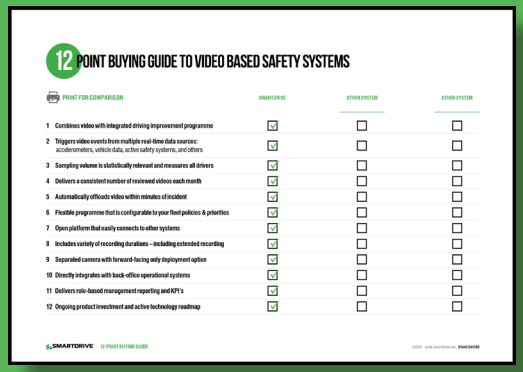
SMARTDRIVE®

12 POINT BUYING GUIDE TO VIDEO BASED SAFETY SYSTEMS

NOT ALL VIDEO BASED SAFETY PROGRAMMES ARE CREATED EQUAL.

These 12 criteria should be considered as part of your selection process. They can make the difference between a programme you quickly outgrow and one that keeps pace with your business.

INCLUDES COMPARISON WORKSHEET



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PRINT FOR COMPARISON

		SMARTDRIVE	OTHER SYSTEM	OTHER SYSTEM
1	Combines video with integrated driving improvement programme	☑	☐	☐
2	Triggers video events from multiple real-time data sources: accelerometers, vehicle data, active safety systems, and others	☑	☐	☐
3	Sampling volume is statistically relevant and measures all drivers	☑	☐	☐
4	Delivers a consistent number of reviewed videos each month	☑	☐	☐
5	Automatically offloads video within minutes of incident	☑	☐	☐
6	Flexible programme that is configurable to your fleet policies & priorities	☑	☐	☐
7	Open platform that easily connects to other systems	☑	☐	☐
8	Includes variety of recording durations – including extended recording	☑	☐	☐
9	Separated camera with forward-facing only deployment option	☑	☐	☐
10	Directly integrates with back-office operational systems	☑	☐	☐
11	Delivers role-based management reporting and KPI's	☑	☐	☐
12	Ongoing product investment and active technology roadmap	☑	☐	☐

SMARTDRIVE 12-POINT BUYING GUIDE

1 INTEGRATED PROGRAMME

2 DATA SOURCES

3 SAMPLING VOLUME

4 SAMPLING VOLUME CONSISTENCY

5 VIDEO AVAILABILITY

6 FLEXIBILITY

7 OPEN PLATFORM

8 RECORDING DURATION

9 CAMERA OPTIONS

10 SYSTEM INTEGRATION

11 REPORTING TOOLS

12 ONGOING DEVELOPMENT

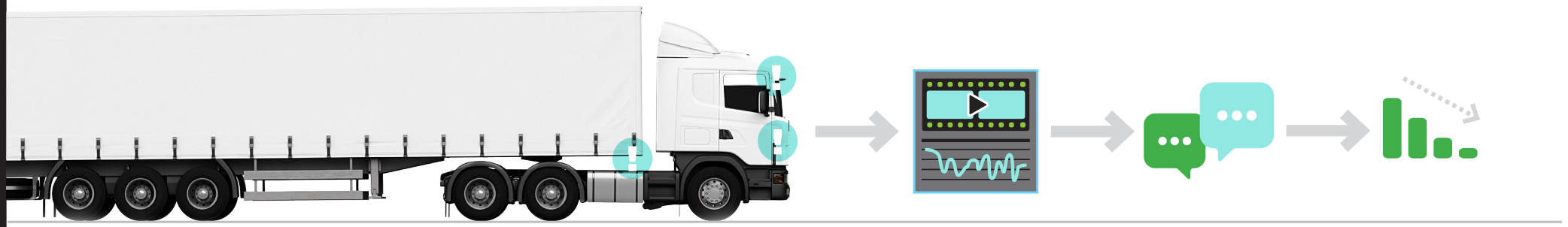
1 INTEGRATED PROGRAMME

☑ COMBINES VEHICLE DATA + VIDEO EVENT RECORDING WITH DRIVING IMPROVEMENT PROGRAMME

Video on its own is not enough.

