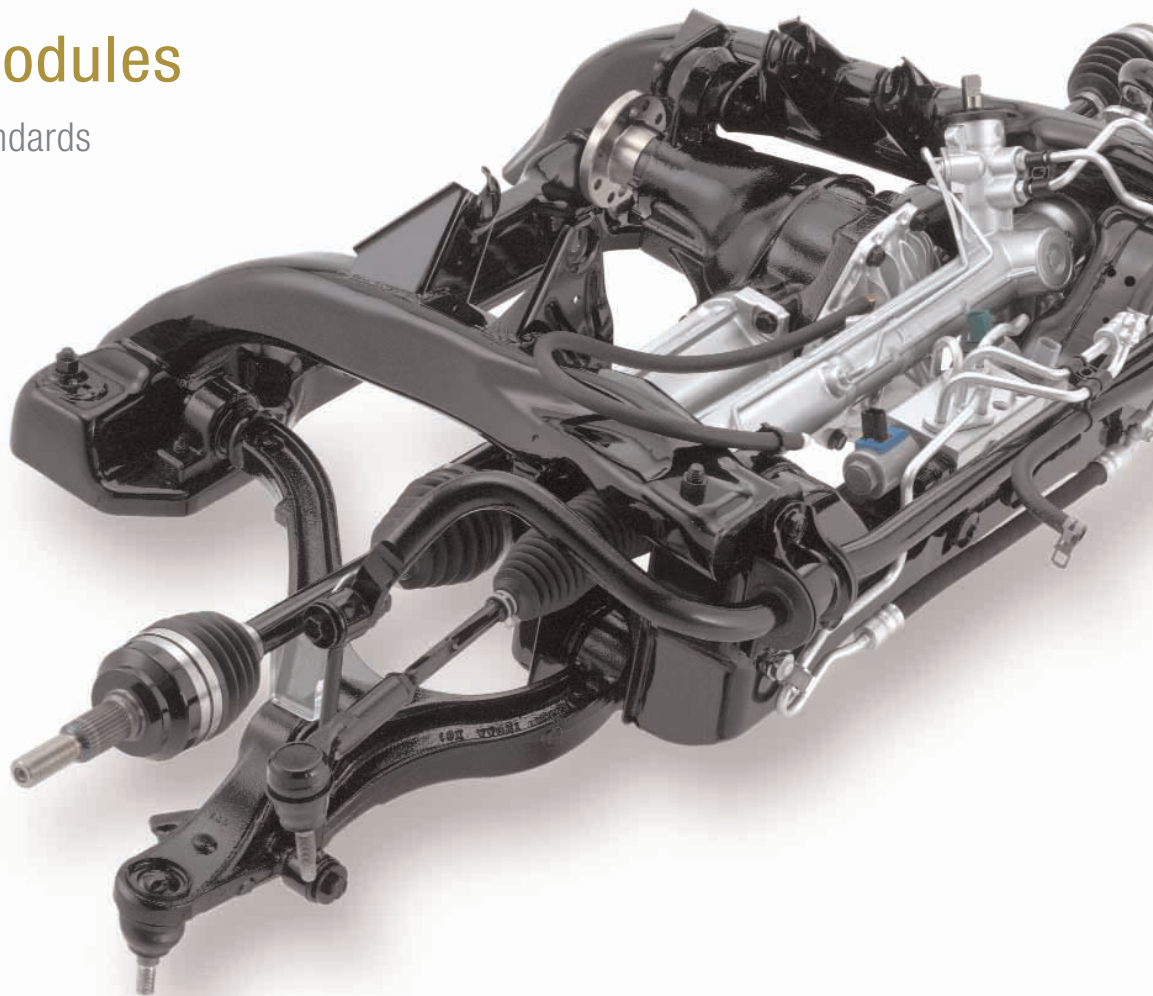


suspension modules

Setting New Chassis Standards



Today's automotive market is much more complex than it once was. Market segmentation, customer personalization, technical innovation and cost/value pressures all drive automotive manufacturers (OEMs) to do more with less, and to do it faster.

To meet these challenges, OEMs are developing more variants from a vehicle platform, reducing costs for development, production and associated logistics, and finding ways to cost-effectively introduce product features that add value to the final consumer. One result is that OEMs are placing more demands and more responsibility on their suppliers to work with them to develop and produce complete modules and systems.

Global suspension modules capability

ArvinMeritor's Light Vehicle Systems (LVS) business group is one of the few Tier One suppliers that has the technical, design, manufacturing and logistical competence and capabilities to be a provider of complete suspension modules on a global basis. ArvinMeritor can assume all or part of the suspension module design and development to the OEM's performance requirements. We can also select and manage sub-suppliers as well as assemble and supply the module as a ready-to-install, pre-aligned package that can be delivered in-sequence and just-in-time.

