



MECHATROLINK News “MMA-FLASH” brings the latest MECHATROLINK information.

**Feature Article** Interview with Azbil Corporation

## MECHATROLINK-III, a high-speed motion network that assures uninterrupted synchronization, achieves high-speed and high-accuracy control of measurement sensors.

We deliver the latest news and information to MMA member companies and MECHATROLINK users in our feature articles. In this edition, we spoke to Sadaichi Murai, Deputy Manager of FA Business Development 1st Dept., Global Business HQ, Advance Automation Company, Azbil Corporation, about the positioning of MECHATROLINK in the company and the future prospects of MECHATROLINK.

**Q1. Tell us about your company and product lineup.**

—Azbil Corporation is firmly rooted in “measurement and control” technologies and pursues “human-centered automation,” which aims to contribute to people’s safety, comfort, and fulfillment, as well as the global environment. We produce an extensive lineup of control devices for the factory automation market, including sensors, controllers, and actuators, that are fitted for various systems and equipment. We actively work on problem-solving in close contact with production sites for semiconductors, electric and electronic devices, automobiles, and other products

**MECHATROLINK-III maximizes the advantages of measurement instruments**

**Q2. Tell us about the MECHATROLINK compliant K1G series high-accuracy position sensors that are currently being developed.**

—The K1G series is used for various applications, such as measurements of meandering and thickness of film, position measurements and abnormality detection of glass substrates, and detection of the inclusion of a mix of different types of electronic parts. We greatly enhanced our unique algorithm and calculation performance to develop the K1G series. As a result, the K1G series has achieved the highest level in its class and features a display resolution of 0.1 μm, which is 10 times higher than conventional models. The measurement cycle has also been shortened to 250 μs, which is approximately

half the time of the measurement cycles of conventional models. These developments mean that the K1G series can measure microscopic and high-speed changes that were conventionally difficult to detect. With such enhanced performance, the K1G series can detect the small changes that conventional models fail to detect, which contributes to higher quality production. The K1G series is also equipped with new functions: a “user test mode” that allows you to check the sensor connection status before starting operation, and a “data log function” that records data if a failure occurs. This translates into time saved for setup before operation and troubleshooting, and an increase in your production ratio.

**Q3. Tell us about your solutions for the K1G series.**

—The high-speed and high-accuracy K1G series position sensor demonstrates its real capabilities with connections to MECHATROLINK-III, a high-speed motion network that ensures uninterrupted synchronization, not with connections to a field network, such as Ethernet. The K1G series achieves high speed and high accuracy by simultaneously providing feedback loop information for measurement, control, and operation. The K1G series also reduces the number of wires required for operations and improves maintenance performance. Data synchronized with data for all networked devices can also be easily retrieved to check actions at each set-up change and determine the cause of problems. Most users of the K1G series sensor connect the sensor to a motion system device, such as servomotor. For such users, we selected MECHATROLINK, which has demonstrated outstanding results in the motion control field throughout the Asia region, as our best partner.

Sadaichi Murai  
Deputy Manager  
FA Business Development  
1st Dept., Global Business HQ  
Advance Automation Company  
Azbil Corporation



## Expectations of Solutions by Connecting to MECHATROLINK-III

### Q4. Azbil Corporation became a member of the MMA marketing group last year and has participated in various events. Tell us about the response of your customers to your solutions.

—Azbil Corporation introduced the K1G series sensors at the Automation Components Fair 2015 held in Kyoto and Hamamatsu in February 2015. During our participation in the fair, our customers in the roll-to-roll system market that requires position control with higher accuracy expressed great interest in and expectations of our solutions with connections to the MECHATROLINK-III network.

The Automation Components Fair gave us the opportunity to understand the expectations of our customers on MECHATROLINK-III networking. We have already received specific inquiries before the product release.

### Q5. Tell us about your future expectations of MECHATROLINK.

—We hope that the MMA will facilitate and accelerate the transition from MECHATROLINK-II to -III. With the expansion of MECHATROLINK-III compliant controller models, we believe that we can offer total solutions to more customers in combination with our products.

We expect that the number of MECHATROLINK-III compliant models developed by manufacturers outside Japan, especially by manufacturers in Asia, will increase to respond to accelerated globalization.



## News & Topics

### 2015 MMA General Meeting, Lecture, and Reception

The 2015 MMA general meeting, lecture, and reception will be held on June 5, 2015. All MMA members may attend the meeting, lecture, and reception free of charge. We are looking forward to seeing many MMA members at the meeting.

All participants are requested to register in advance on the MMA website.

<http://www.mechatrolink.org/jp/>

Registration will be accepted until 13:00, June 1 (Mon), 2015 in JST.



