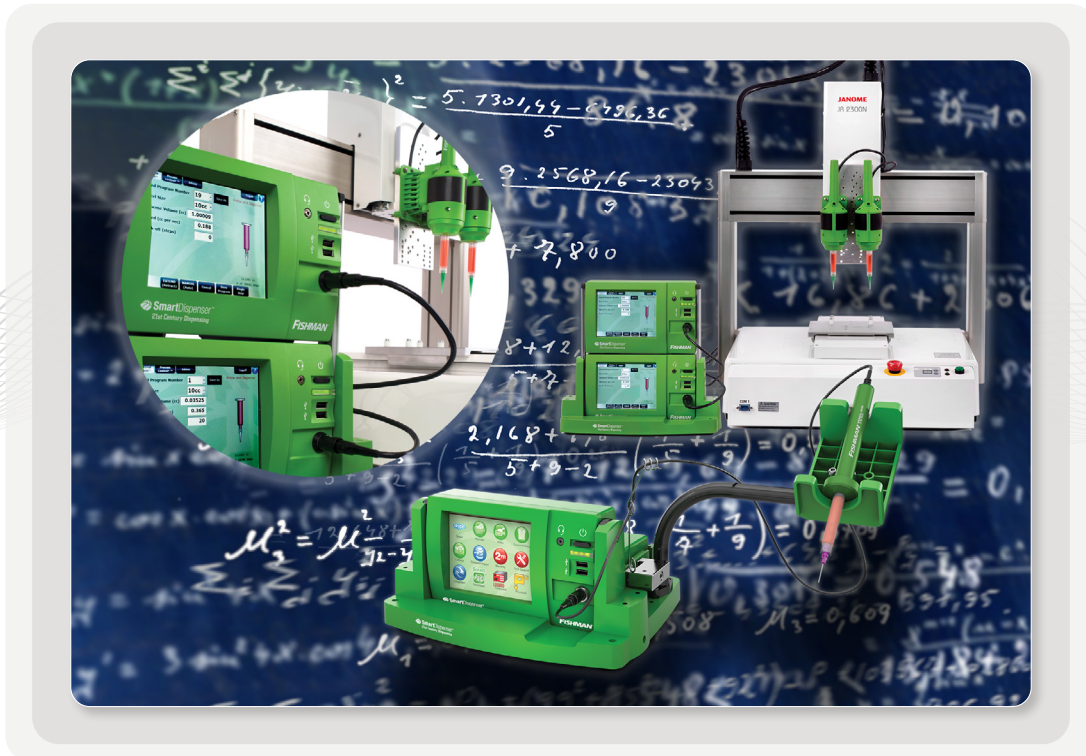


# The role Artificial Intelligence is playing in fluid dispensing



## Artificial Intelligence

These days with all the talk about Artificial Intelligence (AI), one might think it is a recent phenomenon. That is far from the case. The study of AI by mathematicians and philosophers can be traced back to ancient times. The subject gained considerable momentum in the 1940s and 1950s with the advent of computers.

Today, AI is a topic spoken about in countless quarters. Little wonder since it gives machines the ability to perform tasks that are typically associated with human intelligence. One could assert with confidence that the potential and benefits of AI are, in a word, limitless.

The power of AI is being realized on a number of fronts in manufacturing facilities with devices of various types delivering the benefits of this potent technology. Fishman® Corporation is doing all that it can to ensure its fluid dispensing systems are ready to meet the challenge and deliver on the promise of AI.



# AirFree® Technology




The SmartDispenser® with AirFree® Technology is the only solution with the infrastructure to make a fluid dispensing system a true Industry 4.0 device. It rises to that level because the SmartDispenser® possesses the three essential elements that give it the intelligence necessary for it to add AI functionality at the point of dispense: an operating system, a database and algorithms.

These crucial components combine to enable the SmartDispenser® with AirFree® Technology to know important information such as how much fluid is in the reservoir, along with when it is empty. At which point, it alerts the operator or the programmable logic computer (PLC) to take necessary actions. AirFree® Technology also enables the SmartDispenser® to network with the server/MES software program, integrate with other manufacturing systems, record key production data and, most importantly, to work in step with supportive devices to advance the automation abilities of the assembly process.




