PRESS RELEASE PRESS RELEASE

Pfronstetten-Aichelau, 08.01.2025

Cable-Control Steering: Arnold NextG Redefines Steering

- The Technology Comparison: Drive-by-Wire Tesla Cybertruck Meets German Engineering Excellence
- A direct comparison reveals the weaknesses of Tesla's competing system
- While major players in autonomous driving are withdrawing, Arnold NextG is accelerating innovation

Technology comparison: A Tesla and a BMW M5 equipped with Arnold NextG's steer-by-wire system - focusing on pioneering approaches to vehicle control. Photo: Arnold NextG

Tires screech and smoke as DTM champion and Arnold NextG development driver Bruno Spengler glides with absolute precision across the test track. The standout feature? His BMW M5 has no mechanical connection between the steering unit and the steering gear. This is made possible by Arnold NextG's groundbreaking force-feedback technology combined with the steer-by-wire principle.

After over 138 years of mechanical steering, a new era begins: Arnold NextG, based in Swabian Aichelau, sets new standards with the innovative Steer-by-Wire system NX Next Motion and its proprietary force-feedback technology. This pioneering advancement promises to transform vehicle manufacturing sustainably. Developed by a family-owned company with over 25 years of experience, the system delivers unmatched levels of precision, safety, and driving pleasure.

DTM champion Bruno Spengler and a direct comparison with the Tesla Cybertruck dramatically demonstrate Arnold NextG's groundbreaking innovation. "With our digital steering system based on the Steer-by-Wire principle, we've achieved something extraordinary that's unmatched in the market," says Kevin Arnold, CEO of Arnold NextG. "While some players are exiting the autonomous driving market and political support for the German automotive industry is waning, we're proving that this is just the beginning."

Force-Feedback Technology: A Game Changer

Protected by numerous patents, Arnold NextG's unique force-feedback technology sets a new benchmark in its class. This innovation provides precise feedback on road conditions to the driver, a feature unmatched by traditional systems. Sensors and actuators accurately simulate the forces transmitted to the steering wheel in mechanical systems, delivering an authentic steering feel.

This precise feedback enhances safety by signaling grip loss early and offers an immersive driving experience. DTM champion Bruno Spengler describes it succinctly: "I can position the vehicle precisely and feel the tire grip perfectly, even on wet and dirty roads. In the Tesla, I completely miss this sensation!"

Setting the Standard in Safety and Driving Experience

Compared to competitors like Tesla, Arnold NextG's Steer-by-Wire system impresses with its precision and reliability, addressing the shortcomings of other systems that lack or provide imprecise feedback from the wheels to the driver. This deficit poses safety risks.

On its own test track, Arnold NextG demonstrated the superiority of its technology in a head-to-head comparison: two identical BMW M5s—one with conventional steering and one equipped with Arnold NextG's Steer-by-Wire system—went head-to-head. Spengler's verdict after the test drives was clear: "Driving the two M5s back-to-back is incredible! If you're familiar with the base vehicle, the Steer-by-Wire experience is overwhelming."

Mechanical Decoupling at Its Core

This transformative technological shift centers on the complete mechanical decoupling of the steering wheel and wheels. Steering commands are transmitted exclusively digitally. The benefits are substantial: eliminating mechanical components like steering columns and hydraulic assistance systems simplifies the system and reduces material costs and production effort. Additionally, the system's digital architecture allows for standardization across various vehicle models and markets.

For example, the system makes steering position irrelevant in terms of technical complexity, streamlining production processes to focus on interior design and enabling superior cabin insulation. Software-based adjustments shorten development times and reduce costs. Seamless integration with autonomous driving and assistance systems eliminates the need for separate hardware components, leading to long-term cost savings.

Manufacturers benefit from faster market entry and more flexible production capabilities. Its digital design makes it future-proof for evolving mobility demands while offering retrofit solutions, ensuring long-term planning security across platforms.

Innovations for Tomorrow's Mobility

"With our groundbreaking technology, we're delivering a solution that not only disrupts the industry but also provides real value to manufacturers and users alike," says Kevin Arnold. The system enables personalized steering profiles, unlocking new business models for vehicle manufacturers—be it in mass production, premium services, limited series, fleet retrofitting, or inclusive solutions for mobility-impaired individuals.

The variable, customizable steering ratio optimizes driving behavior and handling for specific needs. Improved passenger protection and rapid, precise response times are guaranteed by Arnold NextG's multi-redundant, highly secure system—essential for Level 5 autonomous driving.

Experience a New Dimension of Driving

The revolutionary Steer-by-Wire application, combined with the NX NextMotion central control unit, is redefining driving experiences. Visit our website to learn more about this technology or schedule a personal demonstration to experience why Arnold NextG is rewriting the chapter on steering technology—with precision, safety, and exhilarating driving pleasure.

Marc Schilhaneck, responsible for e-mobility and ADAS/AD at DEKRA, sums it up: "This feels fantastic. Steer-by-Wire is an 'enabler' for Level 5 autonomous driving—it's fundamentally required to achieve this milestone!"

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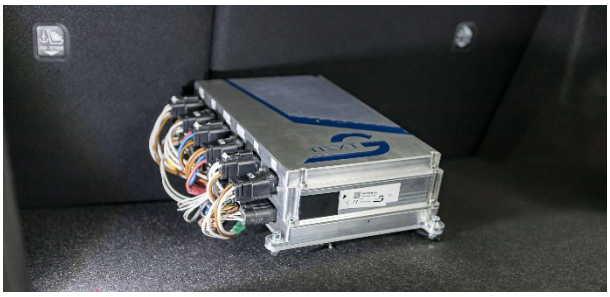
Tech experts at AvD who tested the Tesla Cybertruck in the U.S. draw a clear conclusion: “There are situations where I don’t just want to drive on a normal asphalt road in Los Angeles. I want to feel the terrain or recognize aquaplaning risks. That’s where NextG’s system excels,” says AvD test driver Tobias Bill. “In terms of driving and feedback, the Steer-by-Wire BMW M5 is noticeably more direct. I could customize the vehicle to my personal preferences. This is the future we need.”

DTM champion Bruno Spengler at the wheel: as Arnold NextG's test driver, he pushed the cars' steer-by-wire systems to their limits. His verdict: "The system is extremely precise, direct and linear. Photo: Arnold NextG

Watch the video for more information:
Link https://youtu.be/kjCaApjcqes

The BMW M5 with the Arnold NextG steer-by-wire system in the test. The Arnold NextG technology showed its strengths and set new standards, especially in terms of precision and force feedback. Photo: Arnold NextG



The NXNext-Motion central control unit is the heart of Arnold NextG's steer-by-wire technology. It enables a revolutionary steering concept without a mechanical connection between the steering unit and the steering gear - the basis for platform-independent, automated and autonomous vehicle solutions from cars to trucks. Photo: Arnold NextG

About Arnold NextG:

Arnold NextG realizes the safety-by-wire® technology of tomorrow: The multi-redundant central control unit NX NextMotion enables a fail-safe and individual implementation, independent of the vehicle platform and unique worldwide. The system can be used to safely implement autonomous vehicle concepts in accordance with the latest hardware, software and safety standards, as well as remote control, teleoperation or platooning solutions. As an independent pre-developer, incubator and system supplier, Arnold NextG takes care of planning and implementation - from vision to road approval. With the road approval of NX NextMotion, we are setting the global drive-by-wire standard. www.arnoldnextg.com

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