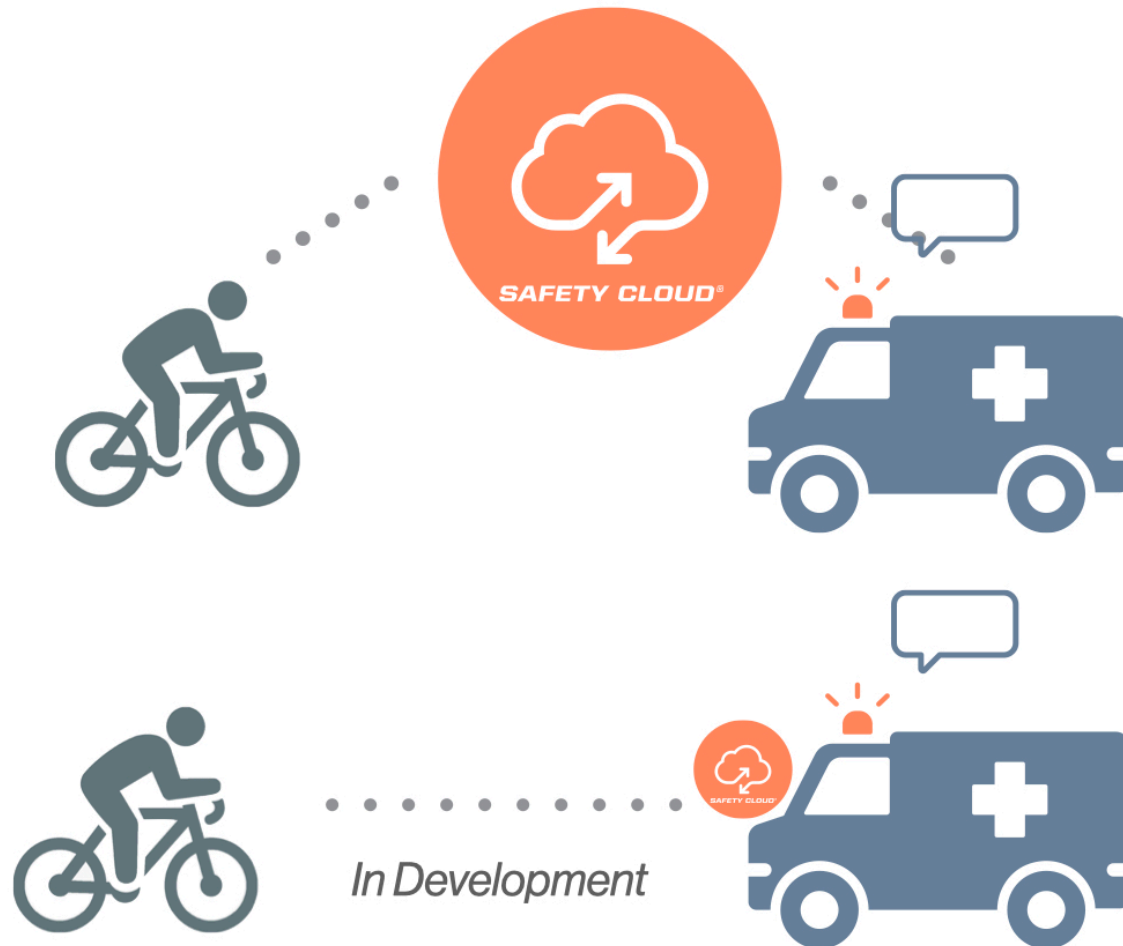


Bicycle-to-Responder

Digital Alerting



First Responders dispatched to an emergency are trying to arrive as quickly as possible while navigating through traffic, intersections, and Vulnerable Road Users (VRUs).

HAAS Alert's Bicycle-to-Responder (B2R) digital alerting technology triggers alerts inside emergency vehicles to let drivers know about VRU hazards they can't see.



