

FLUID

TALK

The International Organisation for Fluid
Power & Motion Control Professionals



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Official Newsletter of The International Fluid Power Society of Australia (Inc)

President's prologue

By Tim Bailey



It is with pleasure that I follow on from this column in last month's e-magazine which mentioned The Society's progress until then in bringing about one fluid power

society for Australia, likely to be called Fluid Power Society Australia Inc. (FPSA), in telling you that solid progress is being made with a steady stream of emails and phone conversations flowing between The Fluid Power Society Inc.,

(formerly The FPS of Victoria) and IFPSA committee members.

Draft revision A of a constitution has been drafted and agreed to by The IFPSA general committee and sent to The Fluid Power Society Inc. for comment. Fortunately, John Bolton of The FPS general committee and the likely incoming President for The FPS, had planned to be in Perth in the third week of October so a meeting was arranged with him to discuss the proposed FPSA constitution.

Subsequently, John met with Ian McDonald, Barry Catanach, Phil Bristow-Stagg and myself at E-Central TAFE in Perth on Thursday October 17 and it quickly became apparent that our respective two Societies are of a very similar mind as to the structure and

objectives of the proposed FPSA. We couldn't have had our discussions about the wording of the proposed FPSA constitution with a better person than John as he was a Barrister in a 'former' life!

At the outset, we had recognised that the final, fully approved FPSA constitution would have to be edited into the 'correct' language by a Lawyer so I didn't hesitate to ask John if he would undertake the task! Most generously, he agreed and we look forward to reviewing the next draft as soon as he has the time to complete it in between his 'day job' as the managing director of Fluid Dynamics Pty. Ltd. in Melbourne and running a large family!

You will recall, from having read previous columns I have written in Fluid Talk, that the move by The IFPSA to establish one fluid power society in Australia came about as a result of The IFPSA agreeing to instigate a movement to bring the fluid power industry into a licensing arrangement similar to that which has existed in the electrical and many other trade areas for a great length of time.

Coincidentally, the document published by the government of NSW and commonly known as MDG 41 – Guideline for Fluid Power System Safety at Mines has come up for review which strengthens my opinion that the eventual licensing of people who build, repair and maintain fluid power systems is inevitable as the document contains

many references to the competence of personnel carrying out work on fluid power systems.

I think that the next likely step is for the document to define the required competencies which will be tantamount to requiring such personnel to be registered - that is, 'licensed'.

IFPSA committee member, Barry Catanach, has volunteered to nominate himself as the IFPSA contact with the MDG 41 review committee and, for the first time, provide input to MDG 41 from fluid power people other than large companies and institutions that may possibly have more of their commercial interest at heart than the overall good of the fluid power industry.

This column and maybe some dedicated articles in future e-magazines will keep you posted of developments in this area and advise if any perceived significant effects that a revision of MDG 41 may have on the fluid power industry.

With my best wishes..... Tim

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Visit our website

fluidpowersociety.com.au



Fluid power symbol chart

Just released is the latest edition of our Fluid Power ISO/CETOP Symbol Chart. This chart is ideal for the office, workshop and training room and is printed on A2 200g paper treated with sealing varnish to protect the finish.

Go to www.fluidpowersociety.com.au and click on the education and literature shop tabs for further details and pricing.

Priced at \$25.00 each including domestic postage and packing this chart is a fantastic training aid and also represents good value for money.

Originally, mechatronics just included the combination of mechanics and electronics, hence the word [itself] is a combination of mechanics and electronics; however, as technical systems have become more and more complex, the word has been 'updated' during recent years to include more technical areas."

Given that Wikipedia is not a traditional encyclopedia, this source seems the perfect place to attempt to define this new and changing term. Mechatronics, as it is evolving, includes not only mechanics and electronics, but also such various disciplines as fluid power, control theory, and computer science.

Mr. Tetsuro Mori, a senior engineer at the Japanese company Yaskawa in 1969, came up with the original term "mechatronics." He got the idea from combining the technologies that had been utilized in industrial robots. This included using mechanics, electronics, and computing to accomplish the robots' day-to-day jobs.

