



CASE STUDY: AUTOMOTIVE

Pervasive Vehicle-2-Anything Connectivity Enables Safe, Engaging Rally Racing Experience



Background/Challenge

Over the past decade, a surge in rally sport competition has resulted in greater incidences of injury, fatalities, and property damage. In an attempt to mitigate these risks, regulators and rally industry representatives are taking steps to rewrite many of the procedures, requirements, and rules currently on the books. This includes firming up team and vehicle licensing requirements, mandating the use of specialized safety equipment, and requiring the latest integrated in-vehicle GPS and communication technologies.

These risks may be attributable to the following factors:

- Increasingly remote venues that are far from city emergency support services
- Competition involving more challenging terrains and under harsher conditions
- Higher density rallies with more competitors, spectators, and event support staff
- Faster vehicles that are pushing the limits of speed, distance, and endurance
- More rallies in more places worldwide than ever before

Due to the technological limitations of legacy 2G cellular networks, reliable connected- vehicle communications solutions were traditionally unrealistic. In the absence of pervasive high-speed cellular or modern V2V connectivity, organizers were forced to use high-cost, proprietary GPS-based satellite services or fall back to legacy short-range radio-frequency (RF) communications.

RallySafe realized early on that legacy, short-range radio frequency (RF) was ill-equipped to handle the expanding needs of rally sports. This technology could not handle challenging terrains or unpredictable weather conditions, and did not appreciably decrease vehicle collisions. Reliance on RF communications left event organizers and officials largely in the dark, and large numbers of marshals and volunteers were needed to relay accurate information from the course back to race control.

In addition to safety concerns, timing continued to prove challenging for event management. As races grew in size and complexity, and with more vehicles competing over larger areas, the ability to accurately capture vehicle times became increasingly difficult. The traditional clipboards-stopwatches-radio method was inaccurate and couldn't keep up with the increasing pace and scale of the events.



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Solution

RallySafe is a technology early-adopter, founded on a vision of providing the motorsports industry best-in-class safety and communication management solutions. Today, the company continues its legacy of providing drivers, organizers, and spectators next-generation products and services that use the latest IoT technologies.

Since 2010, RallySafe's value-proposition has been based on a unique understanding and appreciation of the safety and communication challenges of drivers, competitors, and event organizers. RallySafe's go-to-market plan is predicated on the following critical-success-factors (CSFs):

- **Regulatory Compliance:** Network and industry road-mapping, testing, and certification
- **Seamless Connectivity:** Carrier integration and secure, managed IoT connectivity
- **Reliable Vehicle Communications:** Integrating high-speed, low-cost V2V RF
- **Pervasive GPS:** Access to reliable anywhere, anytime satellite positioning

RallySafe realized that actualizing their plans was predicated on careful implementation of a value-added IoT solution. This solution would provide drivers, organizers, and event staff with network-agnostic connectivity that would enable them to communicate effectively and precisely determine their location.

More importantly, the solution would need to offer RallySafe customers an integrated ecosystem, purpose-built to solve their unique safety and communication challenges and those of the wider rally sports industry. The IoT solution would also need to seamlessly integrate RallySafe product-lines and engineering processes to produce a secure, managed, end-to-end vehicle-2-everything (V2X) connectivity solution. Lastly, RallySafe would require a trusted, neutral, expert IoT advisor with the global reach and industry expertise needed to simplify complex carrier certification and connectivity challenges.

KORE was that trusted IoT advisor. Since 2012, KORE has been working closely with RallySafe leadership and product development groups to help the company simplify their strategic technology initiatives and actualize their go-to-market plans by focusing on the following criteria:

- **Ubiquitous Connectivity:** Expanding global connectivity for events held anywhere, anytime, worldwide
- **Purposeful Enablement:** Helping RallySafe customers focus on competing, organizing, and managing rallies by providing enabling technologies
- **Next-Gen User-Experience:** Enhancing user-experiences for competitors, organizers, and support staff



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Results

Implementing KORE's IoT solutions has enabled RallySafe to offer its customers the following benefits:

Ease-of-Use – An all-in-one rally solution that combines embedded KORE connectivity pre-programmed with race coordinates and an intuitive no-touch hazard alerting system. Real-time GPS positioning and hassle-free V2V communications provide drivers the situational-awareness they need to navigate challenging terrains.

V2V RF Connectivity – The RallySafe automated on-board vehicle-proximity technology provides drivers a low-distraction, high-value warning system. High-speed V2V communication offers push-to-pass options that enable drivers to see the road ahead.

Management – Automatic hazard warnings enable race control to rapidly respond to incidents. Additionally, integrated satellite capability provides drivers V2X communication locations with poor or unavailable cellular coverage and provides organizers an all-inclusive map-based view of participating vehicles.

Timing – Accurate and timely race metrics means better race results. Battle-tested for changing environments, high-frequency GPS and interpolated algorithms enable instant timing and increase the validity of control-start/stop times. This results in fewer race enquiries, disputes, and reduces timing errors help to keep event costs down.

KORE has enabled RallySafe to offer the rally racing industry an interactive, engaging, and safe user- experience. KORE's comprehensive IoT capabilities have helped RallySafe go-to-market with best-in-class rally management solutions that unlock real-world benefits. Together, the RallySafe and KORE partnership represents a perfect union of competencies and technologies that offer next-gen rally management solutions that enable the rally community to safely focus on the sport of rally racing.

About KORE

KORE Wireless Group ("KORE") is a pioneer, leader, and trusted advisor delivering transformative business performance. We empower organizations of all sizes to improve operational and business results by simplifying the complexity of IoT. Our deep IoT knowledge and experience, global reach, purpose-built solutions, and deployment agility accelerate and materially impact our customers' business outcomes.



About RallySafe

RallySafe was originally conceived after the occurrence of a secondary crash that took place at a rally race-Targa Tasmania, Australia. The original creators of RallySafe-one of whom is to be known as having been an experienced rally racing participant - conceived RallySafe under its parent company Status Awareness Systems in 2010. The overall idea was that this accident may have been prevented if there was some way, communication-wise, to alert the drivers of the situation beforehand.

[Learn more](#) about how KORE can simplify IoT complexity so you can concentrate on growing your logistics business.