- Video provides valuable insight that traditional tabular critical event reports cannot.
- Eliminating risk requires an integrated programme that includes a standardised and consistent process for identifying and coaching risky drivers.
- Programmes that include expert review do the work for you and follow a documented methodology for assessing risk and prioritisng drivers for coaching – fairly and consistently.
- This saves your team time, freeing them to focus on other areas and ensures consistency across your coaches, locations and company.

BOTTOM LINE: Lowering risk requires an integrated programme that combines expert review with an easy to use coaching process, resulting in ongoing and continuous driver improvement.



A variety of sensors identify and capture risky driving.

Experts review and score incidents for risk. The programme then prioritises drivers for coaching.

Managers coach drivers on areas for improvement.

The results: safer drivers, lower risk, fewer collisions.

2 DATA SOURCES

☑ REAL TIME TRIGGERING FROM MULTIPLE DATA SOURCES

Accelerometers + engine and vehicle data + active safety systems + other risky driving manoeuvres

It takes more than accelerometers to capture risk.

- Accelerometers are the traditional technology used to trigger event video. They rely on g-force events and algorithms to identify risky driving.
- Accelerometer based algorithms have limitations regardless of training or tuning, especially when there is limited or no g-force.
- To truly capture risky driving, you need a system that connects to the vehicle engine, triggering in real time when that vehicle is under stress, has exceeded your established speed threshold or when an on board safety system has engaged.
- Today's intelligent vehicles have volumes of rich information, from collision avoidance and lane departure warning systems, to ABS and roll stability control and more, that identify risky driving specific to that vehicle.
- Leveraging this rich data in combination with accelerometer data, captures the broadest spectrum of risk and is the fastest method to accurately identify your high risk areas.

BOTTOM LINE: Systems that rely on accelerometers alone take longer to identify high risk areas – and longer to produce results. Your vehicle has valuable safety data available directly from the engine. Why wouldn't you use it? The faster you identify risk, the faster you can reduce it.

The broader the set of data sources used to trigger video events, the more effective the system is at identifying risky driving. Triggering should include data from:

Engine (ECU): PTO, throttle, RPM and more

Shock, g-force

Threshold speed

Active Safety Systems

Advanced manoeuvres: U-turn, swerve, and more

Collisions/ high definition shock

3 SAMPLING VOLUME

☑ DELIVERS SUFFICIENT SAMPLING VOLUME OF REVIEWED EVENTS EACH MONTH

Sampling matters when it comes to measuring risk and improving safety.

- In addition to rich data, collecting and reviewing enough video (sampling volume), and doing that consistently each month (sampling volume consistency) is critical to establishing an accurate risk profile for your fleet.
- The volume of event video captured and reviewed each month is important to account for the change that goes on every day across a fleet and to ensure that you are correctly identifying risky drivers from safe drivers.
- SmartDrive's research has shown that systems that only measure a portion of the drivers, and/or review less than an average of 15 accelerometer triggered videos per vehicle per month simply do not have enough information to correctly identify your high risk areas and high risk drivers.

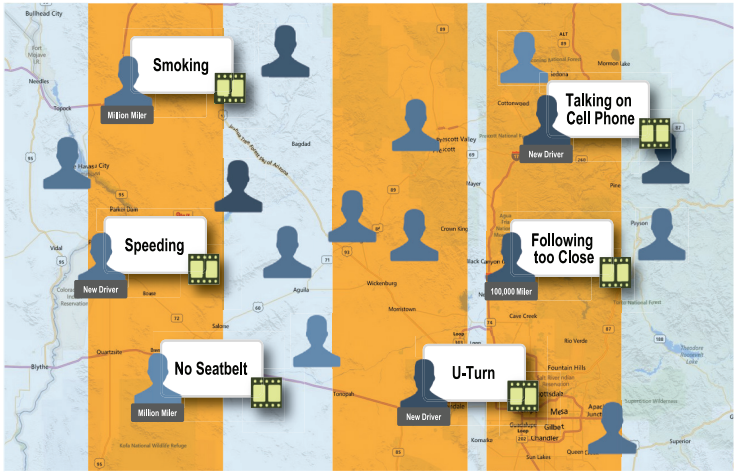
BOTTOM LINE: More data means deeper insight and faster, more reliable results. If the programme does not include a statistically significant amount of reviewed video, you are more likely to be wasting your time coaching the wrong people, or the right people on the wrong things.

