



# THE WAY I SEE IT

## Editorial

### What happens to the IIoT without Open Systems?

Last month we took a look at the ExxonMobil/ Open Group initiative to make automation systems based on open systems and open standards. The question we asked was, "What will happen when the big vendors say 'No!'"

Because they certainly will. There is not much question of that. The "vendors' annuity" that ARC's Harry Forbes has been talking about isn't going away without a fight. Look at the protracted standards fights over fieldbus, industrial wireless, alarm management, and many others. In each case, one or more of the large vendors skirmished, delayed, played games, threatened jobs, and otherwise obstructed progress, in some cases for years. In some cases, we are left with the smoking carcass of a decent standard, while the small vendors and the end users simply sat there and watched.

The end users have not wanted, with some exceptions, like ExxonMobil, to do the work and spend the R and D money that is necessary for innovations, at least in automation.

The Internet of Things, and its offshoot, the Industrial Internet of Things, simply cannot be

managed without truly open systems.

Because anyone can produce a transmitter, one-off, using a Raspberry Pi or something like it, a NEMA 4X enclosure and a sensor, for under \$100— which is the same order of magnitude as a large instrument vendor can, you should expect

**Remember, anybody can buy a Raspberry Pi, a purpose built NEMA 4X enclosure for it, and a sensor (temperature, level, flow, pressure, and even some analytic sensors) for under \$100. That gives them an Ethernet enabled COTS field device for what is, frankly, not much more than the burdened cost of a large instrument vendor for a similar device. And it programs in Linux.**

to see a huge influx of sensor vendors. These new vendors will be driving open systems and open networks for those systems.

This will put great pressure on traditional sensor vendors, and this pressure will be far greater than any pressure that ExxonMobil and the other large end user/asset owners can bring.

Eventually, the COTS nature of sensors, transmitters, and network devices will drive open systems in the marketplace.

And if the Smart Manufacturing Leadership Coal-

ition, which has been awarded a decent-sized grant to begin developing an open software substrate on which open apps can be installed) and the others working on similar projects, can pull off what they want to do, we will see open systems from the field device to the enterprise. This would be not just a destabilizing event for vendors in the automation space, but a whole series of them— a perfect storm, if you will. Two years ago, I keynoted the Yokogawa USA User Conference, in which I described highlights from a strategic study I had

completed earlier that year for Yokogawa in which I postulated that this was coming. I am pleased, as a futurist, to note that my prediction was correct and appears to be remaining so, coming true perhaps sooner than anticipated.

So what is there do? Without open systems there *is* no IIoT

End user/asset owners like ExxonMobil and others need to keep the pressure on, while newer vendors, like Inductive Automation and Bedrock Automation, produce innovative products, and new sensor and software manufacturers begin to flood the market with inexpensive products. End users, engineers and operators need to keep telling their management that they want new and innovative ways to operate their plants, and new tools to do it with. It is only with pressure coming from the marketplace and from all the stakeholders, will the traditional vendors move to open systems. It isn't clear what will happen if they don't.

Comments? Talk to me!  
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