

Neil Starsmore and Steinar Haga from the company [Automasjon og Data AS \(A+D\)](#) visited the [Motion Lab](#) four times during 2014. A+D develops and sells Motion Reference Units (MRUs) to the offshore wind energy industry and other industries. A typical application for the A+D MRUs is monitoring of motions in crew transfer vessels.

One advantage of A+D's MRUs is the fact that the end-user can modify the filters and algorithms in the unit. For example, the expected frequency contents in wave spectra in different regions vary and hence the low- and high-pass filter coefficients in the MRU may be tuned accordingly. However, when the MRUs filters are modified, there is a desire to independently verify the accuracy and the performance of the sensor.

In the Motion Lab the accuracy and performance of A+D's MRUs have been verified using the two Stewart platforms (E-Motion 1500 and 8000) as well as using an independent measurement system: the FARO Xi laser tracker. The tests have included pure sinusoidal motions in heave, roll and pitch with different frequencies and amplitudes, as well as motions containing multiple sinusoidal frequencies and a combination of several degrees of freedom.

The University of Agder is currently in the process of writing a certified datasheet documenting the accuracy of Automasjon og Data's MRUs under various conditions.

The motion laboratory forms part of the [infrastructure in NORCOWE](#).



*From left: Professor Geir Hovland, UiA and Doctor engineer Neil Starsmore, A+D.*