

helix

# Advancing the future of motorsport electrification



Powertrain Advantage



# Race-ready, race-proven

Racing demands more than power – it demands precision, endurance, and performance without compromise. Helix delivers electric motors and inverters trusted by world-class race teams across Formula 1, Formula E, and record-breaking electric hill climbs.

– We power champions.

**“Reliability wins races.  
Efficiency wins championships.”**

Enzo Ferrari



# Performance that doesn't quit

Helix motors are engineered for continuous high-load racing.

## Our technology delivers:

- Exceptional power-to-weight ratios
- No thermal fade
- Consistent peak output lap after lap
- Compact packaging
- Application-leading control solutions.



# Why Helix?

Technology that advances motorsport electrification.

Helix provides electric motors and inverters trusted by world-class race teams. Engineered for continuous high loads, our technology delivers class-leading power and torque density. This is achieved through proprietary radial flux designs and patented cooling, resulting in **exceptional power-to-weight ratios (>23 kW/kg continuous)** with no thermal fade and consistent peak output lap after lap.

Tailored electric powertrain solutions for specific race strategies.

Recognising that every racing class is unique, we utilise our flexible Scalable Core Technology platforms to develop solutions. This includes offering custom torque and length, supporting hybrid integration with decouplers, providing tailored inverter control logic, and engineering flexible packaging and cooling systems. We offer plug-and-play or full system integration.

Technology proven under extreme pressure and environments.

Our technology is race-proven in demanding environments. It powered the VW ID.R to its record-breaking victory at Pikes Peak, earning Helix the Dewar Trophy. Helix also contributed to 3 of the 7 fastest electric laps at the Nürburgring and has a performance history in Formula 1, Formula E (powering 72 vehicles), and hybrid Supercars like the 2,000hp Lotus Evija or the Czinger 21C.

Ensuring consistent powertrain reliability and performance.

Helix motors are specifically designed for continuous high-load racing, guaranteeing consistent race-winning peak power output. Reliability and performance consistency are assured through extensive in-house testing capabilities. This includes dynamic loading, durability testing to client specs, efficiency mapping, testing to failure under extreme conditions, environmental testing to international standards, and static testing.

Highly bespoke powertrain solutions delivering ultimate performance.

Helix's X-Division specialises in crafting bespoke, cutting-edge electric powertrain solutions. This division develops unmatched technology and provides tailored collaboration for complex integration and extreme environments.

## Advantage: Helix

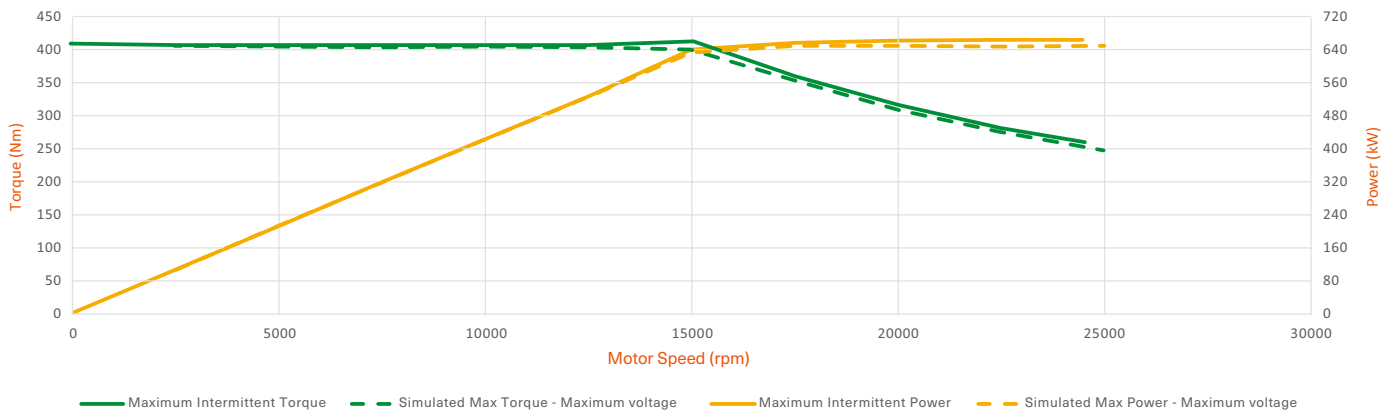
Helix delivers race-proven electric powertrains, trusted by world-class teams in Formula 1, Formula E, and record events. Our motorsport-proven technology provides exceptional power density, consistent performance, and no thermal fade for continuous high-load racing. Helix customises solutions around race strategy, enabling sustainable speed through efficiency and offering bespoke X-Division technology.