Globally, other ArvinMeritor LVS module and system sequencing operations include those for door modules, exhaust systems and roof modules.

Capable systems

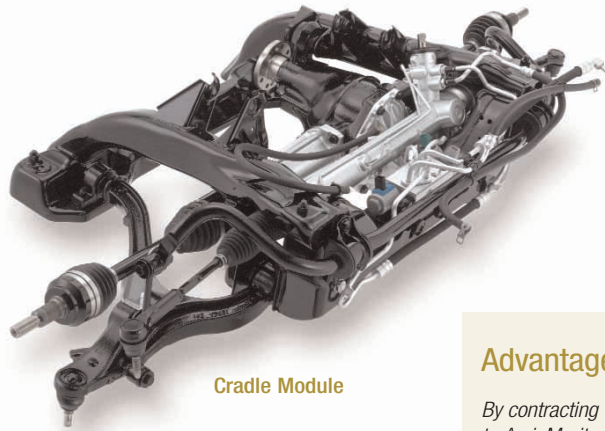
ArvinMeritor's integrated systems approach provides proven competency and capability in:

- Benchmarking (component and vehicle)
- Design and engineering
- Simulation and analysis
- Test and validation (component, quarter-, half- and complete-vehicle)
- Supply chain management (sub-supplier qualification, selection and management)
- Advanced manufacturing (process flow modeling, variation simulation analysis, and material flow analysis)
- Vehicle dynamics and development

Coil-Over Shock Module



Air Suspension System



Cradle Module



Wheel End Module

Simulation and analysis

ArvinMeritor provides OEMs with advanced vehicle chassis optimization support utilizing industry-leading and internally-developed analysis tools.

Combining a proprietary, highly developed ADAMS-based DOE with a suspension and full-vehicle design knowledge database enables accurate computer simulation of not only system-level matrices (kinematic curves, compliances, etc.), but also of matrices at the vehicle level (understeer gradient, yaw rate overshoot, etc.). Data produced is used to optimize suspension geometry and generate component and suspension specifications.

Advanced product portfolio

A key element in ArvinMeritor's suspension modules capability is its advanced product portfolio, developed to provide significant benefits in ride and handling, safety and cost reduction.

One example is a unique air suspension modular corner system, currently in development. This proprietary design allows the OEM to provide multiple suspension

options on the same platform. For instance, either an air spring or a coil spring can be assembled into the strut with a common upper-mount assembly, providing more design flexibility and less complexity than competitive systems. Variable "active" damping is modular to our standard shock and strut. It can be added by a simple replacement rod and piston assembly at our facility. Variable damping, combined with air suspension, improves safety and comfort, as the system adapts to changes in vehicle load or road surface.

The innovative modular corner system provides the potential to reduce the number of components in a lower corner by 35 percent to 50 percent across a vehicle platform.

Complete solutions

The combination of ArvinMeritor's advanced product portfolio, its advanced manufacturing processes, and OEM vehicle dynamics and development capabilities provides for true systems integration.

Advantages to the OEM

By contracting the supply of a suspension module to ArvinMeritor, OEMs enjoy significant benefits, including:

- **Management simplification.** One supplier instead of many, with one part number replacing five to 25 in a typical parts-based system.
- **Design efficiency.** The possibility to design more variants on the same platform.
- **Reduced inventory.** Modules are supplied in-sequence, just-in-time.
- **Space.** Modules come to the OEM's final assembly facility ready to install.
- **Value.** Lower costs for development, production and logistics.
- **Quality.** Advanced bar-code tracking system provides aviation industry-standard data collection of all parts sources, assembly torque and fastening angles (manufacturing "birth certificate").
- **Agility.** Shorter development times.
- **Innovation.** Potential to integrate advanced features cost-effectively and flexibly.
- **Flexibility.** Because of their OEM experience, ArvinMeritor's engineers understand OEM needs and constraints, producing designs and processes individually adaptable to requirements.
- **Effective resource utilization.** Potential to integrate other ArvinMeritor LVS businesses (apertures, wheels and emissions control) into one site close to OEM final assembly facility (ArvinMeritor Customer Value Center).

ArvinMeritor's Light Vehicle Systems (LVS) business group – a market leader in the product categories it serves – supplies integrated systems and modules to the world's leading passenger car and light truck OEMs. With advanced technology and systems design expertise in apertures, undercarriage, wheels and emissions control, LVS combines high-quality components into cost-effective, performance-based solutions for virtually every car and light truck on the road today.