



# PAVING THE WAY TO INNOVATION

## Solutions for the Automotive Industry

Most people don't think too much about their automobiles - unless they happen to be real car enthusiasts. But for most buyers, a car is simply an appliance. So to lure new customers, vehicle manufacturers invent, develop, and implement a variety of automotive features related to aesthetics, comfort, operations, efficiency, and, most importantly, safety. Every component of the automobile undergoes quality checks as prescribed by governmental regulation to help ensure overall performance excellence. Product failures and recalls are costly, not only financially, but also to manufacturers' reputation and brand.

### **Improve quality, efficiency, and safety – while reducing environmental impact**

Meeting international regulations and consumer expectations for vehicles or vehicle parts requires a rigorous regime of quality testing to ensure product safety and efficacy – one that takes stringent government regulations and environmental concerns into account. Our diverse portfolio of products and deep industry expertise serve the automotive industry globally, including heavy vehicles, passenger vehicles, sports cars, and motorcycles. We're quality partners for the Renault F1® Team. And we're application and technology providers to leading oil and lubricant manufacturers.

Rely on us for a broad range of proven, reliable testing technologies, services, and consumables that enable you as automakers or material suppliers to meet regulatory requirements and provide safe, eco-friendly automobiles that deliver the highest levels of performance.

AREA OF ANALYSIS	METHODS/APPLICATIONS	KEY TECHNOLOGIES
<b>Fuel analysis</b>	Sulphur in high-speed diesel determination (IP 391) Quick fuel analysis LNG and LPG analysis Low oxygenates analysis Exhaust analysis Biofuels analysis for FAME content	Clarus® 590/690 GC Arnel™ GC Engineered Solutions Clarus GC FAME analyzer Frontier™ FT-IR FAME analyzer Flexar™ HPLC
<b>Lubricant and oil analysis</b>	In-service lubricant analysis Wear metals analysis ASTM E2412 Oil additives analysis Impurities and false product determination Packaging analysis	Spectrum Two™ FT-IR Avio® 500 ICP-OES Oils LAMBDA™ 365 UV/Vis OilExpress™ Oil Condition Monitoring System TurboMatrix™ Headspace with Clarus GC
<b>Rubber-component quality determination</b>	Tires EPDM rubber hoses for radiators Rubber gaskets, hosepipes, O-rings Electrical insulation Floor mats and other rubber components	Spectrum Two FT-IR DSC 6000/8000 TGA 4000/8000 Hyphenated TG-IR-GC/MS TurboMatrix ATD with Clarus GC TurboMatrix Headspace with Clarus GC
<b>Paints and coatings</b>	Resins and automotive paints (curing quality) Metallic content in paints Electroplating Paint properties (environmental conditions) Forensic analysis of paints Failure analysis	DSC 8000 Avio 500 ICP-OES NexION® 2000 ICP-MS Frontier™ FT-IR with Spotlight™ 400 imaging system
<b>Polymeric material testing</b>	Polymer molded parts Mechanical properties of FRP materials UV stabilizers in glass/sun control film Electrical wire coatings	Spectrum Two with Spotlight 200i FT-IR microscopy system LAMBDA 1050+ UV/Vis/NIR Frontier FT-IR with UATR
<b>Optical and reflecting components</b>	Vehicle lamps/reflectors Indicator light covers Windshield and other glass window panels Mirrors	LAMBDA 1050+ UV/Vis/NIR with reflectance accessories Frontier FT-IR with emissivity accessory

Visit [www.perkinelmer.com/automotive](http://www.perkinelmer.com/automotive) to learn more about our solutions and how we can help solve your challenges.

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