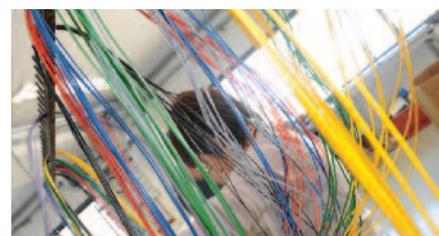
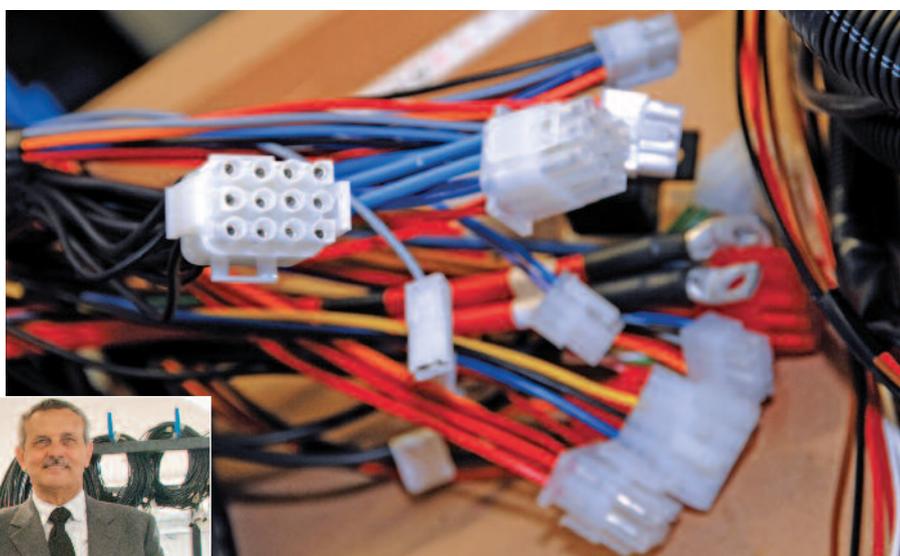


CBE demonstrates its leadership also in the production of wiring harnesses

Inside an entry-level motorhome, there can be over 500 meters of electrical cabling. CBE specializes in the manufacturing of wiring harnesses as well. Thanks to its decades long expertise in this production segment, the company is well aware of and can solve any kind of issues, and successfully manages to meet all requests for special applications of any kind. This is thus a strategic sector for CBE, which is a leader in the mid-to-high end market segment, and supplies nearly 70% of European manufacturers in the Premium range.

Words *Andrea Cattaneo*



Bruno Conci
CBE Owner

Among the less visible, less glamorous parts of a motorhome, wiring harnesses are nonetheless an essential component – a characteristic that is little known indeed to end users, but very well known to manufacturers of recreational vehicles. The wiring inside a vehicle is a wealth of hidden “roads” and “highways” for the transmission of both the electrical power and the data required by such a complex living system on wheels to operate correctly. As a leader in the European market of electrical systems and electronic components applied to caravanning, CBE has been well aware of these needs for years. And today wiring harnesses represent an important part of the Italian based company's business activities. We asked CBE owner Bruno Conci to tell us a little more about wiring harnesses and their applications.

How did CBE develop its presence in such a specific market segment as wiring harnesses?

Our revenues in this sector are well consolidated: by the mid 1970s, CBE had already deve-

loped and was supplying various types of wiring harnesses. During the early 2000s, our revenues in this market segment significantly increased both due to a reorganization of our internal resources, and as a result of our customers' – motorhome manufacturers – increasing demand for wiring harnesses supplied as a complete package. We therefore began focusing our efforts on this business activity – which for years now has accounted for roughly 1/3 of our revenues. First of all, we acquired one of our historical suppliers in Italy; then, we created a start-up in Tunisia. Both production sites are exclusively dedicated to the manufacturing of wiring harnesses, so we own the whole process, from product design to production, thus providing an added-value service to our customers. The entire process is managed by our headquarters in Trento, which has full control over all the company operating and decision-making functions related to product design & development and purchasing of materials, and also coordinates from a technical and logistical point of view the subsidiaries where wiring harnesses are physically produced. This is how our company has become a supplier of integrated solutions and systems for everything concerning electrical systems.

At a time when many motorhome builders have achieved a certain degree of production maturity, wouldn't it be more advantageous for them to manufacture their own wiring harness systems?

