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New Product Open House Show 2022

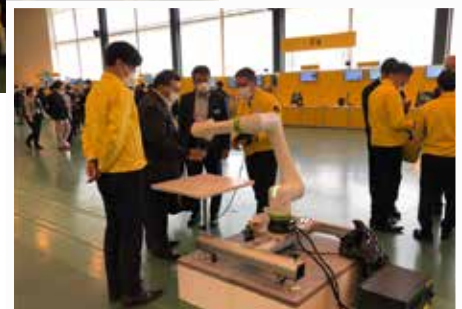
The New Product Open House Show took place at the Nature Hall at FANUC Headquarters for three days from Tuesday, May 17 to Thursday, May 19 as the first “real” Open House in three years. Since life has yet to return to normal from the COVID-19 pandemic, the Open House was held taking adequate infection prevention measures. The number of visitors invited was reduced to about one third of previous Open Houses and the visiting time was limited to two hours.

Since there was less congestion than in previous years, visitors could take a closer look at FANUC’s latest products and technologies, and listen to explanations in detail. Requests for lengthening the viewing time were received, which was highly appreciated.



In the **FA** area, the main focus was on FANUC’s CNC Digital Twin, which effectively improves machine performance. Other exhibits featured the expansion of lineup, high machining performance, minimizing down time, and quick and easy integration of robots into machine tools. Many visitors showed interest in *i*PC, Slice I/O, Fine Surface Technology, and Digital Twin, among others.

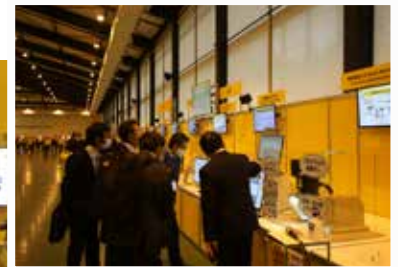
The **Robot** area showcased a wide range of FANUC robot applications, emphasizing collaborative robots that are easy to use even for first-time users. The corner where visitors could experience the CRX collaborative robot was especially popular to the point that Therefore, two more robots were installed on the last day of the show to allow more people to experience their use.



The **Robomachine** area exhibited the new models of the ROBODRILL, ROBOSHOT, and ROBOCUT, and systems combining their usage with robots, based on the theme of “ROBOMACHINE that continues to pursue enhancements in machining performance, operating rate, and ease of use.” Visitors were impressed by the ROBODRILL’s cycle time reduction, ROBOSHOT’s large display unit and network connectivity, and ROBOCUT’s improved pitch accuracy and roundness, among others.

New Product Open House Show 2022

In addition, “one FANUC” themes, which are implemented across the entire FANUC Group, were displayed, such as “IoT that contributes to making a factory smarter with digital data” and “FANUC’s approach to sustainability.” FANUC highlighted sustainability for the first time in an exhibition, and explained the ways the company contributes to solving challenges pertaining to the global environment and society, through its FA, Robot, and Robomachine businesses.



The **Service** area introduced FANUC’s various service initiatives aiming for “a factory that does not stop,” as well as the three training styles of the FANUC Academy (lecture courses, live seminars, and on-demand seminars). Many customers were interested in FabriQR contact, a smartphone-based inquiry service.

New Product Open House Show 2022 (Nagoya)

The New Product Open House Show 2022 (Nagoya) took place in the Technical Center of the Nagoya Branch in Komaki, Aichi Prefecture, for two days from Wednesday, June 15 to Thursday, June 16. While the first day was marred with bad weather, patches of blue sky appeared on the second day with the heat hinting of the arrival of summer. As with the New Product Open House Show held at Headquarters in May, ample infection prevention measures were taken in Nagoya as well, by limiting the number of visitors and viewing time.



FANUC product users working in actual production sites saw the latest models and functions, and many provided direct feedback including evaluations, expectations, and opinions.



Chairman Inaba Inducted into the US Plastics Hall of Fame

Chairman Yoshiharu Inaba was chosen as a 2021 inductee into the Plastics Hall of Fame in the United States, and received a memorial trophy and medal from the Plastics Industry Association (PLASTICS).

Although the induction ceremony was initially planned to take place at last year's Plastics Show (NPE2021), the Show was postponed for a year due to the COVID-19 pandemic. The ceremony was held instead at a hotel in Chicago on May 2 this year. Chairman Inaba attended online and the video of his induction speech was aired at the venue.

Being inducted into the Plastics Hall of Fame is the highest honor bestowed on an individual, in recognition of his/her contribution to the global development of the plastics industry.

To date, 203 people have entered the Hall of Fame, with 2021 welcoming ten new inductees, including Chairman Inaba (as one of four new members of that year from Japan).

In 1983, Chairman Inaba developed the world's first mass-production model of an all-electric injection molding machine that uses a FANUC CNC and servo motor. Ever since, he has been endeavoring to spread the use of all-electric injection molding machines and to help the precision-molding market grow. All-electric injection molding machines significantly contribute to carbon neutrality, which is a common challenge for humanity. This achievement was

also recognized and led to his induction.

In his speech on being inducted into the Plastics Hall of Fame, Chairman Inaba expressed his determination for further development as follows:

"This tribute was totally unexpected. It is a great honor.

I was recommended by Milacron of the Hillenbrand Group, who is our partner in the Americas. I am sincerely grateful to the Society of the Plastics Industry in the U.S. for recognizing the achievements of both Milacron and myself.

