



REVOLUTION  
RACE CARS



# WELCOME

**The Revolution** is an innovative track and race car conceived, designed, developed and built by racers for racers.

A car that brings LMP technology and safety to the masses, and the first truly affordable sports racer with a carbon tub and cutting-edge technology.

The Revolution is a true two-seater and it is set to change the landscape for race and track driving enthusiasts the world over.

It has been created by Revolution Race Cars, whose team have a wealth of experience in this field.

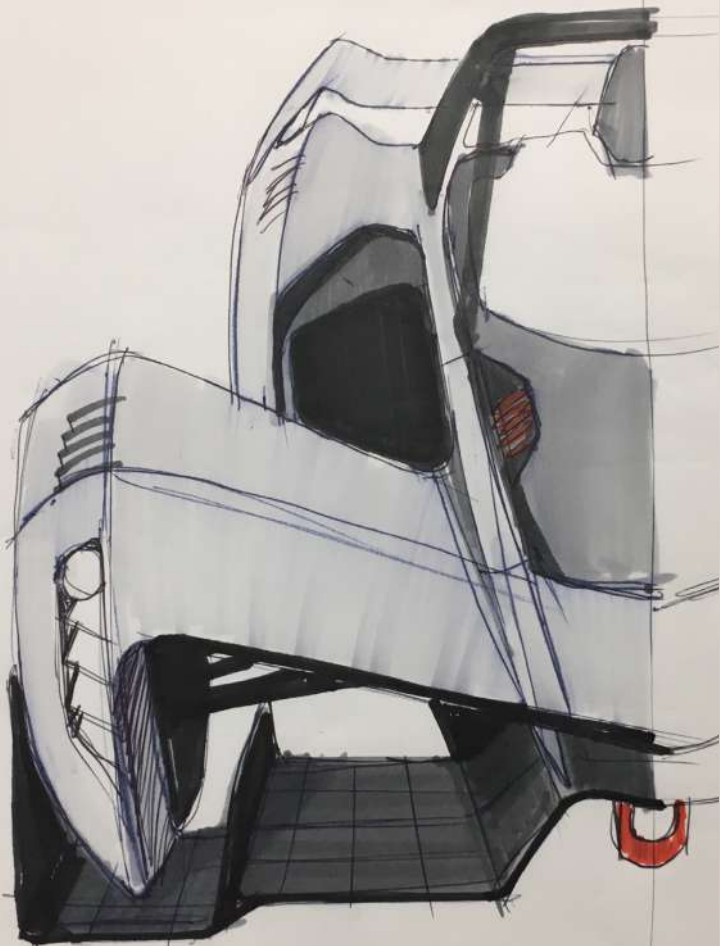
**“Enjoy and welcome to our world”**



# SUMMARY

|    |                                    |         |                      |
|----|------------------------------------|---------|----------------------|
| 8  | Concept                            | 27      | Control Centre       |
| 10 | Engineering                        | 29      | Data and Electronics |
| 11 | Work of Art                        | 31      | Safety               |
| 13 | CFD - Computational Fluid Dynamics | 32      | Track Days           |
| 15 | Engine                             | 35 - 36 | Specification        |
| 17 | Transmission                       | 39      | Racing               |
| 19 | Chassis                            | 41      | Customer Service     |
| 23 | Suspension System                  | 42      | Motorsport Glossary  |
| 25 | Cockpit                            | 43      | Contacts             |

