

Industry Could Save \$30bn a Year with Universal Automation, Report Finds

- Eliminating vendor lock-in with portable automation control software could mean 68% reduction in engineering time
- EcoStruxure™ Automation Expert, the world’s first software-centric universal automation system, deemed “harbinger of coming era”
- Pilot tests indicate potential CAPEX saving of \$1 million per unit, with even larger OpEx savings, according to ARC

Rueil Malmaison, November 10, 2020 – [Schneider Electric](#), the leader in the digital transformation of energy management and automation, welcomes a report from [ARC Advisory Group](#) (ARC), the leading technology market research firm for industry. [The Road to Universal Automation](#) report asserts that Schneider Electric’s EcoStruxure™ Automation Expert, based on the principles of universal automation and the IEC 61499 standard, is “both a highly productive control system design tool and a harbinger of a coming era where automation software reaches new levels of portability and hardware independence.”

Software-defined industrial systems

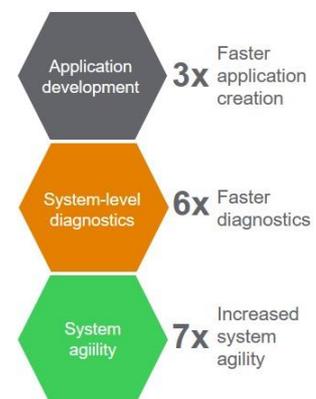
Universal automation, the world of “plug and produce” automation software components, will make software a portable asset capable of boosting efficiency, resilience, productivity, agility and sustainability of industrial operations, according to the report.

The report finds that, “a standardized automation system layer would be immensely valuable in economic terms.” For example, end users across industry spend \$20-30 billion each year to service the installed base. A substantial part of that spending could be avoided through a standardized automation layer, saving valuable engineering time by eliminating vendor lock-in and opening the door to automation innovation.

“Far beyond the cost savings, standardization would enable highly skilled process engineers and technicians to focus more on production improvements and impacting business variables rather than merely rewriting legacy code,” the report notes. Emerging software tools and technologies will enable a future of software-defined automation systems.

“Today’s demands for greater manufacturing flexibility, productivity and agility call for the industry to build on the success of the ongoing cloud-native revolution in IT software. By decoupling hardware and software in industrial environments, organizations will be able to automate and control the design and management of operations, fulfilling the promise of Industry 4.0. This is the gap that Schneider Electric’s EcoStruxure Automation Expert – today’s state-of-the-art commercial IEC 61499 development system – is designed to close,” said Harry Forbes, ARC Advisory Group. “This, combined with Schneider Electric’s vision and commitment to the value of open automation software, provides a significant step forward for universal automation.”

EcoStruxure Automation Expert



Source: [A Quantitative Comparison of Digitized Industrial Automation Systems](#)

Open automation test beds offer evidence for a revolution

The report notes that there are “several major ongoing industrial initiatives today to promote this new world of open automation software and the portability of industrial control applications. One of these is The Open Group Open Process Automation™ Forum ([OPAF](#)), which seeks to define a highly standardized reference architecture for process automation systems. ExxonMobil provided the initial impetus for OPAF and continues to invest in the technology. Notably, ExxonMobil works on open automation in its own laboratories and test beds.”

“Schneider Electric has been a long-time partner in the effort to develop and demonstrate open process automation technology, including by supplying their IEC 61499 software for use in our open process automation test bed. ExxonMobil believes the IEC 61499 standard, as demonstrated by Schneider Electric, has several advantages that support the industry’s need for portable applications,” said Bradley Houk, Senior Engineering Advisor at ExxonMobil Research and Engineering.

Another recent study, [A Quantitative Comparison of Digitized Industrial Automation Systems](#), found that EcoStruxure Automation Expert saved 68% of engineering hours in compared to current automation engineering systems – a savings that ARC believes would be worth several billion dollars annually if it could be applied across the installed base of industrial automation. Savings are likely to be even more dramatic throughout the full plant lifecycle, according to the report.

Universal automation is an enabler of progress and productivity

Schneider Electric is at the center of a game-changing transformation of industrial operations, accelerating its drive to help customers unlock the full potential of the Fourth Industrial Revolution. It aims to unleash a new wave of innovation by championing the widespread adoption of open universal automation and the IEC 61499 standard.

The report sees IEC 61499 as “a key software technology for the definition and management of control system configurations,” enabling open source and commercial products working together. Universal automation will enable an industrial control system to be modeled and developed as a single integrated system and yet deployed as a distributed system, boosting progress and productivity.

“Advances in machine learning, augmented reality, real-time analytics and the IIoT hold great promise for industrial enterprises and manufacturers to meet the demands of today’s agile and digital world, said Fabrice Jadot, Senior Vice President, Industrial Automation Incubator, Schneider Electric. “However, realizing this promise is limited by closed and proprietary automation platforms that restrict the adoption of best-of-breed technologies, presents challenges to integrate third-party components and are expensive to upgrade and maintain. In the post-pandemic world, manufacturers must be able to control and adapt their operations in response to ever-changing market conditions. Adopting new and innovative software functions in a seamless and controlled manner ensures their automation systems are continuously current. Universal automation will enable that and more, spurring industry-wide innovation. Think of it as the dawn of an Industrial Automation App Store.”

Tweet this!

“Universal automation will make software a portable asset capable of boosting efficiency, resilience, productivity, agility and sustainability of industrial operations.”



The future of automation is open

The vision articulated by the global Industry 4.0 initiative is of a revolution in manufacturing production systems, where intelligent machines, equipment and other devices communicate and collaborate extensively with each other and with factory personnel to deliver greater manufacturing flexibility, productivity, and availability, and do this via an integrated architecture.

While such an architecture has been defined for Industry 4.0, to fully realize this vision, an entirely new class of manufacturing automation systems will need to be created. These automation systems will be built from standardized software at all levels and they will enable entirely new ways to design, deploy, operate, and maintain control systems, production equipment, factories, and plants.

Schneider Electric believes the time is right for a bold move in industrial automation and is calling on industrial users, vendors, OEMs, systems integrators and EPCs across industry to embrace universal automation and IEC 61499.

[Learn more about Universal Automation](#)

[Read *The Road to Universal Automation*](#)

About Schneider Electric

Schneider's purpose is to **empower all to make the most of our energy and resources, bridging progress and sustainability** for all. We call this **Life Is On**.

Our mission is to be your **digital partner for Sustainability and Efficiency**.

We drive digital transformation by integrating world-leading process and energy technologies, end-point to cloud connecting products, controls, software and services, across the entire lifecycle, enabling integrated company management, for homes, buildings, data centers, infrastructure and industries.

We are the **most local of global companies**. We are advocates of open standards and partnership ecosystems that are passionate about our shared **Meaningful Purpose, Inclusive and Empowered** values.

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