



Opportunities in Retrofit Connected Vehicles

November 28, 2018

Jeff Varick, Founder and President

CONFIDENTIAL

The Most Trusted Retrofit Safety Brand

- 13 years of **innovation, product leadership** in safety applications
- **OEM-based products** work better, get returned less
- Strong relationships with the **best distributor base** in the industry

**NOW'S THE TIME
TO MAKE CARS SAFER.**

Not in ten years. Not next year. Not next week. Not tomorrow. Today, right this minute, we have the products and technology that can help drivers avoid deadly accidents. Our mission? To get those products into cars and trucks that already exist. Now. And once we do, we can help avoid 10,000 deaths on U.S. roads. With forward collision and lane departure warning systems, blind spot systems, and one of the first 360° surround view vision systems. Together we've got the power to save lives. We want to use that power to every driver's advantage.

PROTECTIVE SAFE ADVANCED IMMEDIATE LIFE-SAVING

NOW'S THE TIME TO MAKE CARS SAFER.


Not in ten years. Not next year. Not next week. Not tomorrow. Today, right this minute, we have the products and technology that can help drivers avoid deadly accidents. Our mission? To get those products into cars and trucks that already exist. Now. And once we do, we can help avoid 10,000 deaths on U.S. roads. With forward collision and lane departure warning systems, blind spot systems, and one of the first 360° surround view vision systems. Together we've got the power to save lives. We want to use that power to every driver's advantage.

PROTECTIVE SAFE ADVANCED IMMEDIATE LIFE-SAVING

SAFETY IS NOT AN OPTION

- The US traffic death rate is increasing
- Technology solutions are making vehicles safer
- Retrofit safety products can have biggest impact
- Public education and trust are key

U.S. Safety Council Recommended Safety Tech

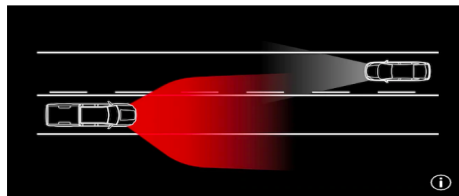
	Distracted Driving		Enhanced Night Vision		360 Vision		
	Forward Crash Warning	Lane Departure Warning	Night Vision	Adaptive Front Lighting	Blind Spot Detection	Surround View	Park Assist Features (i.e backup cameras)
Aftermarket							
							

From National Safety Council Policy Statement #133

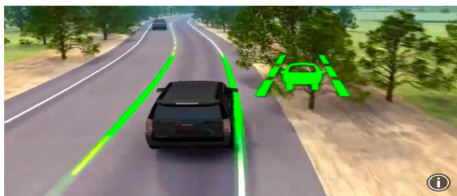
New Vehicle Safety Technology is Proliferating...



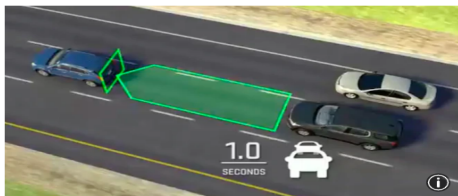
HD Rear Vision Camera



Available IntelliBeam Headlamps



Available Lane Keep Assist with Lane Departure Warning



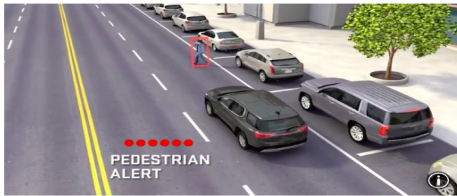
Available Following Distance Indicator



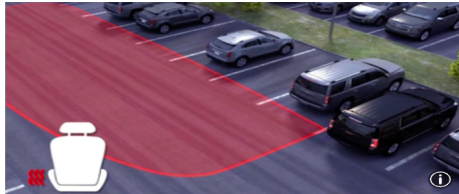
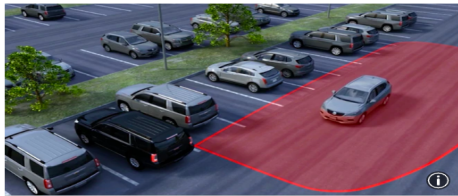
Available Lane Change Alert with Side Blind Zone Alert



