

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

Feature Article *An Interview with the Product Manager of Syntec Inc.*

Open Field Network, an Essential Factor in the Development of CNC Controllers

We deliver the latest news and information to MMA member companies and MECHATROLINK users in our feature articles. For this edition, we asked Samuel Chen, Product Manager of Syntec Inc., to talk about how Syntec came to the decision to adopt MECHATROLINK, and what he expects from the MMA.

Q1. Could you tell me why you, as a CNC controller manufacturer, chose MECHATROLINK from among all the communication networks available?

— The development of the consumer PC industry is extremely fast-paced and has greatly influenced various other industries. On top of this, the CNC controllers used in the precision device industry tend to develop even faster than the PC industry. Taiwan is a global leader in the PC industry, and its total machinery output is among the world’s top five. Regarding individual machine market shares, Taiwan’s machine tool export volume is the 3rd largest in the world, with woodworking machines also 3rd, precision metal molds at 6th, and spinning machines and rubber working machinery at 5th place. With this background, it is only natural that Taiwan puts greater effort into the production of control devices.

Syntec was established in 1995 as a developer, manufacturer, and service provider for PC based CNC controllers. Today, our diverse product lineup is well rounded, and we pride ourselves on being primed for further development.

Our long experience in the machine tool industry taught us that the field network will be an important factor in the development of controllers. The major advantages of field networks include improvement of control accuracy (because of shortened communication cycles), reduced wire usage, and multi-fictionalization. Because of these advantages, machine manufacturers who use PC based controllers increasingly demand field networks.

Major manufacturers are using proprietary communication interfaces at the moment, and the products that support these

interfaces are relatively expensive. Unlike these proprietary communication interfaces, MECHATROLINK is an open source network characterized by high performance and reliability. That’s the reason we chose it, and why we believe it is the best choice for a CNC controller manufacturer.

Optimal Choice for CNC Controllers

Q2. Your company develops MECHATROLINK compliant products and sells them. How are things going?

— We offer users MECHATROLINK-II communication compliant 20-series and 30-series controllers. These products have received a highly favorable response since their release. Moreover, the number of users who require high-end applications and who are replacing existing products with MECHATROLINK products is increasing.

Syntec released MECHATROLINK-II compliant products in the 1st quarter of FY2012. In FY2012, 100 sets were sold, which represents less than 1% of our total sales for FY2012. However, in just the first half of FY2013, more than 1000 sets have been sold, exceeding 7% of our sales of the first half of FY2013. It’s worth noting that more than half of these 1000 sets were for 12 axes or greater middle-end and high-end CNC controllers. With these facts in consideration, we believe that MECHATROLINK products are the optimal choice for CNC controllers.

Samuel Chen
Product Manager, Syntec Inc.



MECHATROLINK Provides Advantages to Various Machine Tool Markets

Q3. What do you think about MECHATROLINK market trends and customer demand in industrial fields in Taiwan and China?

— The application of MECHATROLINK-II brings numerous advantages in any field of the machine tool industry. For example, the application of MECHATROLINK-II to a machine that requires high speed and precision improves the machine's motion accuracy and achieves smoother motion control. An actual processing test showed obvious improvement: the surface finish level was upgraded when being processed by a machine connected to MECHATROLINK-II.

For a smaller machine, such as small lathe, the space available for a switchboard is limited. Wiring and installing a switchboard in such a limited space causes problems with drive positioning and heat discharge. The use of our MECHATROLINK-II compliant products allows compact and streamlined wiring, resulting in space-saving switchboard installation, compared with a conventional pulse interface drive.

The users of CNC drilling and tapping center or multi-axis main-shaft movement type CNC lathes prefer to use motors with an absolute encoder, because these machines require high processing efficiency while machine installation space is limited. The use of a motor with an absolute encoder not only eliminates the need for a zero-point return operation after the machine starts but also requires neither a zero-point switch nor a limit

switch. It goes without saying that the maintenance of these switches is then also eliminated. Our MECHATROLINK-II compliant motors with absolute encoders can replace existing motors without replacing the controller, and externally connect to an interface.

Q4. Could you tell me about your future projects and expectations for MECHATROLINK and the MMA?

— We have two requests when using MECHATROLINK products. One is to further promote the application of the MECHATROLINK protocol. The other is to enrich the MMA by increasing the number of member companies who can provide the following products:

- (1) Products that control machine tool spindles, such as spindle drives and inverters
- (2) Automation related products, such as DD motors and linear motors
- (3) New CE mark directive compliant products

Again, as in PC industry, the CNC controller industry is changing daily, and is becoming ever faster.