# Proven under pressure

Our technology doesn't just survive the track-it dominates it:

- VW ID.R – Dewar Trophy-winning powertrain
- Nürburgring: 3 of the 7 fastest electric laps
- Formula 1, Formula E and hybrid series performance history.

Example: The SPX177-165 motor: World-class power density in a super light package!



Over 23kW/kg power density  
at a system weight of only 28kg!



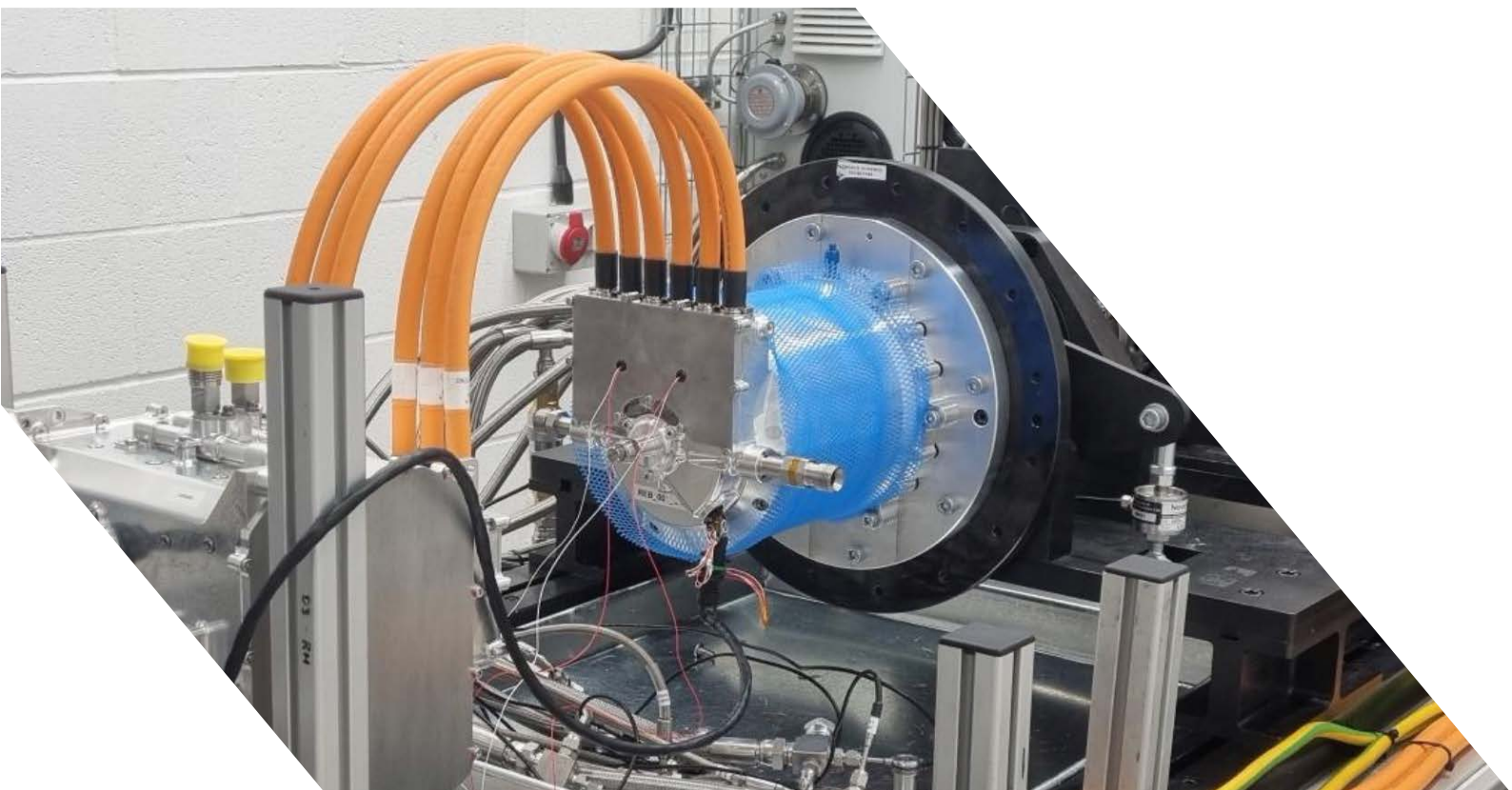
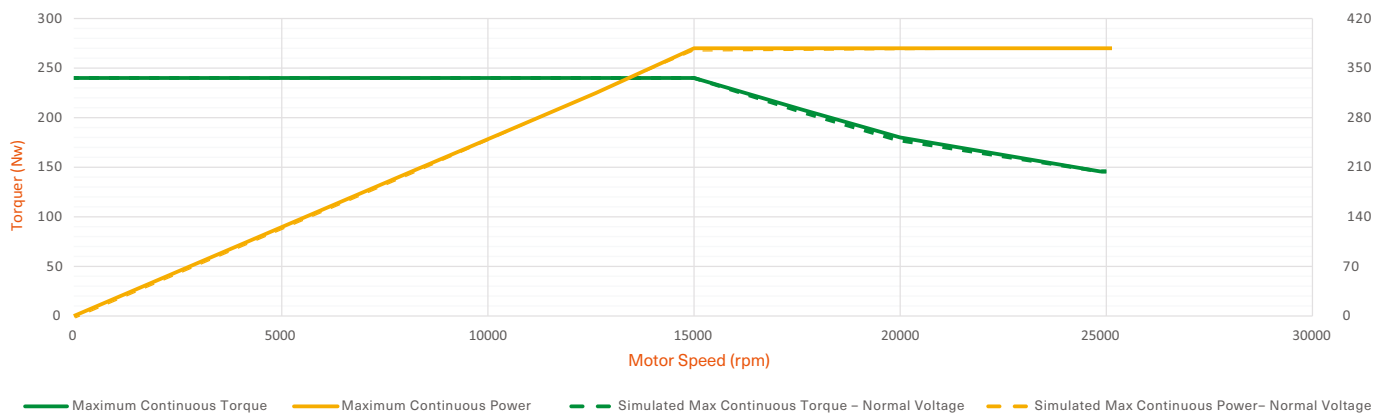
Helix Motor Platforms	Continuous Power kW	Continuous Torque Nm	Speed Range rpm	System Mass kg
SPX177-165 REB	650	400	25,000	28