I don't think so. For manufacturers, it's more convenient to outsource the production of wiring harnesses, relying on a supplier with consolidated experience. At least in theory. In fact, the outsourcing option is much harder to apply for companies that already have their own wiring harnesses department. Such an in-house organization cannot be just discontinued from one day to the next, above all because of the consequences that this decision would have for all the involved employees. Besides providing a complete service from design to finished product, our company can also support at various levels the manufacturers who want to undertake some production processes in-house. A manufacturer must make decisions aimed at achieving the best possible compromise in terms of price, quality and timing. The higher degree of product industrialization and production planning a company manages to attain, the more advantage it will get by relying on specific external suppliers that can offer quality and expertise, such as CBE.

Can manufacturers having their own in-house wiring harness department hope to achieve the same level of experience and expertise as yours?

That's very unlikely. Or better yet, perhaps they can get there, but only for a limited production segment. On the contrary, our company has a very high degree of know-how related to vehicles of all price ranges, vehicles that are very different and require specific solutions. Thanks to its decades-long experience in this production segment, CBE is well aware of and can solve any kind of issues, and successfully manages to meet all requests for special applications of any kind. We specialize in the manufacturing of wiring harnesses for motorhomes, so we perfectly know our end of the business. Problems related to applications on recreational vehicles are different from issues that may arise in the civil sector, or during the construction of a building. They're also different with respect to other types of vehicles, such as cars and motorcycles. In order to meet the high levels of quality and reliability requested for this essential component, huge investments are required. And these can be justified by important volumes alone. CBE manages to offer high qualitative standards at a competitive price thanks to the economies of scale it can obtain and to its capacity to buy large quantities of materials.

How do wiring harnesses fit into such a complex system that is a modern-day motorhome? And what are the implications from a production point of view?

We're talking about a component that – while it doesn't have a huge cost – is nonetheless strategically important because it's one of the first to be installed on the assembly line. This means that for a motorhome manufacturer, having a 100% reliable supplier who can guarantee prompt deliveries is vital. Otherwise there's always a risk that the entire production process will come to a standstill. But we're also talking about components that must be top-quality and fully reliable. That's because wiring harnesses can only be tested after completing the vehicle, i.e. when everything else has already been instal-

led, and of course that's a long time after we've supplied our product. If a defect or malfunction were to come up, it would be difficult, and in any case costly, to try to resolve the problem when the motorhome is by then out of the production assembly line.

Regarding wiring harnesses on motorhomes, is there any difference between economy and luxury vehicles?

Oh yes, absolutely, there's a great deal of difference. At first glance, it would appear that there isn't, since there are obviously many points in common, and very often the same materials are used in the same quantities. In theory, the same issues arise, since we need to guarantee resistant connectors that are as sturdy as possible and not subject to malfunctioning due to vibrations, just as in both cases we need to protect the cables, for example using PVC sheathing and corrugated tubes that are compliant with standards in the automotive sector. Nonetheless, a great many differences exist. The main difference is the number of mains to be cabled. On an entry-level motorhome, which can be conceptually simple, we essentially have a limited number of mains; while on a complex high-end model a far greater number of mains are needed.

So are the differences limited to the number of mains involved?

Yes, but that is not a negligible factor, because it has significant implications on costs. But there's more. On a high-end motorhome, for instance, there are several complex equipments with special characteristics, such as dedicated connectors, which require interfacing. You therefore need dedicated terminals and specific machinery to connect these terminals to electrical cables. In short, for small-

er production numbers – as it is often the case in the sector of luxury vehicles, but in other categories too – we are required to use more expensive materials, as well as more complex machinery. It's easy to understand how only companies such as ours, with a high production output, can effectively manage such a situation at an acceptable cost.

Can we then say that CBE specializes in wiring harnesses for high-end vehicles?

That's true. We're market leaders in the mid-to-high end range, and in the premium range we supply up to nearly 70% of European manufacturers, which allows us to innovate and come up with advanced solutions. Solutions that will ultimately also be launched in the economy end of the market. One of our company's strengths – including in terms of wiring harnesses – is that we're able to operate in very different sectors; indeed, we've designed special kits conceived for entry-level vehicles and for small series productions. With so-called "standard kits," we supply wiring harnesses for connecting our equipment, with connectors that are anything but ordinary, even though they may be economical. The fact

that the equipment we supply is based on our wiring harnesses, and therefore delivers the reliability and quality of CBE wiring harnesses, allows us to guarantee that such equipment will work all the time, and function to the best of its ability. This isn't always the case, since the market is riddled with faulty equipment that does not work well due to problems related to connectors, or to cable dimensions. Our point is that we just don't want to take any risk. That's why all of our products include the wiring harnesses required for connecting our equipment.