Available Forward Collision Alert



PEDESTRIAN ALERT



Available Safety Alert Seat



AUTOMATICALLY APPLIES BRAKES

Available Low Speed Forward Automatic Braking



Available Front and Rear Park Assist

...But Not at the Trim Levels Fleets Want



2019 RAM 1500

	TRADESMAN	HFE	BIG HORN	REBEL	LARAMIE	LONGHORN	LIMITED
CAMERA							
ParkView Rear Backup Camera with dynamic gridlines and center lines	S	S	S	S	S	S	S
Surround View Camera (included in Advanced Safety Group, included in M1 Equipment Package) – not available with ParkView Rear Backup Camera	—	—	—	—	P	P	P
FEATURES							
Blind-spot Monitoring with Rear Cross Path detection and Trailer Detection (optional with H2 and X2 Equipment Packages; requires Premium Lighting Group on Medium Price Class; included in P1, P2, and R1 Equipment Packages)	—	—	O	O	P	P	S
Forward Collision Mitigation (Adaptive Emergency Braking) (included in Advanced Safety Group)	—	—	—	—	P	P	P
Lane Departure Warning Plus (included in Advanced Safety Group)	—	—	—	—	P	P	P
PARKING SENSORS							
ParkSense Front and Rear Park Assist with Rear ParkSense Stop (optional with H1 and X1 Equipment Packages; included in H2, X2 and P2 P1 Equipment Packages; it requires fog lamps when offered as LPO)	—	—	O/P	O/P	O/P	S	S
Parallel and Perpendicular Park Assist (Included in Advanced Safety Group)	—	—	—	—	P	P	P

VEHICLE > SAFETY

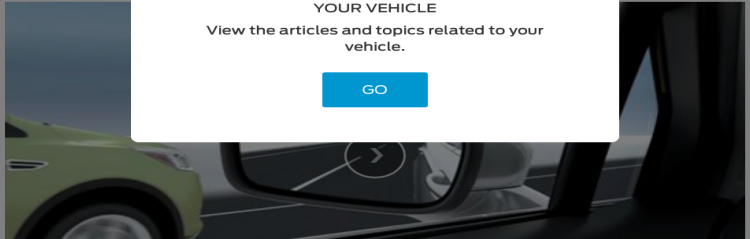
Blind Spot Information System with Cross Traffic Alert



THIS INFORMATION MAY NOT APPLY TO YOUR VEHICLE

View the articles and topics related to your vehicle.

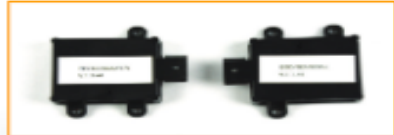
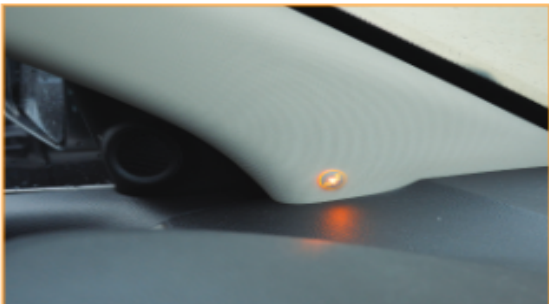
[GO](#)



Brandmotion OEM-Grade Radar Blind Spot

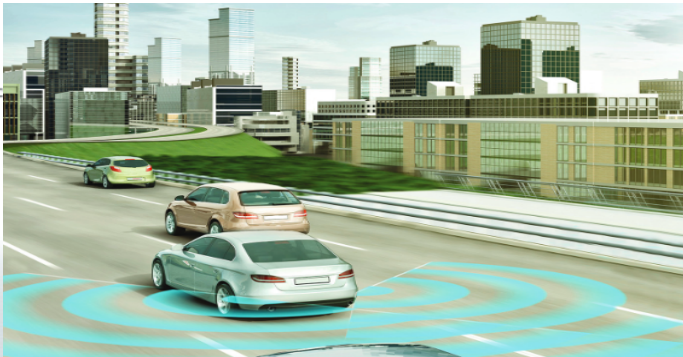
“If every vehicle in the US were equipped with RDBS, 50,000 crashes could be prevented” - IIHS

- System does not pick up stationary objects
- Accurately senses the lane next to the vehicle
- Can sense everything from motorcycles to semi trucks



