

## Motion-by-Wire™

# SHAPING THE FUTURE OF THE SOFTWARE-DEFINED CHASSIS



As the industry migrates toward software-defined vehicles, Nexteer's Motion-by-Wire™ technologies – including Steer-by-Wire, Rear-Wheel Steering, Brake-by-Wire and Software – are designed to deliver a new era of safety, performance and comfort for traditional and automated driving.



### Steer-by-Wire (SbW)

- **Fewer components, lower costs:** Replaces the mechanical steering connection between the handwheel and roadwheels with algorithms, electronics and actuators
- **Revolutionized “behind-the-wheel” experiences:** Unlocks advanced safety and performance while enabling lightweight designs and flexible underhood/front-of-dash packaging – especially important for EVs
- **Standardization and speed-to-market:** Offers the only single steering system that applies to all vehicle segments and propulsion types, right- and left-hand drive and supports all ADAS levels 0-5



### Rear-Wheel Steering (RWS)

- **Enhanced maneuverability and stability:** Allows rear wheels to turn up to 12 degrees, optimizing handling at low and high speeds, especially on vehicles with longer wheelbases/heavier loads
- **Simplified integration:** Enables cost-effectiveness, lightweighting and seamless integration with all vehicle types
- **Proven legacy:** Pioneers of RWS-for-mass-production



### Electro-Mechanical Braking (EMB)

- **Next-gen brake-by-wire:** Delivers high-precision braking powered by actuators at each wheel for greater stability, safety and comfort and shorter stopping distances
- **Optimized energy efficiency:** Eliminates hydraulic fluids and reduces mechanical losses, contributing to vehicle lightweighting and improved EV range/fuel efficiency.
- **Future-proof architecture:** Without traditional brake lines, enables greater design flexibility and supports software-defined vehicle architectures, driver assist and automated features

# MotionIQ™ Software Suite

The INTELLIGENCE POWERING Nexteer's Motion-by-Wire Technologies



## MotionIQ/Control™

ELEVATE PERFORMANCE. ENHANCE SAFETY.

Advanced vehicle dynamics functions transform safety, performance and driving comfort through intelligent motion control software



## MotionIQ/Health™

MONITOR MORE. MAINTAIN LESS.

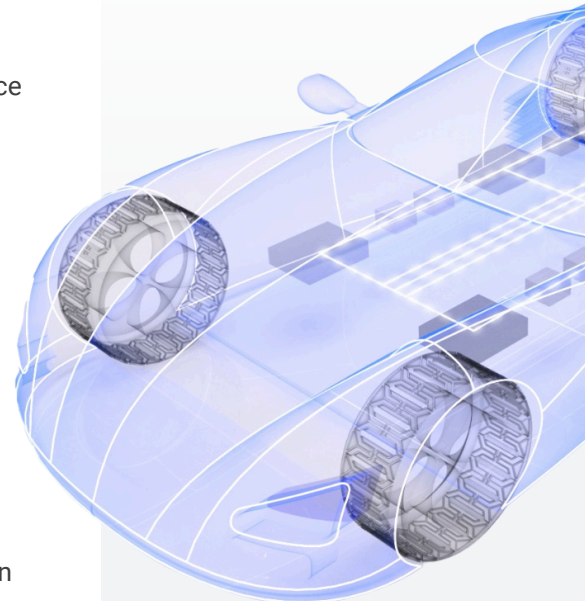
Enables proactive maintenance by predicting issues before they occur, enhancing convenience and customer satisfaction



## MotionIQ/Dev™

DESIGN SMARTER. DEVELOP FASTER.

Advanced software tools – backed by Nexteer's systems integration and software development expertise – empower OEMs to safely design and seamlessly integrate their own in-house features.



## Nexteer: Your Motion Control Partner with Safety-Critical Expertise

- **Global in-house software ownership:** Software design, development, testing and validation adheres to stringent levels of quality and compliance with customer specifications, industry protocols and regulations
- **Proven industry leadership:** Nexteer has produced 120+ million EPS systems, as well as award-winning SbW systems, that include levels of software and cybersecurity that meet OEM requirements
- **Fast and flexible product development:** Strong collaboration with OEMs from the start of requirements to the end of the vehicle lifecycle support the accelerated development and integration of hardware and software



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