MECHATROLINK technological innovation and the support of the MMA are essential for the timely development of products that meet user's needs. We expect various forms of support from the MMA in adding extra value to our CNC controllers.



Message from Board Committee Companies

M-System Co., Ltd.
Marketing Division

Kouhei Nakamura



Congratulations on the 10th anniversary of the MMA!

M-System became an MMA board committee company in May 2012, and we have worked hard to enhance MECHATROLINK compliant remote I/Os for the widespread use of MECHATROLINK.

While users, especially equipment manufacturers, increasingly demand more speed and capacity of field bus for newly designed equipment, the demand for higher precision, reduced wiring, and cost-reduction by standardizing the protocol to MECHATROLINK-III to unify I/O signals is also increasing.

We will continue to contribute to the promotion and development of MECHATROLINK by further expanding and improving I/O units.

ORIENTAL MOTOR Co., Ltd.
Sales Headquarter Planning and Development Dept.

Naoe Murakami



Congratulations on the 10th anniversary of the MMA! ORIENTAL MOTOR became an MMA board committee company in 2010, and already 3 years have flown by. During those 3 years, the MMA developed globally and has grown to over 1,500 members, which has given us much satisfaction. The increased memberships in the rapidly developing Asian region spurred us on to take action for the further spread of MECHATROLINK.

In the world's FA markets, I believe that FA networks will be of increasing importance, along with the increased demand for control system versatility and wire reduction. As such, it will be essential for MECHATROLINK to implement seamless control and upgraded easy-to-use features. The MMA needs to make efforts for further improvement of system-wide connectability and compatibility, together with all MMA members.

We will work toward making MECHATROLINK the de-facto global open network, while seeking the further development of the MMA.

Exhibition & Event Information

Taipei International Industrial Automation Exhibition 2013

Event Information
Dates: August 28 (Wed) – 31 (Sat), 2013

Place: Taipei World Trade Center (TWTC) Nangang Exhibition Hall

Booth No.: J518

URL: <http://www.autotaiwan.com.tw/en/>
MMA Participants:

- ALGOSYSTEM CO., LTD.
- ANYWIRE CORPORATION
- Art Control Systems, Inc.
- Digital Electronics Corporation
- IAI Corporation
- LNC Technology Co., Ltd.
- Micronet Co.
- M-Systems Co., Ltd.
- Nikki Denso Co., Ltd.
- ORIENTAL MOTOR CO., LTD.
- YASKAWA ELECTRIC CORPORATION
- YOKOGAWA ELECTRIC CORPORATION



Tentative design of the MMA booth

Report of 2013 MECHATROLINK Members Association General Meeting

The MMA general meeting was held at UDX Conference Center in Akihabara, Tokyo, on June 13 (Thurs), 2013.

The general meeting is a regular event held in early summer. Many members who attended the meeting this year have also attended previous years, so the meeting room already had an air of familiarity before the opening.

Hiroshi Ogasawara, President of the Executive Committee of the MMA, addressed a welcome speech, which marks the 10th anniversary since establishment of MECHATROLINK as an open network. President Ogasawara expressed his appreciation for everyone's past efforts, and his desire to establish MECHATROLINK as a global standard through even greater promotion activities. Then, Takuya Miwa who became the General Secretary of the MMA this year addressed the members and reported on the activities of FY2012 and activity plans for FY2013. This was followed by a FY2012 financial report by the MMA Secretariat.

Thereafter, the MMA Marketing Group Chief and the PC Engineering Chief reported on group activities this year and activity plans for next year, and announced an invitation to new group members to work together toward each group projects for FY2013.

Following the general meeting, Hiroyuki Aou, Manager of Technology Planning for the Electronics Assembly Equipment Division of Fuji Machine Manufacturing Co., Ltd. gave a lecture titled "Trends in MECHATROLINK Compliant Products and Required Technology." In his lecture, Manager Aou talked about the MECHATROLINK compliant products market conditions and trends and the technology that is required for them, including his views on what


 Hiroyuki Aou
Manager
Fuji Machine Manufacturing Co., Ltd.

will be required in the future. His unique insight provided valuable information for all of the participants.

After the lecture, new MECHATROLINK complaint products were introduced. Then, to commemorate our 10th anniversary, freelance announcer Akira Fukuzawa gave a special presentation titled "The Art of Communication, Fukuzawa Style." His talk discussed the art of using words and effective speaking. The presentation started with all the attendants being asked to speak on the spot. His communication technique, formed through his rich experiences, had the audience completely engaged. The ideas and concepts that he presented during the 70-minute humorous presentation will serve as valuable tools to all the attendants both at work and in private life. At the end, the previous General Secretary of the MMA provided an address to close the meeting.