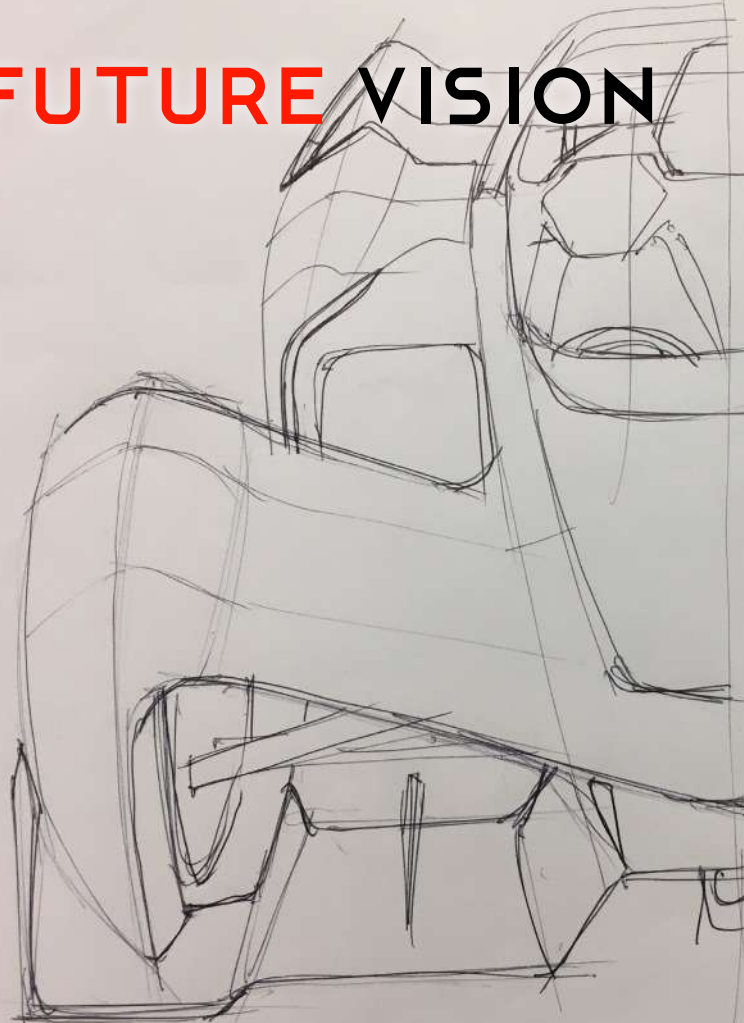




2A

597 3-12-17

# FUTURE VISION







**Simon Cox**

Former GM & Infiniti Head of Design, Stylist of Revolution

## A Work of Art

Vision of the Race Car Future



THIS IS REVOLUTION



# CONCEPT

**The Revolution** is a lightweight, 820kg sports car that packs a punch up to 500bhp from its dry-sump 3.7-litre Ford V6 engine.

Proven reliability is a key component within this package, its performance is matched with some of the lowest running costs, with up to 10,000km or 100 hours between rebuilds.

Fitted with a unique exhaust system and fine engine tuning it also comes with ultra-sharp throttle response and a brilliant soundtrack.

It is mated to a 3MO 6-speed gearbox utilising WRC technology to again provide reliability and ease of use.

It's easy-to-maintain, cost-effective to run and has accessible handling and performance. It can be enjoyed and exploited by all levels of driver, from those wishing to enjoy track-days, to those on a career path to Le Mans.

We are not challenging the status quo, we are re-defining it!

**The revolutionary concept is in every detail**





LIKE NO OTHER



# ENGINEERING

**The Revolution** is a quality product, designed and built by experts in their field – such as composites, and machining.

Components have been designed for interchangeability such as clevises, uprights and rockers.

These have been optimised to reduce costs, inventory and track repairs.

The attention to detail is proven by the quality of each Revolution part.