Incomplete

◀ **Insufficient sampling** misrepresents the risk profile of the fleet and delivers an incomplete picture.

Sufficient sampling and review ensures the programme is accurately identifying risky drivers from safe drivers. ▶

Accurate



4 SAMPLING VOLUME CONSISTENCY

☑ DELIVERS A CONSISTENT NUMBER OF REVIEWED EVENTS EACH MONTH

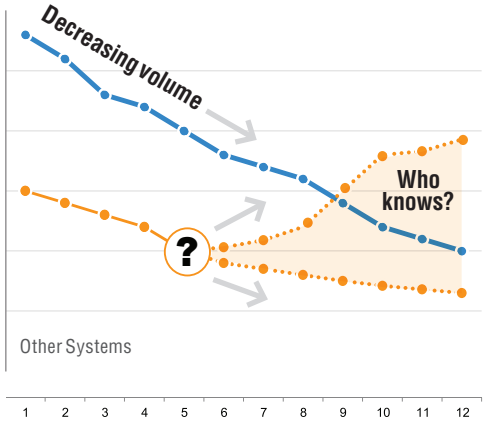
A consistent monthly baseline of reviewed video events is key to measuring improvement. For example, if the programme triggers and reviews ten videos one month, four the next month and two the following, the only thing you know for certain is that you have fewer videos.

Is your fleet getting safer?
Accurate measurement of risk is critical to answering this question.

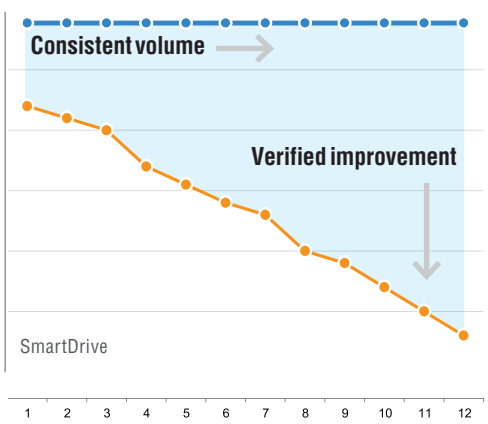
- Some systems quantify risk reduction based on the number of videos being triggered – meaning if you have fewer videos each month, your fleet is getting safer.
- This approach overestimates improvement and relies on the trigger as the primary measure of risk. See illustration below
- Triggering video is only the first step in the process. Expert review of that video is a necessary step to verify and quantify risk.
- The only way to know if your drivers are getting safer is to invest in a programme that captures and reviews a consistent sample of videos each month across your site, and measures the reduction in risk against that monthly sample.

BOTTOM LINE: Fewer videos each month is not an accurate measure of risk reduction. If you select a system that follows this approach, the results will be misleading.

Decreasing reviewed videos
Risky driving could be going down or up



Consistent reviewed videos
Verifies risk is going down



5 VIDEO AVAILABILITY

☑ AUTOMATIC OFFLOAD WITHIN MINUTES

Every second counts when it comes to safety.

- Video provides driving insight not possible from any other system.
- Some on board systems take hours to send video event data – offloading once per day at off peak hours or requiring you to pay more to get the video more often.
- Or they rely on the driver to push a button to offload the video when an incident occurs, which means if the driver is injured you may not get the video when you need it most.
- Automatic offload within minutes of the incident should be included as a standard offering of the programme and your monthly investment.
- Quick access to the video can help get your truck back on the road and fulfill your delivery commitments.

BOTTOM LINE: Selecting a system that automatically delivers video within minutes of an incident can mean the difference between protecting your drivers and your company and putting them at risk – and you shouldn't have to pay extra to get that level of protection.

1 MINUTE AFTER THE COLLISION: Video automatically offloads

18 MINUTES LATER: Safety Manager alerted, has access to video

44 MINUTES: Police watch video, clear driver

90 MINUTES: Driver and freight back on the road

When a driver is accused and it wasn't their fault, you want that information now, not later. In a crisis, there is a big difference between access to video in minutes vs. hours or days.