ROBOSHOT now has the highest share in Japan's injection molding machine market. The stable, ultra-high precision molding capabilities of ROBOSHOT are useful to mold electronic and optical parts. Along with such excellent features, the low energy consumption is only a third compared to hydraulic machines. This contributes greatly to carbon neutrality required in today's world. Currently, electric molding machines have become popular and are the mainstream in the molding industry. I will continue to contribute to the development of the plastics industry in the U.S. and other countries worldwide, with what abilities that I have."

A message was received from President Jones of Milacron, FANUC's partner in the U.S., to celebrate Chairman Inaba's induction, and a commemorative tree planting ceremony was held at Milacron's Head Office in Ohio on May 25.



Venue of the Plastics Hall of Fame Induction Ceremony



Chairman Inaba shown on the monitor at the ceremony venue



Trophy



Medal



Commemorative tree planting ceremony at Milacron's Head Office

FANUC Factory Introduction (Mibu Press & Die Cast Factory)

The Mibu Press & Die Cast Factory was completed in April 2016 and began operating in October of the same year to increase the production capacity of servo motors and to promote BCP (business continuity plan). The Factory is divided into two areas (the Press area and Die Cast area), where fabrication of servo motor components is performed

Rotor die casting equipment for built-in spindle motors for large spindles

In recent years, built-in spindle motors are increasingly used as the spindle driving mechanism in machine tools. Especially to meet the growing demands from the large-model market, the Mibu Press & Die Cast Factory has installed a new large die cast machine to cast large rotors (external diameter of 265mm).

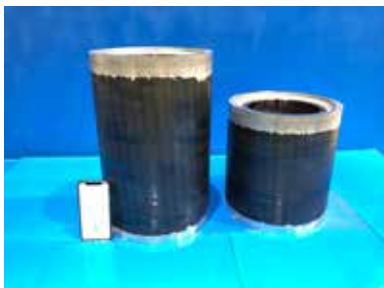
Rotors of built-in spindle motors for spindles are cast by pouring molten aluminum into the core, which is made of laminated electromagnetic steel sheets. The casting of these rotors is the aluminum casting of the largest diameter within FANUC, and such casting is extremely difficult. However, by repeatedly conducting X-ray checks of cast porosity and detailed analysis of cast data, the Factory has succeeded in the mass-production of high-quality cast rotors.

The die cast machine, which comprises the core of production, is a large unit with a height of over 9m including the injection device. The machine is composed of a horizontal clamping device which opens and closes the die sideways, and a vertical injection unit that pours molten aluminum into the die in the upper section. Although vertical injection units mainly use vertical clamping devices, FANUC uses a

separately.

The Die Cast area in particular is working on beautification activities with the aim of becoming the world's cleanest die cast factory. In addition, an automatic transport system is used to deliver workpieces to the post-process in the Factory, thus improving the efficiency of in-house logistics.

horizontal clamping device so that casting burrs generated during casting will fall out of the die during removal and will not remain in the die. In addition, a servo motor powers the hydraulic pump that drives the die cast machine's injection cylinder, which saves power through its idling stop function. Moreover, all processes are automated by using robots, enabling unmanned operation. Ingots of raw materials are automatically unloaded by robots with 3D area sensors, and are then loaded into the aluminum melting holding furnace. During casting, the tasks of supplying molten aluminum to the injection unit, pre-heating the core and inserting it into the die, cleaning the die, and applying the die lubricant are performed by three robots at an appropriate timing to achieve both high cycle time and high quality. Sprue cutting after casting is conducted by a robot with a general-purpose bandsaw, and a ROBODRILL is used to machine cut surfaces. Each cast rotor is imprinted with a QR code to associate individual rotor with the date and time of production and casting data, which is useful for quality control. The Mibu Press & Die Cast Factory will continue to manufacture and supply quality components and support the stable supply of built-in spindle motors.



Cast rotors



View of rotor die casting equipment



Detecting and unloading ingots using 3D area sensors



Cutting the sprue of the cast workpiece with a general-purpose bandsaw



Machining the sprue cut opening with a ROBODRILL

FANUC's Cumulative CNC Production Reaches 5 Million

FANUC started developing NCs in 1955, and from this time on, FANUC has been consistently pursuing factory automation. Since producing the first unit in 1958, FANUC has been steadily producing results to achieve a cumulative production

of 10,000 CNCs in 1974, 1 million in 1998, 2 million in 2007, 3 million in 2013, and 4 million in 2018. In February 2022, FANUC reached a milestone of a cumulative production of 5 million CNCs.



FANUC Series 30i/31i/32i-MODEL B Plus



FANUC Series 0i-MODEL F Plus

Four Seasons of FANUC

Plants absorb the warm sunshine to sprout new leaves in the forests in and around FANUC. Entering a forest, rich in vivid fresh greenery and lively

with the chirping of birds and flapping of insects' wings, visitors will be welcomed by an abundance of small wild grass and flowers blooming steadfastly at their feet.



Cypripedium japonicum Thunb



Pyrola asarifolia subsp. incarnata



Maianthemum dilatatum



FANUC's History Series 5

"FANUC 200A"

Developed in 1972 and having a dedicated small computer, the 200A was a multi-purpose CNC offering flexibility in selecting the combination of hardware and software modules.

The 200A took advantage of CNCs' features to enable the editing of machining programs stored in the memory, which was not possible with hard-wired NCs.

By changing the internal control program, the 200A supported milling, turning, turret punch pressing, special multi-axes machines, and more.



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