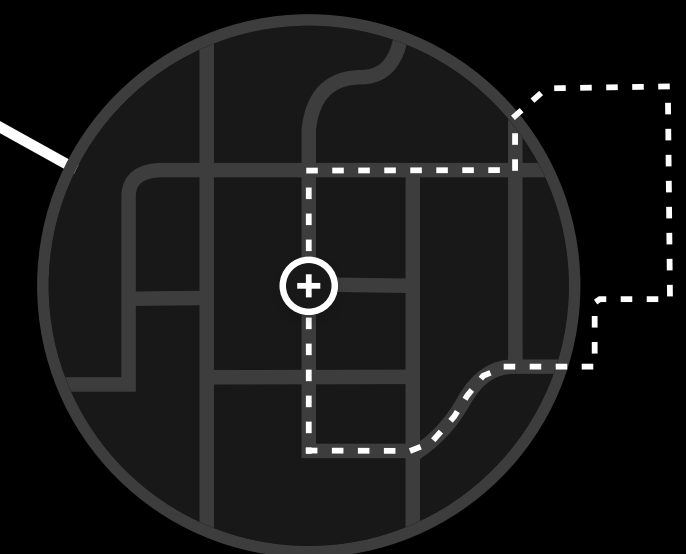
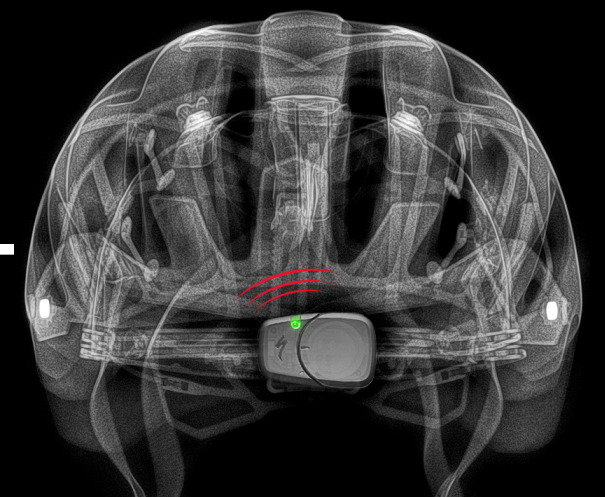
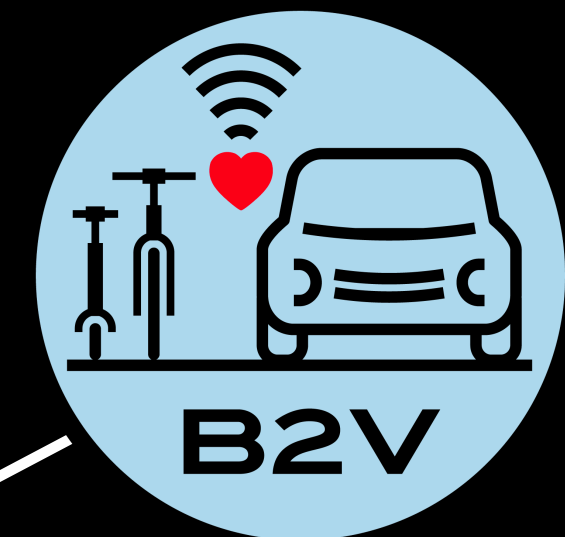
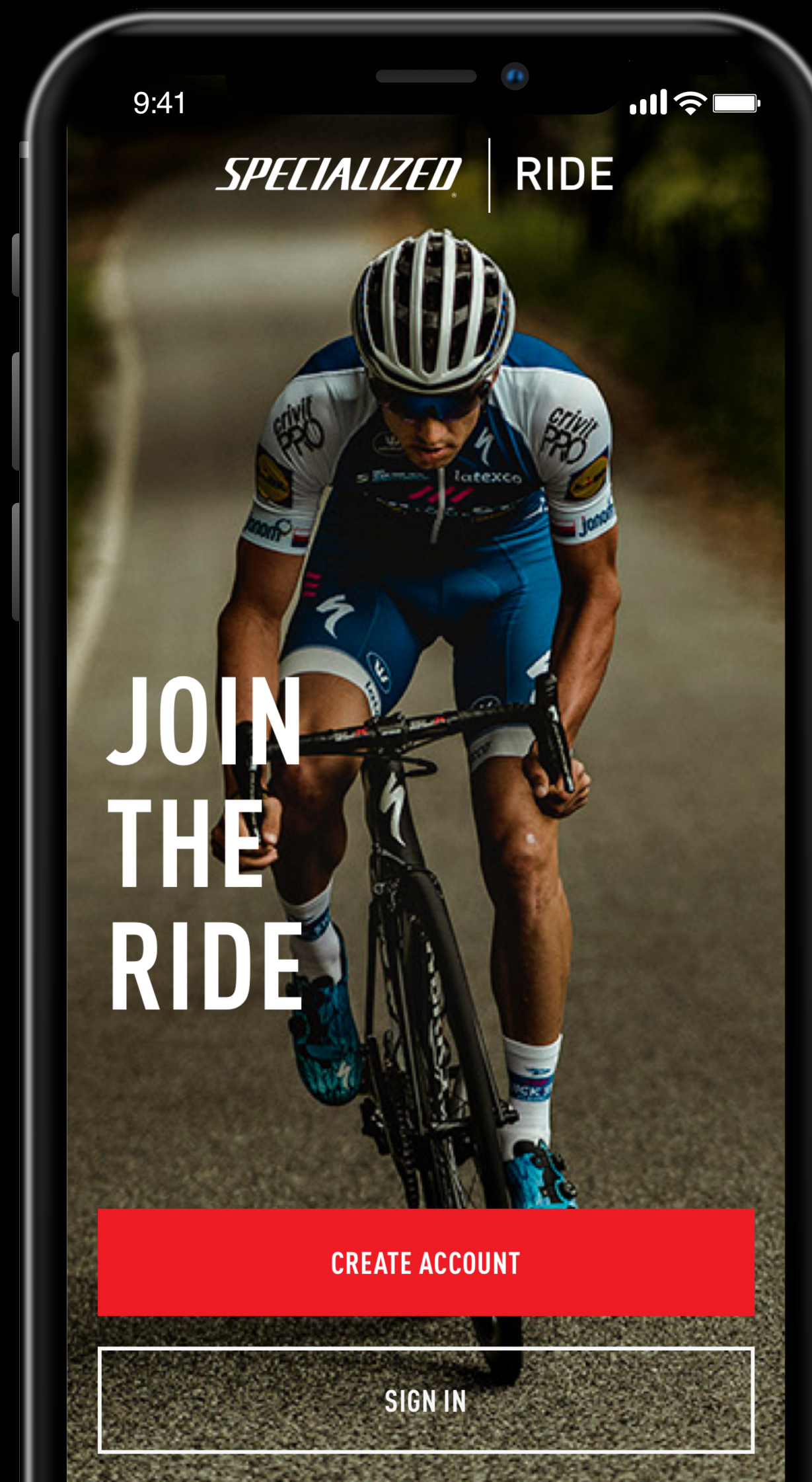
The Specialized Ride App