6 FLEXIBILITY

☑ CONFIGURABLE PROGRAMME VS. ONE SIZE FITS ALL

One size rarely fits all, especially when your fleet operates in a dynamic business environment.

- A programme that combines a best practice approach with customisation options enables you to adjust the weighting for specific driving risk and determine what should be coached.
- The ability to fit the programme to your safety policy minimises the impact of change on your managers and your drivers, accelerating adoption and results.
- It also allows you to improve your safety programme's effectiveness over time, focusing on specific opportunities for improvement.

BOTTOM LINE: Selecting a 'one size fits all' solution locks you in to a programme which you will quickly outgrow. A fully configurable programme drives maximum value by keeping pace with your business and your unique operating characteristics.

Fit the programme to your safety policy and priorities.

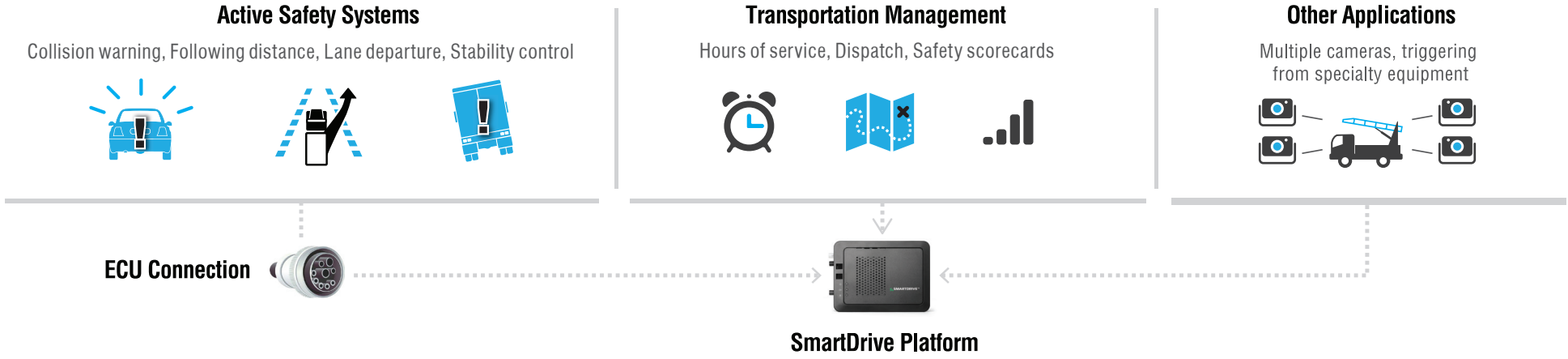
7 OPEN PLATFORM

☑ OPEN TECHNOLOGY PLATFORM THAT EASILY CONNECTS TO OTHER SYSTEMS

With a video based solution, it's risky to focus only on the camera.

- Most systems are closed technologies offering limited or no integration and can quickly become outdated. Open platforms are designed to keep pace with technology.
- Systems architected from the ground up to be open generate more value from your existing safety technologies by incorporating real time data from multiple sources, which has proven to be more effective at identifying unsafe driving.
- Integrating to the ECU takes full advantage of the information available from the engine, vehicle components, Active Safety Systems (e.g. stability control, collision mitigation, etc.) and related third-party systems.
- This approach captures a broader spectrum of risk and offers long term expansion capabilities – whether to other systems, other cameras, or other data sources.

BOTTOM LINE: An open platform approach enables you to take real time advantage of all of the data on your vehicle, providing a unified view of your risk and actionable insights that help you respond quickly and with confidence. And, best of all, you are not locked into obsolete technology.