# Built around your race strategy

We engineer motors and inverters to suit your exact format:

- Custom torque and length
- Hybrid integration with decouplers
- Tailored inverter logic
- Flexible packaging and cooling systems
- Plug-and-play or full system integration – we adapt to your vision.

Continuous power at 271/min 40°C - 800V



# Fast, clean and responsible

Electric racing is the frontier of sustainable speed. Helix's motors support low-emission motorsport without sacrificing thrill, speed, or performance.

Better efficiency means:

- Less energy wasted
- More laps per charge
- Lighter battery packs

You don't win races with theory.  
You win them with Helix.



# Engineered to outpace

When the demands of the track push limits, Helix electric powertrains rise to the challenge. We deliver the cutting-edge performance and unwavering endurance that champions rely on, enabling you to dominate every race.

- Track-proven performance pedigree
- Award-winning innovations
- Lightweight, high-efficiency powertrains
- Rapid integration into race platforms
- Designed for reliability under extreme load



Our core-technology ultra-high-performance motor platforms: SPC177, 242 and 330 because one size doesn't always fit all

# X-Division

## Beyond Scalable Core Technology

With Helix X-Division, you're not just acquiring a powertrain; you're gaining an undeniable edge.

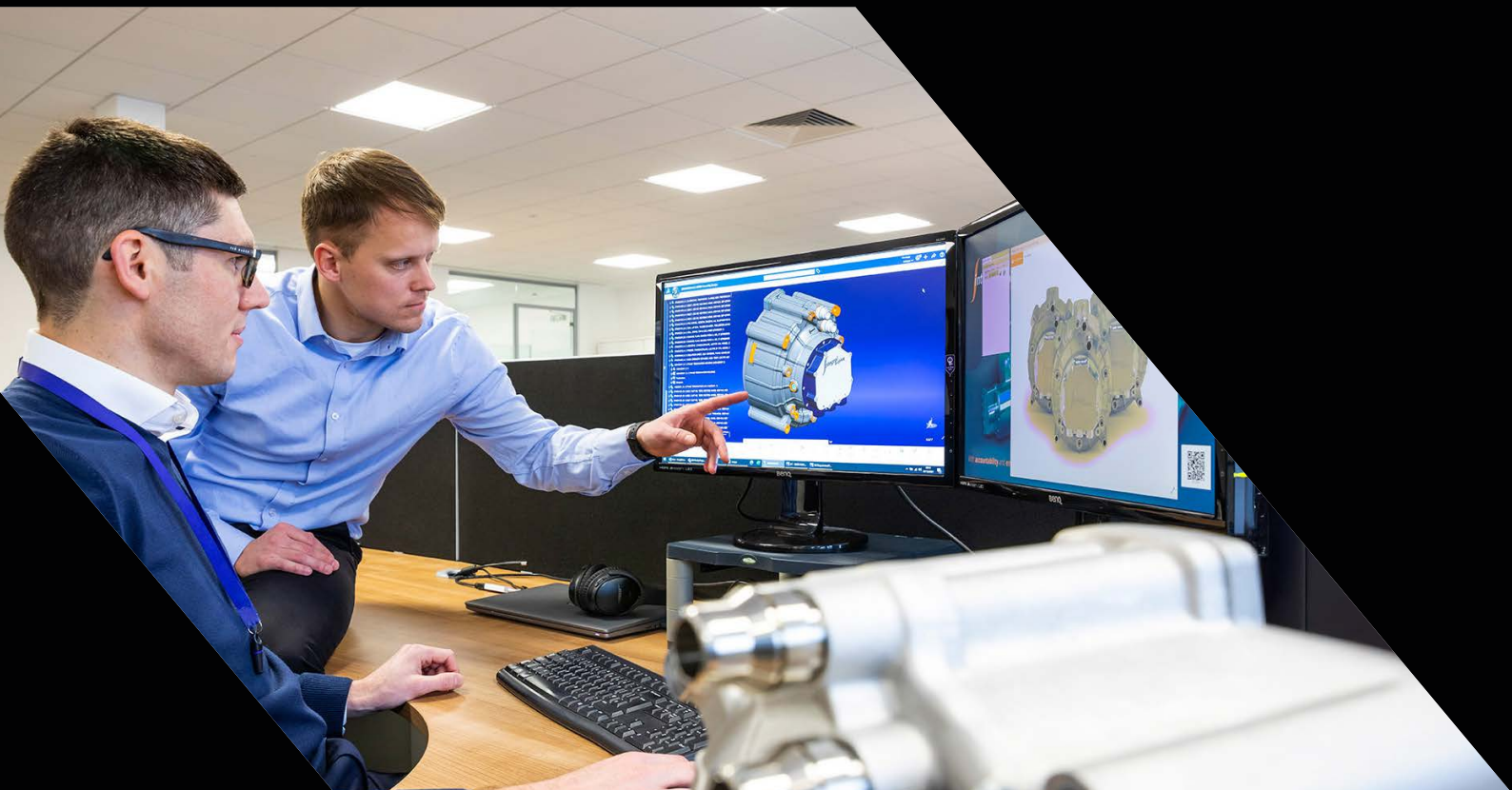
We engineer bespoke, cutting-edge electric powertrain solutions that push the absolute limits of technology and performance, enabling you to focus on race-winning strategies!