Much of this is possible because the neural network at the core of the SmartDispenser® consists of algorithms and an SQL database. The primary function of the algorithms is to control the Linear Drive System™ (LDS), enabling it to dispense fluids with the highest degree of accuracy and repeatability, while mitigating the stresses that are a normal, but unwelcomed aspect of fluid dynamics. These capabilities provide manufacturers with fluid volume control far beyond what they get from traditional fluid dispensing systems dependent on compressed air.

The algorithms, when combined with the database, provide an important secondary role as well; one that transforms the SmartDispenser® into the most powerful and flexible fluid dispensing system available today. This transformation is furthered when Performance Enhancing SmartApp™s, which are supplemental algorithm packages, are allowed to interact with the database to provide capabilities to a manufacturer's specific need or application. These SmartApp™s include the following:




## PROCESS OPTIMIZATION

-  [Fluid Level Alarm SmartApp™](#)
-  [Pre-Mixed Timer SmartApp™](#)
-  [Two Component Cartridge Timer SmartApp™](#)




## PERFORMANCE ENHANCEMENT

-  [Reverse Speed SmartApp™](#)
-  [Dispense Speed SmartApp™](#)
-  [LC, MT and SC Fiber Optic Connector SmartApp™](#)

## DATA MANAGEMENT

-  [Device History Report Update SmartApp™](#)
-  [Auto Export Device History Report SmartApp™](#)
-  [Expand Save Locations SmartApp™](#)

## USER MANAGEMENT

-  [Operator Training Verification SmartApp™](#)
-  [Password Automatic Expiration SmartApp™](#)
-  [Auto Login SmartApp™](#)








# AirFree® Ai Technology

It would be fair to say that not only is the SmartDispenser® an Industry 4.0 device, but with its many innovative features it presently offers a number of AI capabilities and the potential for many more. The transition from AirFree® Technology to AirFree® AI Technology takes place because when coupled with various external devices, the SmartDispenser® has the ability to learn, reason and self-correct.

It is important to note that the SmartDispenser®'s current AirFree® AI Technology does incorporate reasoning. For example, when its database is populated and a bar code scanner is added, the SmartDispenser® is empowered to make accept or reject decisions and, if necessary, to take actions such as stopping production. The SmartApp™'s that let the SmartDispenser® reason in this manner are:



## QUALITY CONTROL

-  Raw Material Verification SmartApp™
-  Assembly Fluid Verification SmartApp™
-  Work Order Tracker SmartApp™



At this time, AirFree® AI Technology is not capable of learning or self-correcting, but it does provide a solid framework on which additional external sensors with appropriate firmware and software can be connected to the SmartDispenser® that will permit it to perform these functions.

The commitment of the engineering team at Fishman® Corporation to apply these capabilities and others have made the SmartDispenser® a true Industry 4.0 device. As it continues to endeavor, it will not be long before the SmartDispenser® becomes fully AI capable. One area in which Fishman® is currently putting considerable effort into is automation. The Company already has an innovative platform it calls SmartAutomation™ that aligns perfectly in how it sees AI benefiting manufacturers now and in the future.

# Fishman® works to expand the role of AI in fluid dispensing



Fishman® Corporation remains committed to working on new advancements to ensure manufacturers have solutions that are keeping up with the benefits of AI. The capacity of the SmartDispenser® is rooted in its algorithmic- and database-driven operating system design which provides it with a clear path forward to becoming a learning platform. For example, adding vision systems, sensors or other peripheral devices that record and report could very well be realistic next steps in completing this learning platform. By integrating devices such as these manufacturers would be able to see and learn how a specific fluid reacts when dispensed, and how to make adjustments based on the fluid dynamics/performance/temperature conditions. It is not unusual for enhancements of these types to be part of discussions that Fishman® routinely has when collaborating with its customers. Other ways in which Fishman® is working to expand the potential of AI has it exploring new strategies to create even greater interactions between the SmartDispenser® and MES Systems and databases. Fishman® is well aware that reaching these heightened levels of intelligence will help to further increase the productivity that many of its customers are already benefiting from their SmartDispenser®s.

**With so much in the offing, it is important to stay informed about future breakthroughs—AI related and otherwise—from Fishman® Corporation. In the meantime, if you wish to learn more about what the SmartDispenser® and its many innovative features can do for your assembly needs right now, please visit [fishmancorp.com](http://fishmancorp.com) or call us at 888-425-1671.**