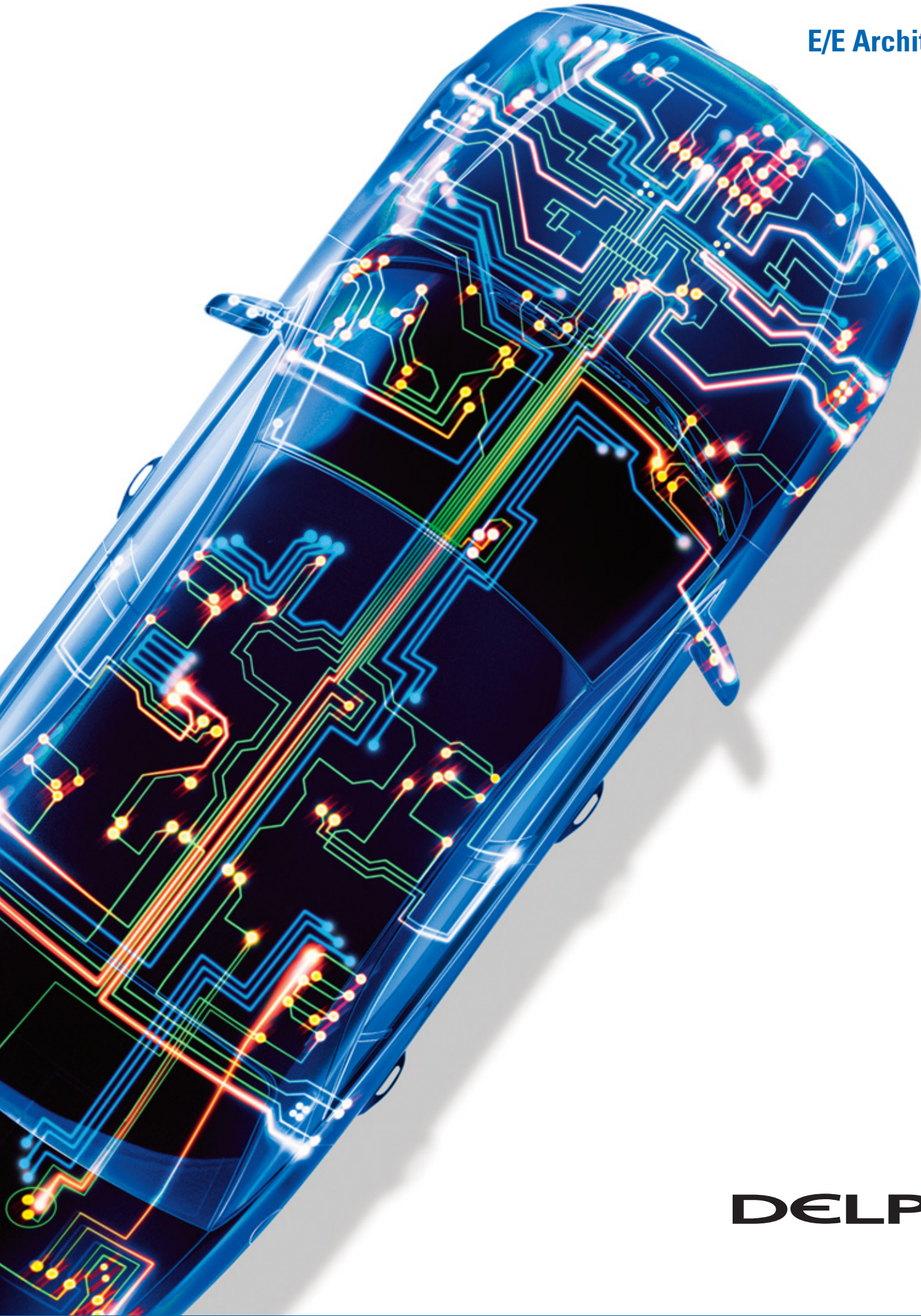


E/E Architecture



DELPHI



The automotive industry has experienced a technological revolution. Today's vehicles have to be more than transportation. They have to entertain, inform, connect and protect their passengers. The competitive landscape is all about features and functionality. But the real challenge for auto manufacturers is to incorporate in-demand features without substantially adding to a vehicle's mass or cost. It's not easy. Fortunately, Delphi has the electrical and electronic integration experience, systems capabilities and proprietary tools to deliver unique electrical/electronic architectures for unique needs. Like yours.

Everything rides on the electrical/electronic system.