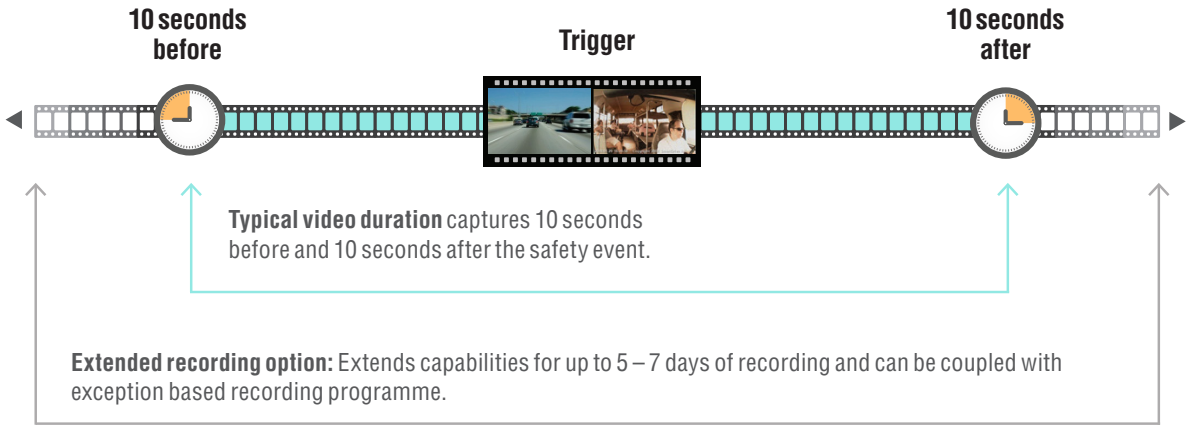
8 RECORDING DURATION

☑ MULTIPLE VIDEO RECORDING OPTIONS

The flexibility to capture just what you want, including everything.

- Programmes with a variety of options for recording duration provide the most flexibility.
- There are many types of safety events – some of which are 'under the radar' (low or no g-force) and won't be captured by an accelerometer.
- In addition, sometimes fleet managers want an extended recording option to get more information around incidents which exceed the typical 20-second video clip length.
- Extended recording can be particularly useful in high risk industries, capturing mystery damage, understanding compensation claims, identifying compliance related issues, and more.

BOTTOM LINE: Flexible recording options offer more value for your investment. Extended recording provides deeper insight around a broad range of safety and compliance related incidents.



9 CAMERA OPTIONS

☑ MULTIPLE CAMERA CONFIGURATIONS

☑ FORWARD FACING CAMERA ONLY OPTION

Fleets have different operating environments – you should have more than one option for deploying cameras.

- While a road facing and interior facing camera is the most effective way to capture risky driving and identify root causes, a forward facing only configuration still provides a lot of value – and can be helpful when dealing with driver concerns.
- A separated camera provides ultimate flexibility in the installation process.

BOTTOM LINE: Single unit cameras lock you in to a one size fits all deployment. Flexible camera configurations deliver an optimal fit for your vehicles and drivers.

Multiple camera options provide the flexibility to deploy the combination that works best for your fleet and drivers.

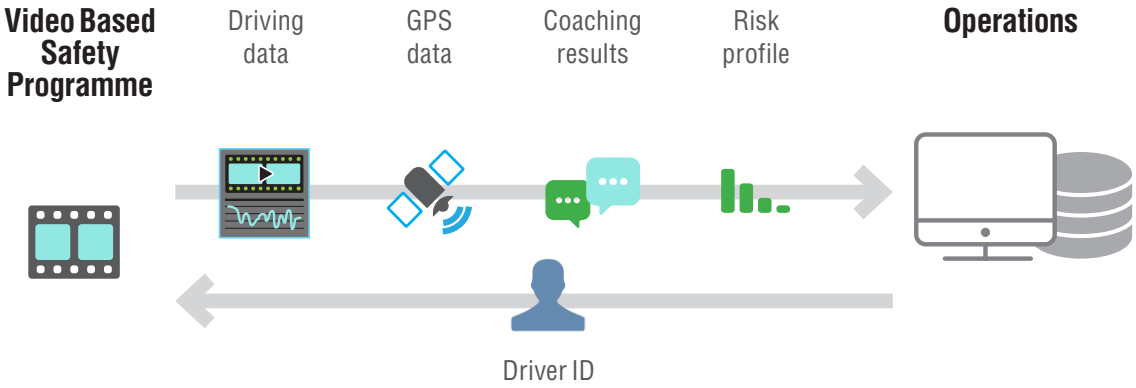
10 SYSTEMS INTEGRATION

☑ DIRECT INTEGRATION WITH BACK OFFICE SYSTEMS

Break down the walls between your safety and operational systems.

