

---

# ADEPT Framework Adds Support for ONNX Machine Learning Models

---

March 9, 2021. Ann Arbor, Michigan.

ADI today announced the release of support for Open Neural Network Exchange (ONNX) format models in the ADEPT Framework. Support for the ONNX model exchange format opens the door to apply the rapidly growing power of Artificial Intelligence (AI) and Machine Learning (ML) technologies to their industrial applications with rapid, single-click deployment.

“Artificial intelligence and machine learning have quickly become a disrupting force across industry, and the demand to capitalize on the potential shown by AI/ML continues to grow” says Scott C. James, ADI’s President and CEO. “Our support for the ONNX standard marks an exciting step forward in AI/ML industrial deployment capabilities, and demonstrates ADI’s continued commitment to cutting-edge, open-source technologies that push the boundaries of what can be achieved with industrial computing.”

## **About ONNX**

ONNX, developed jointly by Microsoft and Facebook in 2017, has rapidly become the open standard format enabling AI/ML model interoperability. ONNX has allowed AI/ML models that have been developed in a variety of environments to work together with minimal effort. Nearly every popular AI/ML software framework provides the ability to export models in the ONNX format, including TensorFlow, Caffe2, PyTorch, Microsoft Cognitive Toolkit, Keras, and many more.

In addition to the models developed in open and commercial AI/ML software frameworks, the ONNX Model Zoo offers open access to a variety of pre-trained AI/ML models for sought-after capabilities such as computer vision (object identification, detection, and manipulation), language (machine comprehension, training, and modeling) and speech and audio processing.

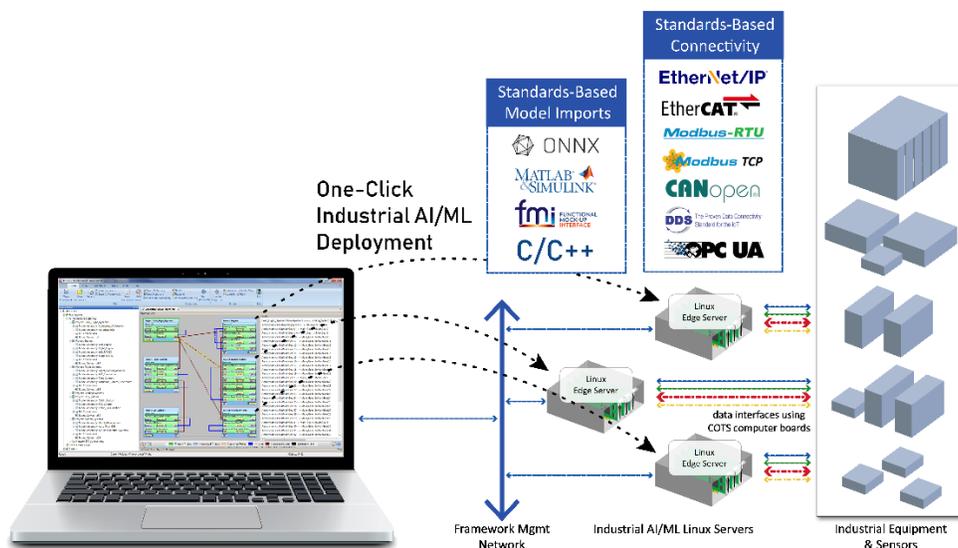
Widespread ONNX support has not only seen explosive growth in AI/ML model development, but also by GPU manufacturers. NVIDIA, the world’s largest manufacturer of GPUs has recently adopted the ONNX format as the standard for AI/ML model training and execution. Optimized for machine learning, GPUs have been proven to execute AI/ML training up to 250 times faster than CPUs due to their ability to perform simultaneous computations in parallel processes.

## **Artificial Intelligence & Machine Learning in the ADEPT Framework**

An ADEPT real-time computing and data handling framework is made up of one or more real-time applications, executing on COTS computers, and operating in coordination and with time and process synchronization. The real-time framework provides a flexible computational structure allowing COTS servers to be used in industrial applications to be interfaced with real-world equipment, e.g. PLCs, sensors, actuators, DAQ devices, etc., and operated as a time-synchronized cyberphysical system.

The ADEPT Framework’s combined suite of software now allows a user to easily import AI/ML models in the ONNX format into a framework, assign the framework to one or more servers and/or embedded

systems, connect AI/ML inputs and outputs to data sources and data consumers, and operate with detailed, nanosecond resolution insight into how each aspect of the framework is operating. The framework services provide a computationally optimized set of tools to empower the AI/ML application developer to deploy, identify and eliminate operational issues, and refine & adapt the capability. With ADEPT's support for 100+ COTS computer I/O boards and the ability to integrate any data interface that offers Linux driver support, AI/ML models can now be flexibly and quickly connected to data acquisition cards, Ethernet channels, publish-subscribe protocols, software APIs, and nearly anything that offers a suitable interface.



## About Applied Dynamics

[Applied Dynamics](#) helps companies make better use of data and control assets through all stages of product development, verification testing, demonstration, training, and maintenance. Applied Dynamics flagship product, the ADEPT Framework, is the most advanced real-time, industrial Internet of Things (IoT) software platform available, providing an agile, open architecture, feature-rich environment for the complete product lifecycle from development through integration, verification, validation, certification, deployment and sustainment. ADEPT embraces an open architecture and allows its users to leverage best-in-class COTS components. The ADEPT user base includes 14 of the global top 35 A&D companies and extends into marine, power systems, oil & gas, and the automotive industry.

To learn more about how ADI can help your team, visit [www.adi.com](http://www.adi.com) or send an email to [adinfo@adi.com](mailto:adinfo@adi.com).

Contact:

David Warner

Applied Dynamics International

3800 Stone School Rd

Ann Arbor, MI 48108, USA

Email: [dwarner@adi.com](mailto:dwarner@adi.com)

###