 Akira Fukuzawa
Announcer

At the reception following the meeting, we arranged the time for participants to exchange information. This year, we allotted more time for the reception than in previous years, since this reception presents a once-a-year opportunity for MMA members to get together. The general meeting and reception ended in a relaxed mood after the participants enjoyed a meaningful day. In these 10 years, MMA membership has reached 1,600 companies. The MMA will continue with various activities to further accelerate the wide-spread expansion of MECHATROLINK. We will



General meeting

work together globally with all MMA members as we move into the next 10 years to make MECHATROLINK a standard network.

Report of Exhibitions and Seminars

Industry Open Net Exhibition 2013

The MMA participated in the Industry Open Net Exhibition 2013, held in Osaka on July 9 (Tues) and in Tokyo on July 11 (Thurs), 2013.

The number of visitors to the exhibition during the 2 days totaled 800, and many of them visited the MMA booth. At the MMA booth, the MECHATROLINK introductory seminar was organized in addition to the display of MECHATROLINK compliant products and a demonstration panel of the MECHATROLINK network. The display and demonstration panel were so effective at attracting visitors that many who had not registered in advance asked if they could still attend the seminar. Among the various open networks lined up at the exhibition, MECHATROLINK left a strong impression on the visitors.



MMA booth

New MECHATROLINK Products

YASKAWA ELECTRIC CORPORATION

“YASKAWA AC Drive 1000-Series Option SI-ET3 MECHATROLINK-III”
“YASKAWA AC Drive -V1000 Option SI-ET3/V MECHATROLINK-III”



Features

- **Motor Drive Performance leading the Pack**
Capable of driving any kind of motor for the most advanced drive technology.
- **The Drive for a Greener World**
Combining the high efficiency of a synchronous motor along with A1000's Energy Saving control capabilities allows for unparalleled energy saving.
- **Transforming the Application Installation with Unparalleled Performance**
Yaskawa continues to make applications even smaller by combining the world's smallest drive in its class with a synchronous motor.
(The above describes the features of Yaskawa A1000 series drive.)

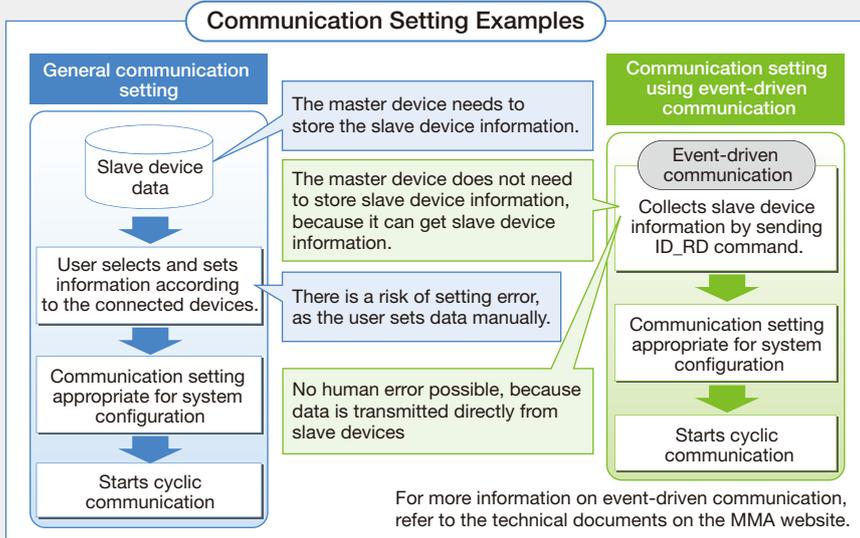
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Column MECHATROLINK-III Event-Driven Communication

MECHATROLINK-III supports event-driven communication in addition to cyclic communication. The event-driven communication mode allows the master device to send an ID Read command (ID_RD) at any timing. Through event-driven communication, the master device receives the slave device information required for cyclic communication. The collection of slave device information using event-driven communication enables the master device to set up the optimal communication for system configuration.



MMA Membership as of July 31, 2013

Japan, Taiwan, India : 546
 China : 706
 Korea : 250
 Europe : 74
 North America : 92



Editor's Comment

The heat wave is continuing in Japan. How are you doing? As I stay almost all day in an air-conditioned office, I'm losing my sense of seasons. How and when do you feel the change of seasons? Watching the sky, I am refreshed by the patterns of nature's events, such as day and night, day by day, and seasonal changes. With the power received from the summer sky, I will keep at my work with a smile. Written by Hiranuma

Inquiries

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

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