



## **New digital hydraulic valve for more reliable, accurate and efficient motion control**

*FLUICONNECTO with F4E, TAMLINK OY and TAMPERE UNIVERSITY have designed and manufactured a digital hydraulic valve proposed as a new type of control system for the water hydraulic actuator. This technology paves the way for a more reliable, accurate and efficient motion control for transport, industrial processes and machining applications.*



### **The technology**

These digital valves have been designed to be used within ITER as a sturdier alternative to servo valves. The technology relies on a set of 16 fast, small and simple on/off valves working simultaneously. The valves are operated with a controller that calculates control signals based on references, measured values of pressures and actuator position or joint angle. This new control system is now relying not only on one valve but on a combination of various valves, so there is a backup in case of a sudden system fail.

### **A state-of-the-art motion control**

The major breakthrough consists in the new state-of-the-art control performance of the digital valve system. The technology easily fulfils the requirements for positioning and slow and high velocity tracking. The capability of the digital valve system exceeds all requirements for tracking with accuracies approximately ten times better than with servo valves. This digital system also features a higher resistance compared to former hydraulic valves and offers the guarantee of continuity in case of failure.

### **Better control in transports and manufacturing processes**

The solution comes as a game changer in terms of motion control technology and could find many applications the fields of transport, aeronautics, construction, industry and machining (wherever there is a need for extra muscle to lift and move loads with precision).

### **Collaboration opportunities**

The digital hydraulic valve is available for further development and adaptation to new environments. It can be integrated by the industry into existing systems or commercialized as an off-the-shelf product.

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