

Buying Automation by Interface: What O-PAS Changes in EPC Project Execution

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Why this paper

Owner-operators are beginning to ask for control systems specified by interface rather than by vendor platform, and EPCs are the firms that will have to deliver them. This paper sets out what that changes in project execution, from front-end engineering design (FEED) to factory acceptance test (FAT) and commissioning, and what questions it raises for the EPC.

One owner has put an open system into a live plant. ExxonMobil runs an O-PAS control system at its Baton Rouge Resins Finishing Plant, with more than 100 controllers and over 1,000 I/O points. Other owners that award EPC work, including Shell, Chevron, Aramco, Equinor, Petrobras and Petronas, are members of the Open Process Automation Forum (OPAF).

At an ARC Advisory Group workshop for Japanese EPCs, executives asked what role their firms would play and who they would compete with. This paper does not answer that for any one firm. It lays out the questions in the order a project meets them.

What O-PAS is

The Open Process Automation Standard (O-PAS) is a standard of The Open Group, developed by OPAF. It describes an open, interoperable and secure architecture for process control systems, and it is built from existing standards wherever possible. In practice, a system is assembled from components that meet the standard's interfaces, so hardware and software from different suppliers can work together and be replaced independently.

This paper does not depend on a particular O-PAS version or on the status of component conformance certification. Both have moved over time, so check the current OPAF publications before quoting either in a bid or a specification.

What changes from FEED to FAT

The biggest change is that the control system is specified by its interfaces and functions, and the choice of components can follow later. Five points in a project feel it first. The right-hand column is the question each raises for the EPC.

Stage	What changes	Question for the EPC
FEED and scope	The requirement describes the system by interfaces and functions and names conformance, not one supplier's platform	Who writes and owns the interface-level specification?
Procurement	Components can come from several suppliers, so integration responsibility must be assigned explicitly. On ExxonMobil's trial, Yokogawa acted as the OPA system integrator	Is the integrator contracted by the EPC or by the owner?
Detailed design	Late binding lets control logic and configuration be engineered before final hardware is chosen. I argue in my book that this compresses project timelines	How do engineering deliverables and schedule logic change?
FAT	For ExxonMobil, the system was tested at the integrator's facility before shipment to the plant	What must be shown at FAT for a multi-supplier system, and who witnesses it?
Commissioning	Migration can proceed through coexistence, with the old and new systems running side by side for a period	How are cutovers sequenced, and who carries the risk?

None of these points removes work. They move it, usually earlier in the project and across contract boundaries. That is where the EPC's questions sit.

What it could mean for the EPC role

The EPC's role is not settled, and I do not predict it here. Three scenarios show the range, and a real project could mix them.

1. **The EPC keeps managing automation scope.** It writes the interface-level specification, selects or approves the integrator, and carries integration risk. This demands more in-house automation capability than a contract-management role does today.
2. **The owner contracts the integrator directly.** The EPC coordinates the interfaces with the rest of the project but does not own system integration.
3. **The EPC acts as design authority.** It specifies, reviews and witnesses, while integration sits with a third party. Independence is the value here, and so is the risk of a gap in accountability.

Each scenario changes who carries cost, schedule and technical risk. Those choices belong in the contract, so they are worth discussing before the first RFP names a standard.

What an owner's RFP could ask

At the 2024 ARC Industry Forum, a Yokogawa product manager said OPAF is helping with language for requests for proposals, so EPCs should expect requirements to appear in bid documents. The checklist below is my illustration of the questions such language raises. It is not OPAF text, and an owner's actual wording will differ.

- **Standard and version.** Which O-PAS version applies, and how is conformance shown?
- **Scope by interface.** Which interfaces are in scope, and which components may come from other suppliers?
- **Integration responsibility.** Who is the system integrator, and to whom do they answer?
- **Orchestration and lifecycle.** How are software and configuration updated over the life of the plant, and by whom?
- **Cybersecurity.** What security requirements apply to each component and to the integrated system?
- **Testing.** What must be demonstrated at FAT and site acceptance, and who witnesses it?
- **Migration.** Does the scope include coexistence with a legacy system, and how are cutovers handled?

An EPC that has answered these internally before the RFP arrives will bid with fewer unknowns.

What the evidence shows, and its limits

The public evidence rests largely on one deployment. ExxonMobil's Baton Rouge system is reported to be in stable operation. A 2026 trade article describes O-PAS as in use at several locations, with this one the largest and best known.

The limits matter. The results are ExxonMobil's, reported by the owner and trade press, not drawn from independent EPC project experience. A resins finishing plant is one process type. I have not seen a published account of how an EPC's cost, schedule or risk position changed.

CSI's State of OPA 2026 landing page cites a lifecycle cost reduction of 60 to 70 percent over 25 years. That is CSI's published figure, and I offer it as a claim to test, not a result any EPC should rely on.

Questions for you

I would value your view on three points, by email or at the roundtable:

1. Which of the five project stages above would cause your team the most difficulty, and why?
2. Which of the three role scenarios is closest to how your firm would want to operate?
3. What would an owner's RFP need to say for you to bid with confidence?

CSI is hosting a closed roundtable for EPC automation and technology leads in the first quarter of 2027, with the date to follow. It has no product and no pitch. For a grounding in the standard, CSI offers a free Introduction to Open Process Automation course at csi.learnworlds.com.

About the author. Trevor Cusworth is a principal of Collaborative Systems Integration (CSI), a vendor-neutral industrial automation consultancy. He was Co-Chair of the Open Process Automation Forum from 2017 to 2023. He currently serves as Co-Chair of its Marketing & Outreach group and is the author of *Open Process Automation: Architecture, Execution & Transformation*.

Sources

Checked on 27 October 2026.

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- [Get components, software, help for open process automation now, Control Engineering](#)
- [Open Process Automation proves its worth, Control Global](#)
- [Yokogawa and ExxonMobil to implement OPA field trial, Process Online](#)
- [PTQ Q2 2026 issue](#)
- [Tokyo Workshop on Open Process Automation Draws EPCs, ARC Advisory Group](#)
- [Open Process Automation Forum, The Open Group](#)