

DCS 2019

INNOVATION IN MOTION





E2M ACHIEVEMENTS

- >500 motion systems installed worldwide
- >300 control loading channels installed
- Worldwide customer base
- Accepted for the highest level of flight simulation
- Accepted for highest entertainment safety standards
- 0.1T to 40T 2-6DOF electric motion systems
- First working octopod (overdetermined motion system)
- Used in a wide variety of industries:
- Flight, VDS, Military Vehicle, Maritime, Entertainment, Test applications, medical training, etc.





KEY BENEFITS E2M MOTION SYSTEMS

Lowest cost of ownership

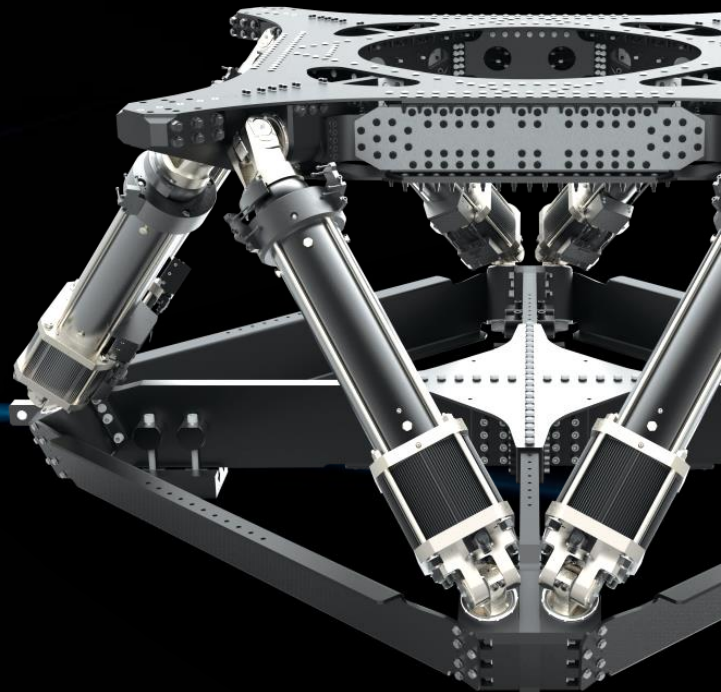
- Minimal maintenance requirements
- Low power consumption
- COTS electronics
- 24/7 worldwide service and support

Best in class motion fidelity

- Latest hardware and software innovations
- Optimized for smoothness and low audible noise
- Industry leading motion cueing algorithms (patented)

Reliable

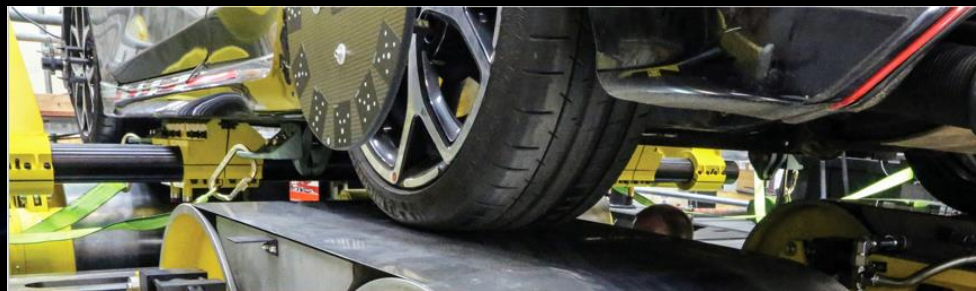
- Robust and reliable design with reduced system complexity
- COTS components tested extensively by supplier
- All systems are tested for 24 hours





MTS ACHIEVEMENTS

- Strong history of innovation and collaboration
- MTS is a global leader in motion simulation and measurement sensors for the test and simulation market
- Experienced provider of dynamic small and large-scale driving simulator motion systems





MTS-E2M Solutions for Vehicle Dynamics Simulation

Main requirements for motion systems for Vehicle Dynamics Simulation:

- High Bandwidth, first natural frequency >10 Hz
- Large stroke X and Y in order to achieve longer sustained acceleration cues
- High performance yaw axis, preferably 360 degrees
- Limited need for pitch and roll amplitudes





Solutions for Vehicle Dynamic Simulations

1 of 4 categories of solutions; “Small” systems

- Basic Hexapod or E2M Octopod
 - High Bandwidth (Octopod), low cost
 - Strokes limited to 1500 mm (large height building requirements)
 - High performance yaw turntable easily added
 - Unnecessary large Pitch and Roll capability (less the case for an Octopod)
- Custom kinematic systems
 - Complex cueing
 - Limited load capacity





Solutions for Vehicle Dynamic Simulations

2 of 4 categories of solutions

Hexapod/Octopod on slider

- High Bandwidth at high cost
- Discrepancy between X and Y stroke, acceleration etc.
- High performance yaw turntable easily added
- Unnecessary large Pitch and Roll capability





Solutions for Vehicle Dynamic Simulations

3 of 4 categories of solutions

Hexapod/Octopod on large X/Y system

- Medium/Low Bandwidth, very high cost
- Large X and Y strokes, velocities and accelerations
- High performance yaw turntable easily added
- Possible to use a limited stroke hexa/octopod only for ride cues and car attitude





Solutions for Vehicle Dynamic Simulations

4 of 4 categories of solutions

Hexapod/Octopod on E2M X/Y concept

- High Bandwidth
- Large X and Y strokes, velocities and accelerations
- High performance yaw turntable easily added
- Possible to use a limited stroke hexa/octopod only for ride cues and car attitude





Solutions for Vehicle Dynamic Simulations

With this patent pending mechanism, E2M presents a stiff and dynamic system for a fraction of the cost of a X/Y bridge mechanism

The parasitic yaw can be compensated by the octopod or by an optional high dynamic yaw table on the octopod.

Please contact E2M for further details on timing, performance and pricing or visit our booth in the exhibition area to discuss your motion requirements