- Sharing information between your operational software and your video based safety system streamlines operations and unlocks the hidden value in your data.
- For example, as a driver logs into one system, there should be a connection within your video based programme that identifies which driver is operating that vehicle, eliminating additional work and ensuring the accuracy of the data.

BOTTOM LINE: The ability to share data between your video safety system and back office systems eliminates redundant work, informs other reporting and safety scorecards, and improves planning and decision making .



Data should be easily shared between the video safety system and other fleet operations systems.

11 REPORTING TOOLS

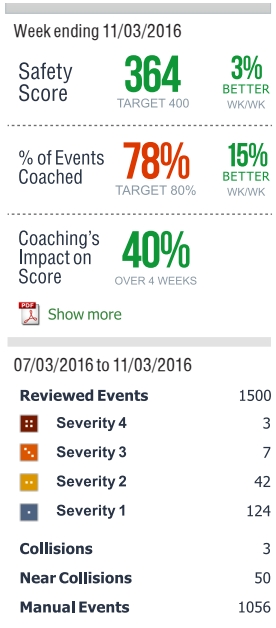
☑ ROLE BASED MANAGEMENT REPORTING AND KPI'S

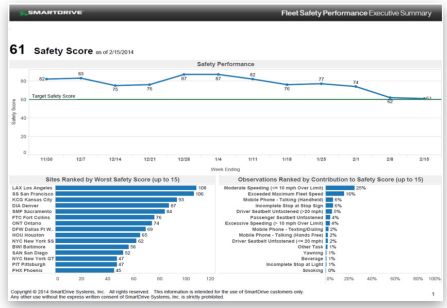
You can't manage what you can't measure.

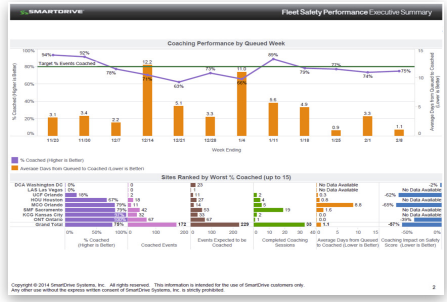
- A robust set of management reports and Key Performance Indicators (KPIs) helps you manage the programme on an on going basis and highlight areas of strength and opportunities for improvement.
- These reports focus on both driving and coaching performance, help identify trends and support incentive and recognition programmes.
- Reports should be tailored to each level of your organisation – from executive to driver, ensuring that they have the right information to make decisions and improve performance.

BOTTOM LINE: Selecting a solution that delivers actionable insights through easy to use management reporting and KPI's is critical to understanding whether your investment is paying off.

Reports should include KPIs and trend metrics to measure your coaches and driver improvement.







12 ONGOING DEVELOPMENT

☑ ONGOING PRODUCT INVESTMENT AND TECHNOLOGY ROADMAP

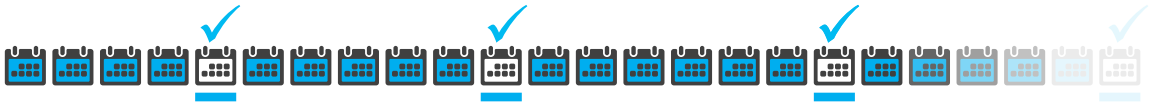
Vehicle innovation is not slowing down. Make sure your system can keep up.

- With the pace of safety technology changes on vehicles, as well as new regulations at local, national and European levels, a supplier's investment and ongoing commitment to an active roadmap ensures you don't get stuck with technology that quickly becomes obsolete.
- A web based SaaS offering typically means frequent release cycles with continued enhancements to the programme. These releases are usually included as part of your monthly service fee.
- When selecting a supplier, review the product releases over the last 12 – 24 months and their planned investments over the next 36 months.
- Evaluate whether the roadmap priorities align with your business goals.

BOTTOM LINE: Continued product innovation ensures your investment is protected and demonstrates the supplier's commitment to keeping pace with advancements in safety technology.

Releases in previous 12-24 months

Look ahead 36 months



Review product releases: Look at product releases over the last two years and the plans forward.
Do they align with your business goals and priorities? Is the company investing in the technology on an ongoing basis?

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