2014 MMA General Meeting

Date	13:00 to 18:50. June 5 (Fri), 2015
Place	UDX Conference, 6th Floor Address: 4-14-1 Sotokanda, Chiyoda-ku, Tokyo Access: 2-minute walk from JR Akihabara station 3-minute walk from Tokyo Metro Ginza Line Suehirocho station/Tsukuba Express Akihabara station 4-minute walk from Akihabara station on the Tokyo Metro Hibiya Line Visit the following URL for detailed access map. <a href="http://udx.jp/conference/access.html">http://udx.jp/conference/access.html</a>
Participants	MMA member only
Program	<ul style="list-style-type: none"> <li>◦ Report on FY2014 activities and activity plan for FY2015</li> <li>◦ Report on settlement of accounts for FY2014 and budget planning for FY2015</li> <li>◦ Report on group activities (Marketing and PC Engineering groups)</li> <li>◦ Special lecture by AJINEXTEK Co., Ltd. "Robot Industry Trends in Korea and Case Studies on Joint Development with MMA/Yaskawa Electric Corporation"</li> <li>◦ Special lecture by SoftBank Mobile Corp. "Anticipating Business and Future Global Development of Society Created by IoT/M2M, Humanoid Robot Pepper, and..."</li> <li>◦ Special lecture by VEC "World Created by "Industry 4.1J", One of Japan's Strongest Fields"</li> <li>◦ Introduction of new products</li> <li>◦ Reception</li> </ul>

## News & Topics

### Report of Exhibitions and Seminars

#### Manufacturing Industry Innovation Forum 2015

The MMA sponsored and participated in the Manufacturing Industry Innovation Forum 2015 hosted by Nikkei Business Publications, Inc., which was held in Bangkok, Thailand on March 12 (Thurs) , 2015.

The event was held under the theme of manufacturing industry innovation and Japanese technology to help break away from labor-intensive manufacturing systems, as a part of the “Asian Monozukuri Conference” that was held in four countries in the ASEAN region last year. The event included seminars, product displays, and demonstrations to introduce the world’s first technologies developed in Japan that have been built up and refined through the discovery of solutions to various problems, such as labor shortages, labor mobility, and wage increases in the manufacturing industry in Thailand, and specific measures to meet the needs of labor savings and automation. At the MMA seminar, we introduced the latest system solutions using visualization technology, as well as the advantages of high-speed and high-reliability through motion control. In the display space, MECHATROLINK-compliant products were displayed with a focus on the products of the MMA representative companies. The CC-Link Partner Association (CLPA) also participated in the event. Together with the CLPA, we introduced the advantages of networking and the features of technologies developed in Japan to Thailand.

About 300 people participated in the forum. During the networking session, we could directly listen to the views of local manufacturers and learn about local problems.

The MMA will continue actively promoting the spread of MECHATROLINK in the ASEAN region.



Seminar



Product display

#### AIMEX – AUTOMATION WORLD 2015

The MMA participated in AIMEX – Automation World 2015 held in Seoul, Korea for three days from March 18 (Wed) to 20 (Fri) , 2015.

At the MMA booth, we displayed and demonstrated MECHATROLINK-compliant products manufactured by ten MMA member companies, including Korean member companies, to introduce the benefits provided by the MECHATROLINK network. We also displayed the latest demonstration equipment with connections of new products from MMA members and demonstrated its interconnection capabilities with an extensive lineup of MECHATROLINK-compliant products to highlight the advantages of MECHATROLINK-III.

During the three-day exhibition, 1,200 people visited the MMA booth and seven new members joined the MMA.

The MMA will actively promote the use of MECHATROLINK in Korea.



MMA booth



Product display and demonstration by MMA member companies

#### SEMICON Southeast Asia 2015

The MMA participated in the SEMICON Southeast Asia 2015 held in Penang, Malaysia from April 22 (Wed) to 24 (Fri) , 2015.

This was the first time for the MMA to participate in an exhibition in Malaysia. During the three-day exhibition, the exhibition hall was crowded with a number of visitors from ASEAN countries, including representatives from local semiconductor-related companies.

The MMA exhibited MECHATROLINK-compliant products in collaboration with the MMA member companies. Many visitors showed interest in the advantages of MECHATROLINK, and new companies became members of the MMA during the exhibition period.

We will actively work to promote the use of MECHATROLINK in ASEAN countries.



Exhibition hall



MMA booth

## New MECHATROLINK Products

### IAI Corporation “SCON Series Controller for ROBO Cylinder® Actuators”

#### Features

- Connects to many different kinds of electric actuators, such as sliders, rods, tables, rotaries, and grippers.
- Sets the optimal operation setting for a given payload using the offboard tuning function.
- Confirms maintenance timing using the rotation speed and travel distance calculation function.
- Logs alarm timestamps using the calendar function.