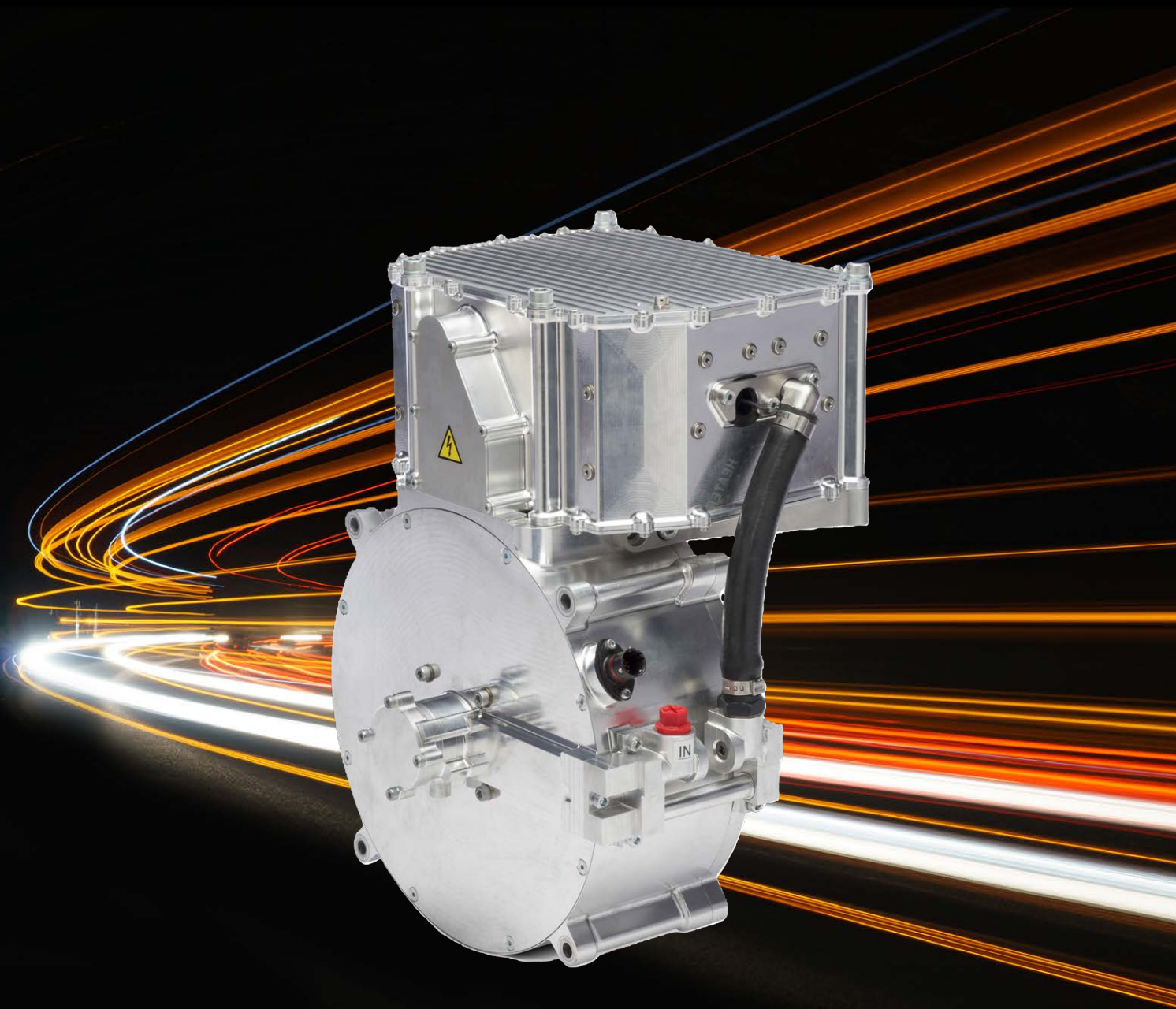
Partner with Helix and Xtrac's high performance transmissions for top level professional motorsport. We can transform your vision into the next Pole Position, knowing your solutions are powered by the pinnacle of innovation.\*

\* Helix and Xtrac are MiddleGround Capital portfolio companies based in the UK.

Our capabilities include:

- **Unmatched Technology:** Developing cutting-edge electric powertrain technology, including advancements in Scalable Integrated Motor and Inverter (SIMI).
- **Tailored Collaboration:** From complex integration to compatibility with extreme environments, we partner with you to meet your toughest challenges.
- **Flawless Precision:** Achieving ultimate control mastery through innovative techniques like Dynoless testing.
- **Competitive Edge:** Maintaining and advancing technological leadership through internal projects and partnerships with forward-thinking clients.





Volkswagen ID.R Pikes Peak Winning 17,000 RPM motor

Helix: Electrifying your Pole Position

helix

Powertrain Advantage

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