Developing an E/E architecture is the rigorous up-front work that involves the overall electrical and electronic system and subsystem design, the physical and functional partitioning and the physical layout of subsystems within the vehicle. It's a rapidly evolving field — driven by consumer demand, governmental regulation and increased electrical and electronic content.

As you might expect, a vehicle's E/E architecture is vitally important, intersecting all vehicle systems. Its elements include:

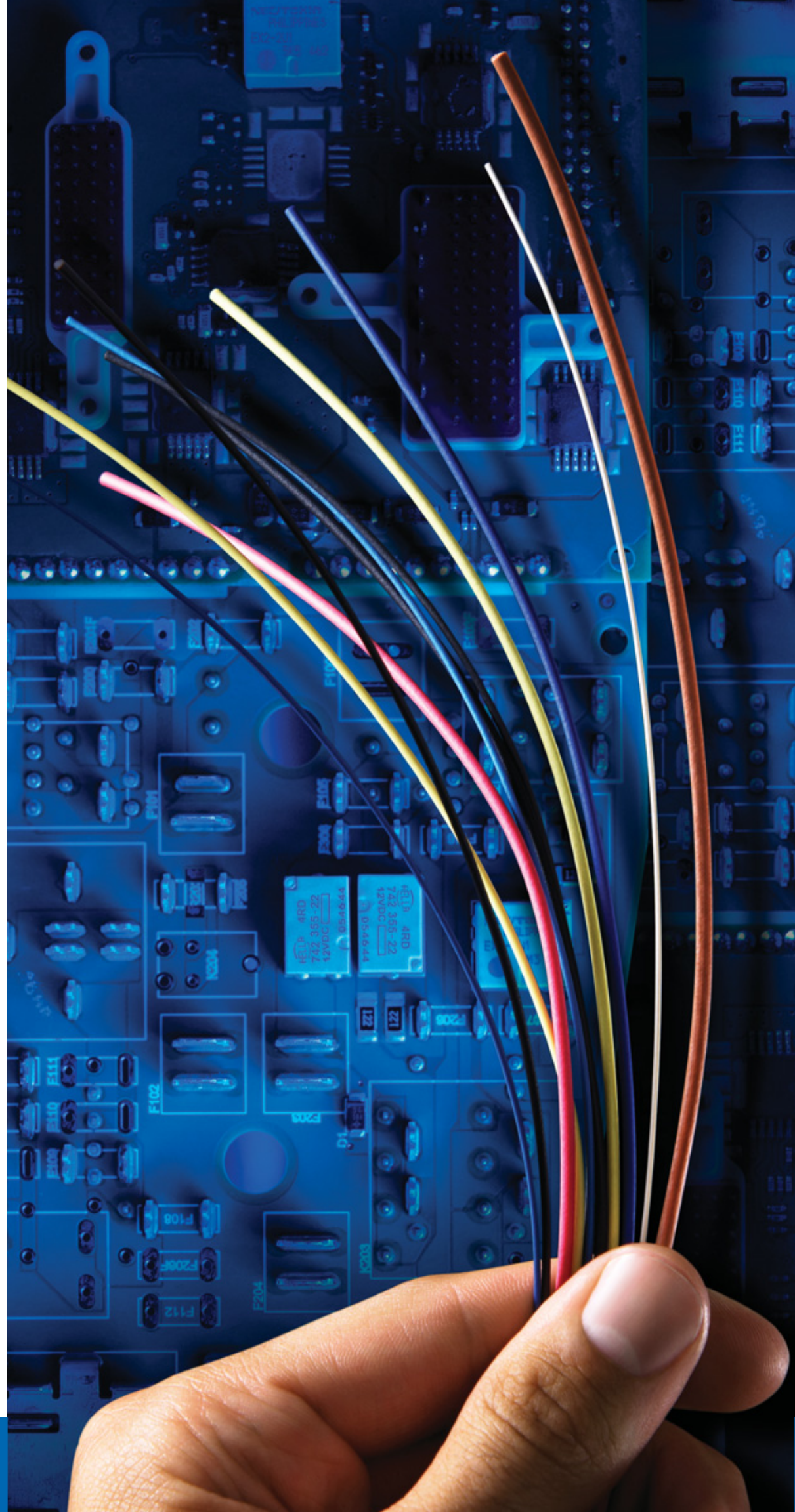
- Data networks
- Diagnostics
- Fault tolerance
- Energy management
- Power and signal networks
- Physical & functional partitioning

Because Delphi has spent years developing systems and technologies for vehicles worldwide, we have a huge knowledge base. This gives us an edge when analyzing

specific vehicle requirements and optimizing architectures for them. Our other advantages include a deep and broad product portfolio, proprietary developmental tools and software, global manufacturing and world-class testing facilities.

