

World's First AI-Powered Hyper-Definition Radar

*NPS Delivers Crystal-Clear Visibility
Enabling Automakers to Meet Growing
Consumer Expectations for Safety,
Convenience and Performance at a
Reasonable Cost*

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EINPresswire.com/ -- [Neural Propulsion](#)

[Systems](#) (NPS) announced the availability of its Hyper-Definition Radar Operating System (HROS™) for advanced driver assistance system

(ADAS) providers. This hyper-definition, AI-powered software-defined radar solution is becoming essential for automakers that are racing to differentiate offerings and meet increasing consumer expectations for safety, convenience and performance at a reasonable cost.



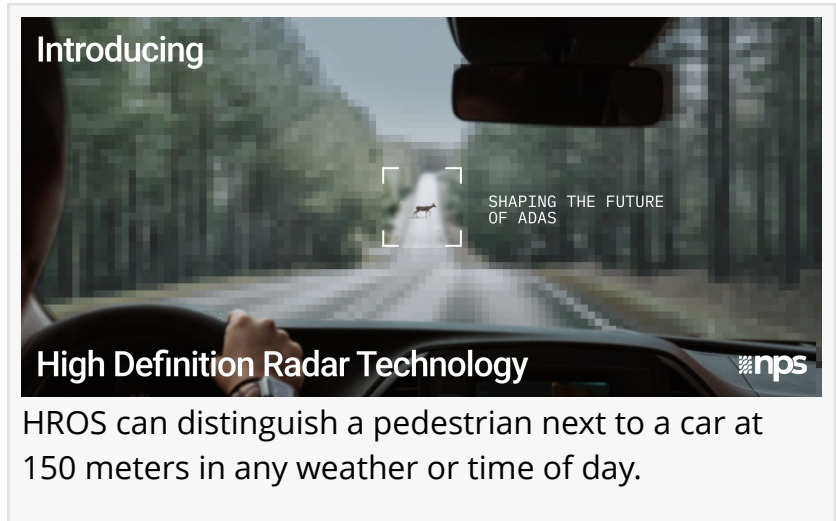
HROS can enhance the performance of imaging radars that use more cost-effective off-the-shelf chip strategies (such as 'cascading chips') and bring imaging radar closer to the mass market."

*Kevin Mak, Principal Analyst
for Automotive Market
Analysis at TechInsights*

With U.S. pedestrian fatalities doubling since 2010 and new automotive safety mandates on the horizon, the auto industry faces mounting pressure to improve road safety through ADAS technology. The National Highway Traffic Safety Administration (NHTSA) set 2029 as the deadline for all new passenger vehicles and light trucks to include automatic emergency braking (AEB) that can prevent collisions with other vehicles at 62 mph and pedestrians at 45 mph —thresholds that today's systems can't achieve even in the best of driving environments.

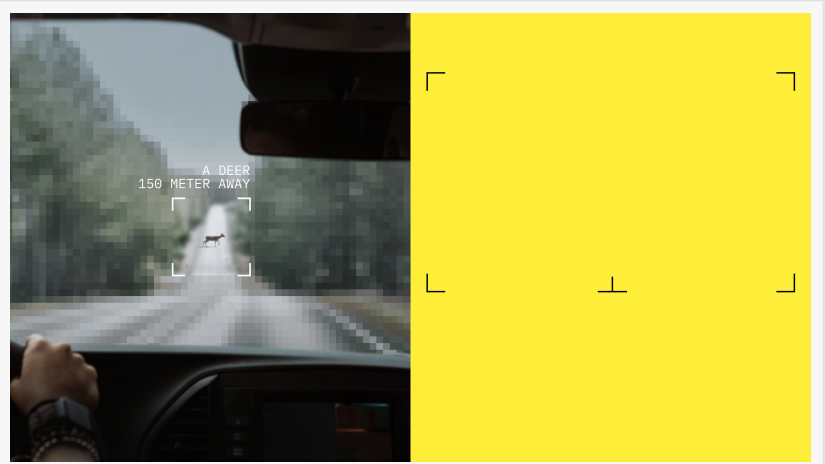
HROS uses advanced mathematics, AI and patented algorithms on commercially available hardware to deliver a

transformative solution that meets consumer and regulatory requirements. For example, HROS can distinguish a pedestrian next to a car at 150 meters – that's LiDAR resolution – in any weather or time of day. It provides the Crystal-Clear Visibility™ and accuracy needed to detect and prevent collisions and enhance the ADAS driving and riding experience, even in challenging



conditions, such as low light, fog and high speeds where both camera and LiDAR sensors do not function significantly well to prevent crashes.

“Our mission is to provide Crystal-Clear Visibility for life-saving applications,” said Dr. Behrooz Rezvani, Founder and CEO of NPS. “Our HROS is more than an innovation; it’s a commitment to saving lives beginning with radar. It vastly outperforms today’s alternatives by setting a new standard for roadway safety to prevent car crashes before they occur and significantly reduce fatalities. Utilizing a groundbreaking mathematical framework and AI, our radar delivers unparalleled clarity and responsiveness, enabling vehicles and robotaxis to confidently navigate complex roadways with reliability and precision.”



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HROS is based on patented technology that enables vehicles to "see" with a clarity that surpasses human vision and existing technologies. With this foundation, the system offers optimal radar performance; it provides early hazard detection and fewer false positives, outperforming conventional radar processing technologies that suffer from low resolution and struggle with frequent detection delays.

The result is a HROS radar platform that is practical, accessible and indispensable for a wide range of industries, from automotive and autonomous driving to next-generation aerospace and defense systems.

“HROS can enhance the performance of imaging radars that use more cost-effective off-the-shelf chip strategies (such as ‘cascading chips’) and bring imaging radar closer to the mass market,” said Kevin Mak, Principal Analyst for Automotive Market Analysis at TechInsights.

HROS will be commercially available in Q1 of 2025. To learn more or to see the HROS “A Sample” [schedule time here](#) to meet at CES January 7-10 at the Westgate Las Vegas Resort (suite 2815).

As part of its ongoing commitment to road safety, NPS hosted a free expert panel discussion titled "Shaping the Future of ADAS: How Next-Gen Radar Drives Safety and Market Demand." It was moderated by John McElroy, a distinguished automotive journalist and creator of Autoline,

and panelists included Rick Wagoner, Former Chairman and CEO of General Motors, John Casesa, Former Group Vice President of Global Strategy at Ford Motor Company and Senior Managing Director at Guggenheim Securities, and Dr. Behrooz Rezvani, CEO of Neural Propulsion Systems.

Also, to read Rezvani's reaction to recent NHTSA AEB requirements, [visit here](#).

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