Connectable electric actuators

#### Inquiries

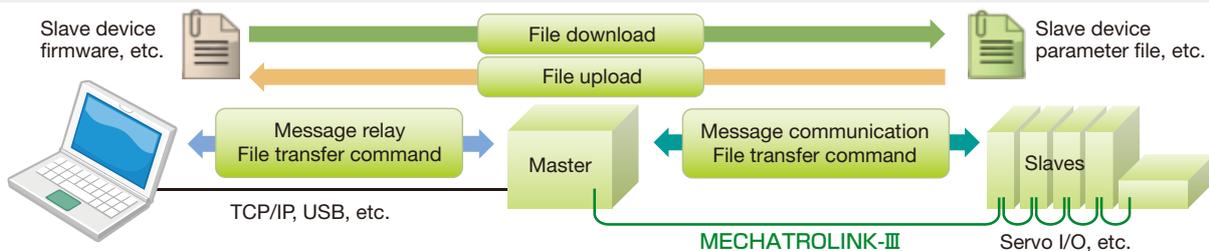
#### IAI Corporation

IAI Customer Support Center “Eight”  
577-1 Obane, Shimizu-ku, Shizuoka-shi, Shizuoka, Japan 424-0103  
Tel: +81-543-364-5105, URL: <http://www.iai-robot.co.jp>

#### Column

### MECHATROLINK-III Message Communications: File Transfer Commands

MECHATROLINK-III features message communications that allow data to be sent and received between the master and a slave, as well as cyclic communications used for motion control. We are introducing “file transfer commands” that have been newly defined as the commands to send and receive files via message communications. The use of this file transfer command makes it easy to send and receive files, such as firmware or parameter data files, between a MECHATROLINK-III compliant master device and slave device, which adds value to a networked device. Note: Refer to the technical document on the MMA website for details on message communications commands.



#### Commands to download a file

Sequentially execute the following three commands to download a file.

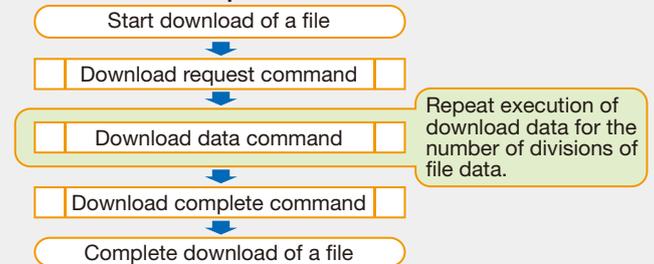
- ⇒ ① Download request command (command code: 31h)
- ⇒ ② Download data command (command code: 32h)
- ⇒ ③ Download complete command (command code: 33h)

#### Commands to upload a file

Sequentially execute the following three commands to upload a file.

- ⇒ ① Upload request command (command code: 34h)
- ⇒ ② Upload data command (command code: 35h)
- ⇒ ③ Upload complete command (command code: 36h)

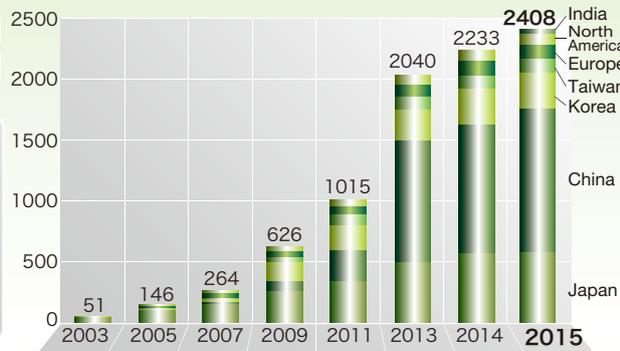
#### File download procedure



Note: Use the same procedure to upload a file.

#### MMA Membership as of April 30, 2015

Japan (ASEAN)	579
China	1173
Korea	293
Taiwan	116
Europe	124
North America	90
India	33



#### Editor's Comment

On my day off, I took my elementary school-aged son and his friends to an amusement park. In the beginning, they were afraid to ride the attractions because of the speed and height. However, after a few courageous attempts, they discovered that they were having a great time. My son and his friends had so much fun laughing and screaming on the rides that we did not have enough time to enjoy the outdoor lights that were lit up in the park. I thought I could see the lights from outside the park on the way home. However, all the lights went off the minute we left. Many adorable elementary school-aged children enjoy amusement park rides more than nighttime views, which means that I should choose the right companion more carefully if I want to enjoy the beautiful outdoor lights. Written by Hiranuma.

#### Inquiries

For questions about joining MECHATROLINK Members Association and other inquiries, please contact the MMA.

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