Your first connection could be your most important. The sooner you can bring Delphi into your project, the sooner you can start reaping the benefits of working with a master architect. You can design-in systems functionality, robust reliability and innovative packaging right from the beginning. Which leads to a very impressive end result:

- Lower cost
- Reduced mass
- Improved functionality
- Smaller packaging
- Improved reliability
- Fewer wires
- Smaller gauge size
- Fewer splices



Halogen-Free Thin-Wall and Ultra Thin-Wall Cable: Our recyclable, halogen-free, heavy-metal-free cable is made for both interior and exterior vehicle applications.

A master architect starts with the best materials.

A vehicle's E/E system is implemented and defined by its architecture. It's composed of elemental building blocks — electrical and electronic components. As E/E systems have matured and these building blocks have rapidly merged, Delphi is one of the few suppliers able to fill all your E/E needs, from complex architecture development to quality components, including electrical/electronic distribution systems, connection systems and intelligent electrical centers.

Distribute the load. Over the last 20 years, the amount of wiring and cable in vehicles has more than doubled, but the packaging space has not. In fact, in most cases, it's been reduced. Today, a vehicle's architecture must be optimized. Fortunately, our electrical/electronic distribution systems lead the industry in innovation — prime examples of how we continually do more in less space. We're ready to customize your vehicle's architecture to accomplish what would have seemed impossible not long ago.

Minimize the size. With packaging space at a premium, and with I/O requiring ever-smaller connections, miniaturization has never been more important. But for us, it has always been a priority. We can confidently fulfill your connection systems needs — from the end of the wire to inside the box — with over 200,000 competitively priced products.

Bus the signals. As more electrical content is added to vehicles, our engineers are devising innovative, intelligent electrical centers to route signals where they should go. We can work with any architecture alternative from the most traditional to the most complex or customized.



Smart BEC: This is a stamped metal, high-current feed printed circuit board (PCB), with bussing layers and electronics, that supports both centralized and distributed architectures.



Compliant Pin Technology: Our 1.5 mm USCAR-sealed five-way is utilized in device connectors and integrated connector/module housings to press-fit solderless electrical contacts onto PCB assemblies.



Power Pack Series: A sealed one-way in-line connection system is designed for high-current/high-power applications.



GT Connector: An industry first, our GT FBT uses new cost-effective Flexible Beam Technology for the terminal to connector cavity interface. It's an unsealed system that requires no component assembly. Benefits include better terminal retention, reduced mass and a robust locking mechanism.



Ignition Cable: Our ignition cable transfers high-voltage energy from distributors/coils to spark plugs. Cables consist of a conductive core, non-conductive insulation, inner braid or pet non-woven mesh-strength member and a protective outer jacket.

The more complex the E/E architecture, the simpler it is to choose Delphi.

It's easier to maneuver a mouse than a forklift, which is why Delphi puts such an emphasis on solving problems in the virtual world — performing sophisticated architectural analyses with proprietary software and processes that search for greater efficiencies.

First we capture the physical and functional requirements from our customers. Then, using software we've developed, we sort through literally thousands of alternative architectures to find the best few that merit additional consideration.

Another proprietary software package considers every connector, harness, covering — everything — and determines how it affects mass, packaging, reliability and more. This allows us to quickly evaluate the cost impact of the different alternatives, and select the one that meets all requirements at the lowest cost.

As impressive as our “technical toolkit” is, information is only as good as the people analyzing it. Our people do an exceptional job. All data are dissected by Delphi's talented engineers who evaluate trade-offs, examine alternatives and determine a balanced architecture for your specific needs. Then, and only then, does the fast design delivery process begin.