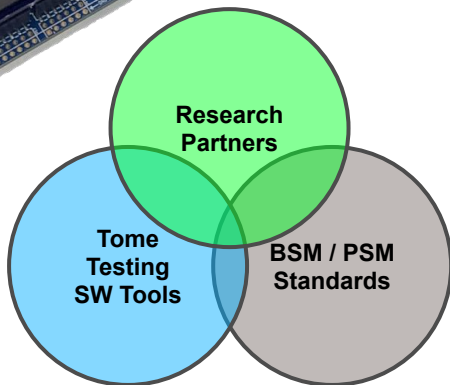
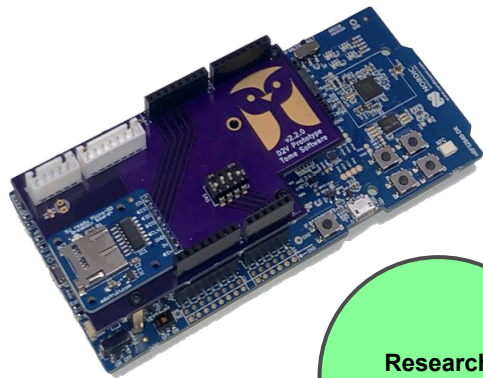
The app for every cyclist. To find, join and record rides while staying safe.

Safety features include:

- B2V integration for vehicle safety automation*
- Location tracking
- Time distress alerts
- Integration with ANGi helmet impact monitor

*In prototype phase only





Hardware Dev Kit - HDK

Software and hardware tools needed to test, validate, and run safety pilots with VRUs



Testing & Data Gathering

Decreases cost and time to run field tests with VRUs



Engineering Flexibility

Supports onboard as well as external sensor options for engineering evaluation



Standards Compliance

HDK provides the ability to work with bicycle and scooter companies on SAE and other standards



TREK

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In 2015, Trek Bicycle released the Bontrager Flare RT Daytime Running Light to allow cyclists to communicate their presence to drivers.

Five years later, Trek is prototyping Flare RT's capabilities to communicate with their cars.

Flare RT

- Focus, flash, and range specifically designed to alert drivers of the presence of a cyclist
- Interruptive flash pattern produces up to 90 Lumens
- Integrated light sensor auto-adjusts brightness to the environment
- Connect with Garmin® and Bontrager ANT+ devices for battery status and to control lights

Flare RT+B2V

- Modified hardware to include GPS position and long-range Bluetooth
- Utilize code developed by Tome Software collaboration to implement wireless safety messages
- Ongoing testing with Ford to determine future product direction