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# Magna CEO Kotagiri: Ready for Whatever Market Demands

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## Executive Summary

Canadian-based Tier 1 supplier Magna is working hard on electrically driven componentry designed to replace today's conventional all-wheel-drive and 4-wheel-drive hardware. Fully 70%of its engineering projects these days are related to the battery-electric-vehicle market. "Anyone who is in powertrain has to be thinking about transitioning toward eDrives," says CEO Swamy Kotagiri.


Seetarama "Swamy" Kotagiri became Magna International CEO on January 1, 2021. With more than 30 years of industry experience, the last 21 with Magna, he has led that company's recent evolution and growth while aligning its strategies around the trends shaping future mobility.

He holds a master's degree in mechanical engineering from Oklahoma State University with a specialization in materials and structural engineering, is a member of the Society of Automotive Engineers and the Engineering Society of Detroit and has more than 12 patents in automotive product and process design. We sat down with him during a recent winter test of Magna's electrically powered all-wheel-drive and 4-wheel-drive systems.

**Wards Intelligence:** What are the advantages of your systems over those of your competitors?

**Kotagiri:** The differentiation for Magna is our knowledge of integration. What you saw today when you drove these vehicles is not just the e-Drive but also the integration of it with the software controls that made our electric truck drive like a conventional truck, only better. That is the magic sauce. With Magna Steyr, that part of Magna that manufactures complete vehicles for OEMs, we are the largest independent vehicle manufacturer in the world. And because we work on engineering projects both for and with OEMs, we understand completely the powertrain, chassis and other vehicle technologies.

Among our priorities are minimal change to the product, and not having to change the manufacturing process. An assembly line today can put this axle into the vehicle in the same way as the conventional one. That is one piece of it. Another piece is capabilities…how much scalability can we have, and can we add additional features to it down the road?

**Wards Intelligence:** Beyond light trucks and SUVs, is Magna also developing e-Drive systems for smaller vehicles?

**Kotagiri:** Absolutely, all segments. We are the largest all-wheel-drive and 4-wheel-drive driveline supplier in the world, by far. We supply transmissions, hybrid transmissions and all-wheel-drive and 4-wheel-drive systems to all premium OEMs, which gives us the chance to work with those existing customers as they are transitioning to electrification. Our goal is to give the same functionality that they have with today's systems without taking away anything in the transition to electric.

**Wards Intelligence:** Don't the electric drive systems add weight and cost?

**Kotagiri:** On the truck axle, the e-Motor and inverter add only about 40 kg (88 lbs.), a surprisingly low number. The overall vehicle weight increase is due to the heavy battery. The cost will depend on the vehicle segment and time frame. The key is that battery costs will start to decrease. We see a path where batteries will trend down to an expected level of $100 per kWh or less. The average today is about $130 per kWh, and Tesla says they are already at $100. We project that it could be around $90 on average by 2030, and at that cost, A, B, C and D segment battery-electric vehicles could become lower in cost than equivalent ICE vehicles.

Other factors are finding answers to what will happen with battery chemistries and materials, and inverters. And new EV-only architectures will bring cost savings. Most efforts today have not started from a clean sheet of paper to do what is exactly right for a battery-electric vehicle. Those vehicles will start coming on the market in the 2025-2026 timeframe. And that's not even to speak of recyclability of batteries. All of these are significant factors.

**Wards Intelligence:** What if the OEMs are way ahead of the curve on electric vehicle supply vs. demand? If they are at 40% supply and the market is still at 15%-20% BEV sales by 2030, there will be a lot of unsold vehicles, many with your systems on them.

**Kotagiri:** That could happen, and ultimately, the consumers will determine where that goes. Starting a while back, our strategy has been to estimate how fast the transition will happen and to be ready for both sides. For example, today we make transmissions for hybrids, and we can estimate how much of the take rate will be for hybrids vs. the DCT. But because we have both, if one side goes up, great. If the other goes up, also great. It is a transition process for the OEMs to address compliance while moving toward electrification.

By 2030 who knows? If it is 40% electric, that is 40 million vehicles a year. But that leaves 60 million on the other side. So, we try not to worry about it and to be ready to accommodate whatever the demand will be on both sides. One big advantage we have is that a lot of our installed capacity on the hybrid side – for gears and shafts and assemblies – can also be used as well in e-Drives. We should be in pretty good shape on that question.

**Wards Intelligence:** Are the roles of Tier 1 suppliers changing?

**Kotagiri:** Yes. OEMs today are looking at overall systems, so they need to have confidence in their owns skills and capabilities to do them. But as the market for these kinds of systems continues to grow, they look at Tier 1s that have those overall capabilities and continue to show that they are not just waiting for prints but can actually bring ideas, as we have. In general, the role of Tier 1s and how they interact with OEMs is definitely being rethought.

**Wards Intelligence:** Are there other electrification opportunities beyond these driveline components?

**Kotagiri:** Absolutely. For example, we are doing the battery enclosures, the overall systems that hold the battery modules, for the (Ford) F-150 Lightning and other OEM products. In some cases where e-Drives are being built by OEMs, we supply the motors. So, there are a bunch of other systems that go along with not only the e-Drives but other components as well.

**Wards Intelligence:** What is Magna's long-range vision for these systems and others?

**Kotagiri:** Today we are the largest by far all-wheel-drive and 4-wheel-drive system manufacturer in the industry, and the largest independent transmission manufacturer. The dual-clutch transmissions that we are supplying to BMW, Daimler and others are moving toward hybrids. The next step is dedicated hybrid drive. All-wheel drive and 4-wheel drive today are only about 15% penetration, but as we are doing these e-Drives, we can do the primary drives, the secondary drives, or both, and we can address front-wheel-drive vehicles where we have not had share in the past. So we can address the entire market. If you look at anticipated sales, we will be at more than $2 billion just in the electrified products that we will be marketing by 2024.

**Wards Intelligence:** Besides the VW ID.4, do you have any of these systems in production today?

**Kotagiri:** We will be in production with three OEMs in a short time, this year or next, but I can't identify them at this time. We are working with many OEMs, both traditional and new entrants, from all different parts of the world.