remember people who lie to us. We may have to do business with them, but we don't like it, and if we can find another supplier who is actually congruent with their story, we'll jump as fast as we can.

Jacques Werth, who for many years was the President and chief teacher of High Probability Selling, taught a very different way to sell, and to market your products. I argued with him for years, until he finally convinced me that it worked. What was it? Be ruthlessly honest with your customers. Take "no" for an answer. Keep going through your customer list until you get a "yes."

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It is a completely non-manipulative way to market and sell, and it works. And it automatically keeps the story you are telling congruent with the customers expectations. People don't like to be manipulated. They hate being lied to, even "little white lies." Some companies get it. Others never do.

Years ago, when David W. Spitzer and I were producing the "Consumer Guide to Electromagnetic Flow Meters" we noticed that there was a significant discrepancy between the stated performance of magmeters from Europe and Japan and the performance of the rest of the world—at least according to their specifications. We did some investigating and found that the Europeans and the Japanese believed their performance specifications should be "worst case good." In other words, realistic expectations for the customer to depend on in real life.

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Some other magmeter specifications were clearly aspirational—they hoped they'd work that well. The point of view of some vendors was that nobody could tell, and if they did, well, they'd apologize and give them a higher performance meter.

Reducing customer value is always a negative, and it can impact your story for decades.

So, when you tell a story, be ruthlessly honest. You will get a reputation for doing what you say, and saying what you'll do. Your customers can trust you.



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