

Dear IEC Young Professionals selection committee,

For your consideration, please find below my candidate essay.

Throughout the course of my career I have been privileged to work in a number of areas impacted by global standards development. These standards have focused primarily on ensuring interoperability of industrial automation devices in a wide range of customer applications and minimizing the occurrence of dangerous failures in the field.

I have spent a considerable amount of time working to ensure conformance of industrial automation products to various safety standards. These standards help to ensure adherence to best practices for safeguarding human and environmental safety. For example, the IEC 61508 standard sets forth a framework for quantifying and protecting against dangerous failures within applications that could otherwise result in the loss of human life or damage to the environment. This standard is used as a base normative standard for many other application specific standards used in many different industries. Global communities working together to standardize best practices and disseminate this knowledge across multiple applications is invaluable as a tool for disseminating best practices. Similarly proving conformance to these standards provides confidence to the end user that they have the appropriate tools to work in a safe environment without danger to themselves or others.

Interoperability is also a key driving factor in development for industrial machinery. For example, the essential standards 61000-6-2 and 61000-6-4 define the electromagnetic compatibility of industrial devices, ensuring that they can operate in environments with adverse RF energy while not emitting excessive RF energy themselves. Products designed to these standards are more robust and allow users to ensure improved performance of devices in diverse landscape of products developed by multiple manufacturers. They also define best practices for development and testing of industrial automation products, which leads to more sustainable development practices.

Looking towards the future, the manufacturing landscape requirements for safety, interoperability, data acquisition and analysis will continue to evolve with the advent of Smart Manufacturing. Existing technologies will continue to grow with influence from other industries such as Artificial Intelligence, Cloud Services, advanced and predictive failure prediction and maintenance and process optimization. Utilization and adaptation of existing standards traditionally used by those industries provide a pathway to accelerate advancements and draw from talent pools and knowledge bases outside of traditional parties. This also offers the opportunity to bring diverse perspectives to existing manufacturing workflows. Drawing from both established workflows and best practices and new and novel talent pools brings a balance of new ideas while maintaining efficiency and safety in existing applications.