Engineering cybernetics deals with questions of controls engineering within the mechatronic systems. This application of controls leads to collaboration, and most mechatronics modules are designed to perform the production goals, incorporate machine flexibility, and provide agile manufacturing properties within overall manufacturing systems. Thus, the application of mechatronics leads to what is known as "machine control architecture."

Applications for implementing mechatronics in industry are many: automotive manufacturing, robotics, motion control, systems integration, intelligent control, systems modeling and design, vibration and noise control, packaging, medical technology, and servo-mechanics. These are just a few examples of where mechatronics can be used. Mechatronic systems may provide a complete production system or may only provide sub-components of that production system.

Students graduating with degrees in this area of study can select from a wide spectrum of industries for career choices. These engineers can choose either small or large companies, primary manufacturers, OEMs, or end

users, and they may use their interdisciplinary backgrounds in mechanical, electrical, fluid power (hydraulics and pneumatics), computers, microcontrollers, programmable logic controllers, programming, industrial sensors, electrical drives, and engineering functions. The combination of system technologies and the interdisciplinary approach gives the students a broader vision and understanding of the entire production process.

Mechatronics is yet another avenue for students to gain the theoretical concepts coupled with hands-on applications for current and future global manufacturing arenas.

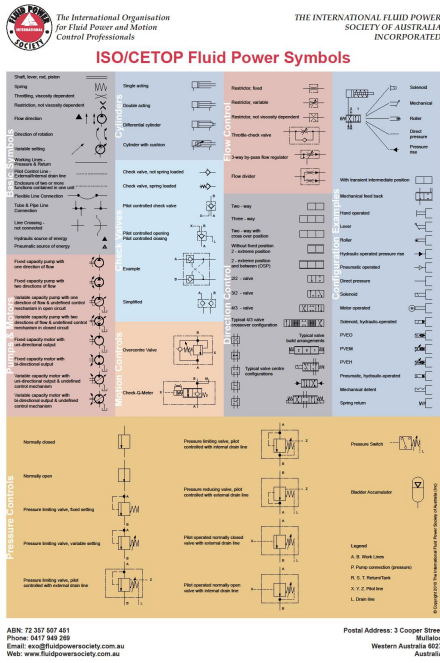
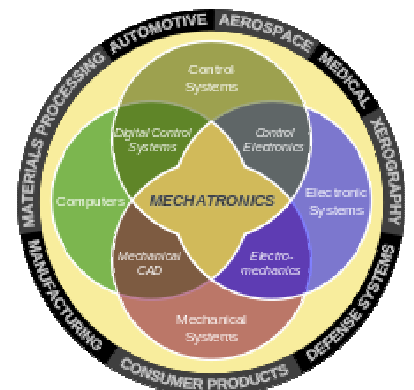
These students can become qualified engineers, technicians, or mechanics there is a widespread need for interdisciplinary understanding at all levels of industry. Now is the time to apply at your local community college or university for a rewarding future.

Good Luck!

Editor's note

For your interest French standard NFE 01-010 gives the following succinct definition of Mechatronics. "Approach aiming at the synergistic integration of mechanics, electronics, control theory, and computer science within product design and manufacturing, in order to improve and/or optimize its functionality".

Also if you are an instructor at an educational institution or an industry professional involved in mechatronics, we invite you to contribute technical articles to our publication about this growing field. Please contact Kristine Coblitz at kcoblitz@fluidpowerjournal.com for more information.



Mechatronics explained

By Jimmy Simpson, CFPAI, AIPP, Chairman of Fluid Power Education Foundation (FPEF) and Adjunct Fluid Power Instructor at Northwest State Community College USA.

The latest buzzword used within colleges and among many industry leaders is "mechatronics." If one consults Wikipedia, the definition provided there is: "Mechatronics is a design process that includes a combination of mechanical engineering, electrical engineering, control engineering, and computer engineering. Mechatronics is a multidisciplinary field of engineering; that is to say, it rejects splitting engineering into separate disciplines.