24 Ghz narrow band radars can be tailored to suit any vehicle as an OEM factory-fit

LED indicators cleanly mount at bottom of windshield trim



Brandmotion OEM-Grade Surround Vision

All systems feature 8 selectable views and turn signal activated side cameras



Top View + Front



Top View + Right



Top View + Left



Top View + Rear



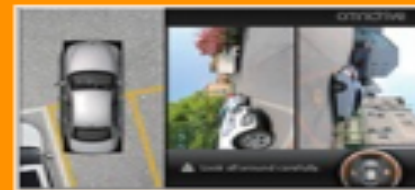
Rear Full View



Front Full View



Top Full View



Top View + Side Views

Alert

Adjustable Forward Crash + Lane Departure Warning + DVR

ADAS+


ADVANCED DRIVER ASSISTANCE SYSTEM

The First OEM Grade Forward Crash and Lane Departure Warning System with DVR

Finally, an OEM-grade, visually appealing forward crash and lane departure warning system with DVR. The ADAS+ will alert drivers to potential hazards and accidental lane departure by monitoring the road and changing driving conditions through a forward facing camera.



The National Highway Traffic Safety Administration (NHTSA) lists Front Collision and Lane Departure warning systems as essential components of 5-Star Safety warning systems, suggesting that both tools will soon be mandatory.

safercar.gov 

BRANDMOTION
safer cars today 

The Value of Connected Vehicle Retrofits

The Only Way to Save the Other 30,000 Lives

Prove the technology works

- Evaluation of suppliers
- Testing and data collection
- Study the data and adjust

Find ways to make it work better

- Create process to follow
- Time saving discoveries

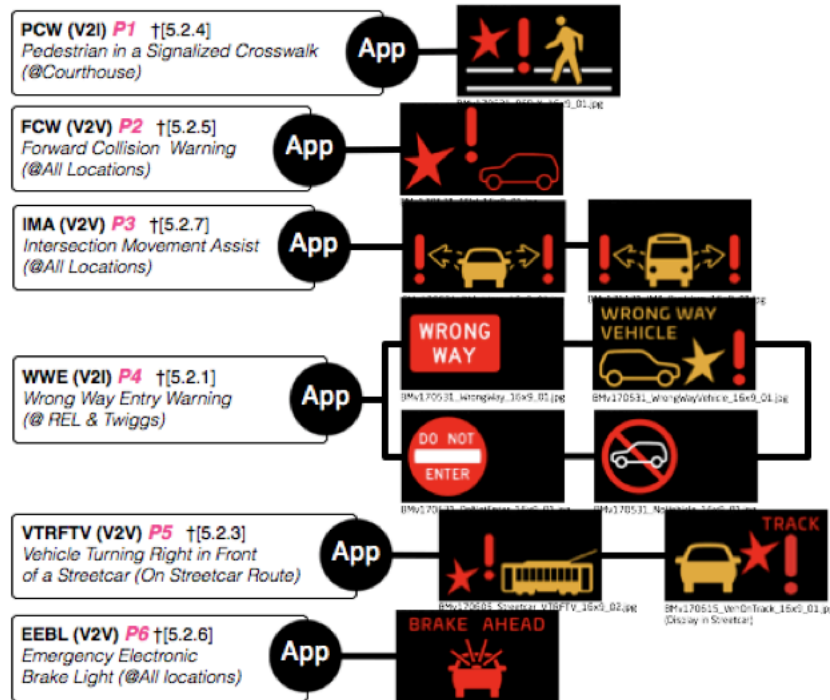
Learn from the challenges



Find Ways to Make it Work Better

Developed HMI

- Warnings displayed to driver on a Brandmotion rear view mirror
- Graphics that get driver's attention without distraction
- Functional design of applications



Find Ways to Make it Work Better

CAN Decoding Device

- Saves time at installation by grabbing different signals including turn signals, reverse, brake from CAN BUS
- No splicing of cables needed preventing warranty voidance



CAN Aggregator

- Translate vehicle CAN messages to common spec (CAMP CAN)
- Beneficial for CV deployments when vehicle data is needed
- Adaptable to customer requirements
- No splicing of cables needed, preventing operability issues

Challenges and Lessons Learned

Real World Pilots with Real Resident Vehicles

Challenges

- Working with the public
- Changing standards
- Loose requirements
- Certifications
- Multiple OBU suppliers

Lessons Learned

- Brandmotion's strategy for success is early sourcing and partnerships
- Collaborative supplier involvement from the start is key
- Plan for everything to take longer than initially expected



VISION ZERO
AUTOMOTIVE NETWORK

Join the VZAN Movement

- ❖ Equip more vehicles with aftermarket safety technology
- ❖ Support local community efforts to reduce traffic deaths
- ❖ Educate consumers on how to safeguard their



Thank You