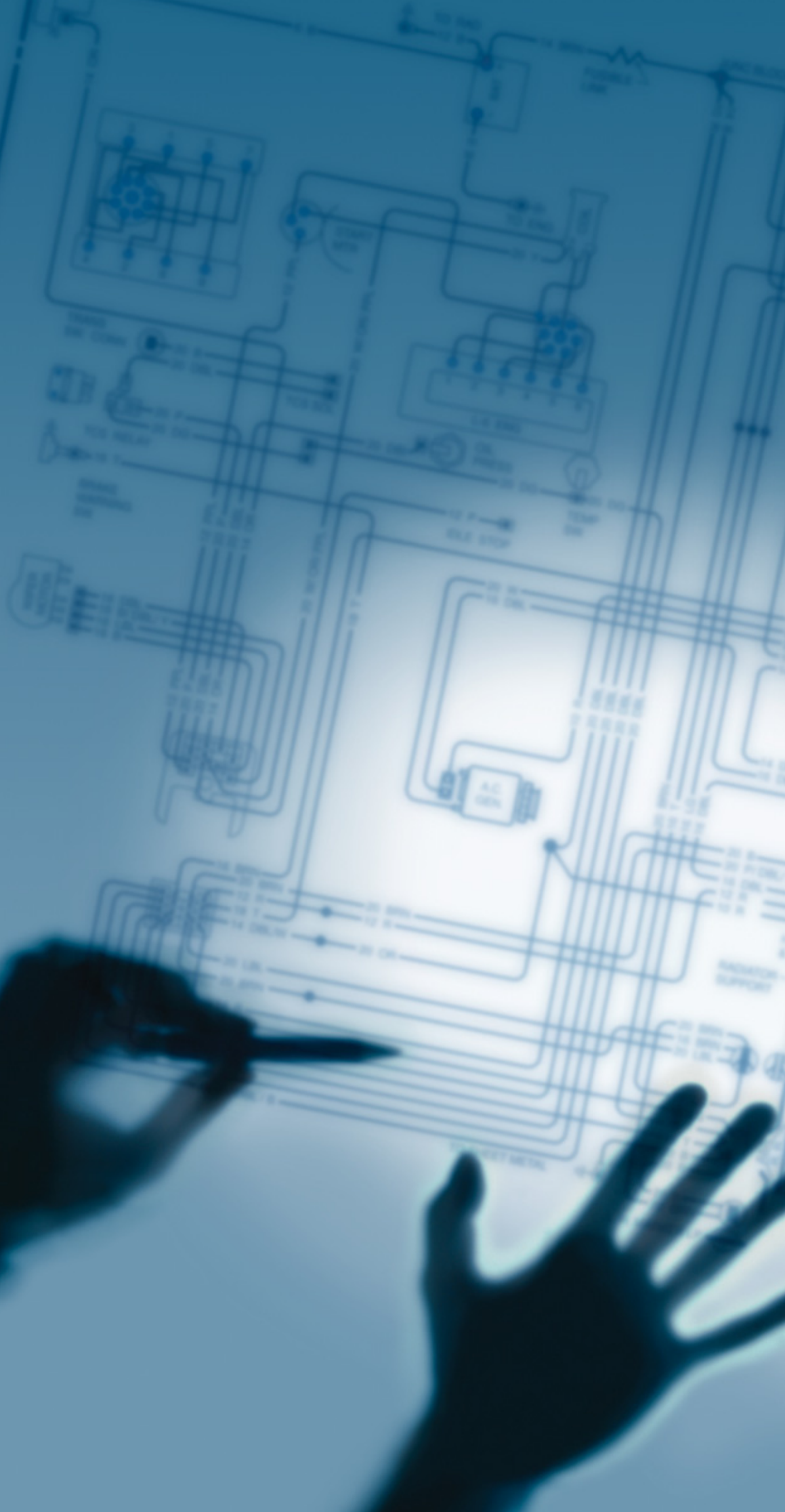
Simulation, testing, reliability prediction and virtual manufacturing are all important parts of our robust design and development process. We have the latest computer modeling and simulation tools at our disposal including:

- Electrical system simulation
- Thermal simulation
- Mechanical modeling
- Network simulation and more

Global manufacturing and world-class testing. Delphi has systems engineering centers in all major world markets, close to OEM automotive headquarters and staffed with talented people. Our engineers are trained in structured problem-solving processes, such as Six Sigma, to help them identify problems quickly and develop robust solutions that can prevent their reoccurrence.

We also offer two world-class Component and Systems Evaluation (CSE) Test Centers — one in North America and one in Europe. They're the most advanced anywhere. Both facilities offer extensive dynamic, environmental, physical properties and electro-mechanical testing capabilities, supported by a highly experienced technical staff. Our comprehensive test services include the development of specialized test programs and custom-engineered test fixtures. We can assist you with nearly every aspect of your product development and validation requirements.

E/E architecture is the road to the future. The more technology that goes into a vehicle, the more important it is to optimize the E/E architecture. Delphi has the demonstrated processes and the “technical toolkit” to make it happen. We can deliver optimized architectures that save cost and mass while providing the scalability to evolve with the times. In essence, Delphi can be your master architect, helping you to break boundaries and stay one step ahead of the industry.



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