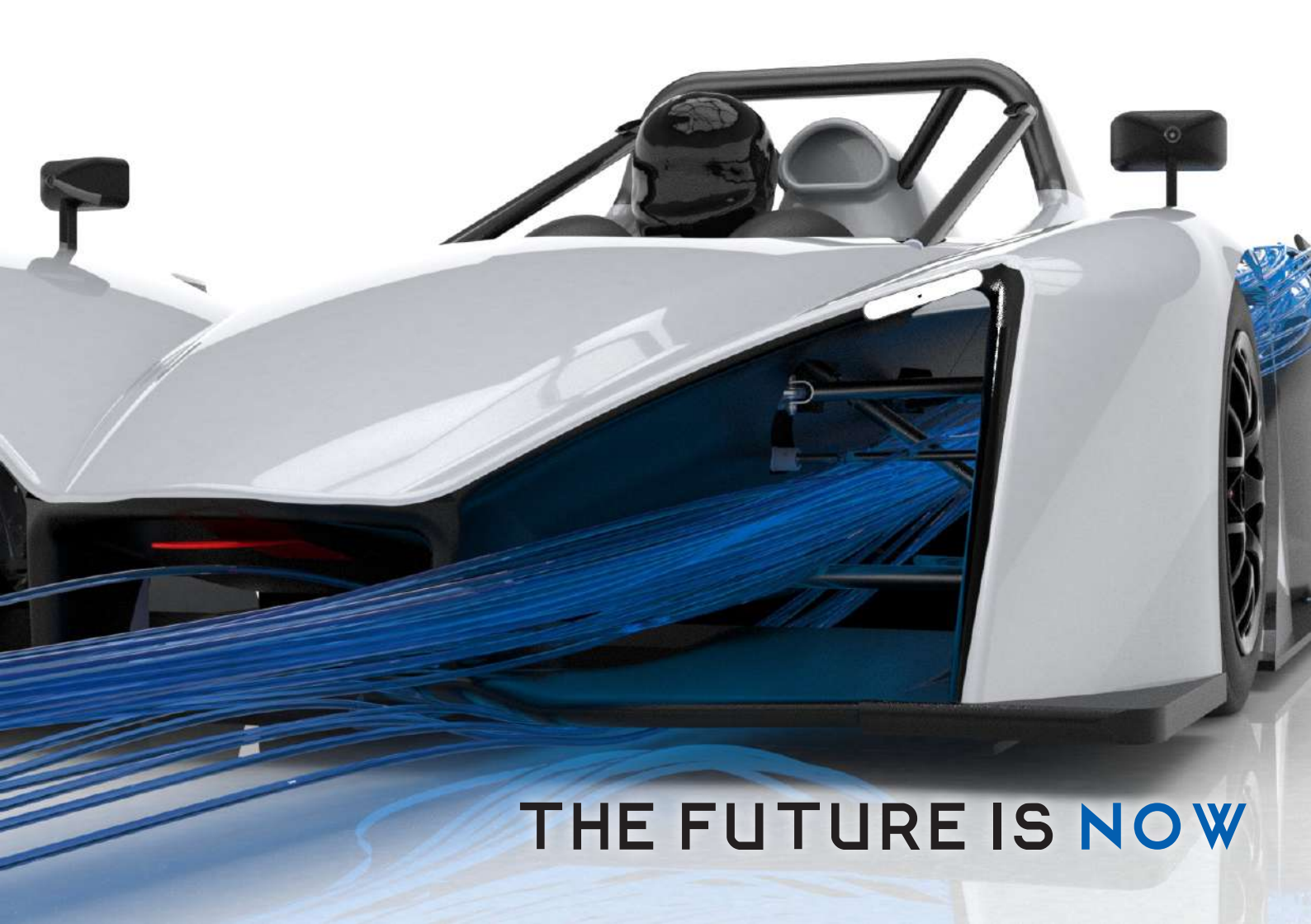


# WORK OF ART

**Simon Cox**, one of the industry's top designers, with credits that include head of design at Infiniti and GM, created concepts that started the project before progressing through engineering development to reality.

**Peter Watt**, whose CV includes head of composites at BAR F1, Bentley Le Mans, the Bugatti Veyron design and McLaren prototype engineer, was brought onboard to do all the structural work and the CAD modeling from Simon Cox's design.





THE FUTURE IS NOW

# COMPUTATIONAL FLUID DYNAMICS

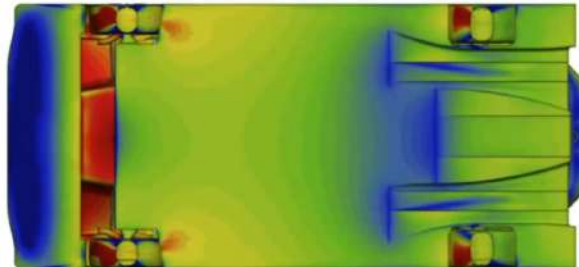
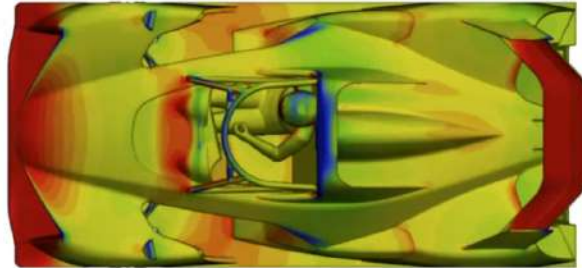
## **Drivability has always been a top priority.**

The aerodynamic performance of the vehicle was achieved through an extensive development programme conducted by aerodynamic experts, TotalSim though the use of CFD.

The long period of CFD Aerodynamic design and development ensured that not only would the car produce more downforce than anything else in its price bracket, but it would remain balanced in all driving situations.

The CFD results were then taken and validated by an extensive track-testing programme.

This is an important selling point in a market where the car has to appeal to experienced professionals and amateur enthusiasts alike.





Heineken  -0.0-

Emirates

Emirates

ROLEX

Heineken  
-0.0-

**R**RACING

# ENGINE

The Ford V6 3.7l has proved its reliability, performance and unmatched low running costs with up to 10,000km between rebuilds.

Its bespoke dry-sump improves the engine reliability and lowers the center of gravity.

The normally-aspirated model produces 427bhp with it's six-throttle body intake system, which is enhanced by its unique exhaust system and fine engine tuning.

The wide rev band offers great power control with an evocative tone.

The supercharged 500SC produces 500bhp and 350ft lb torque.





UNIQUE

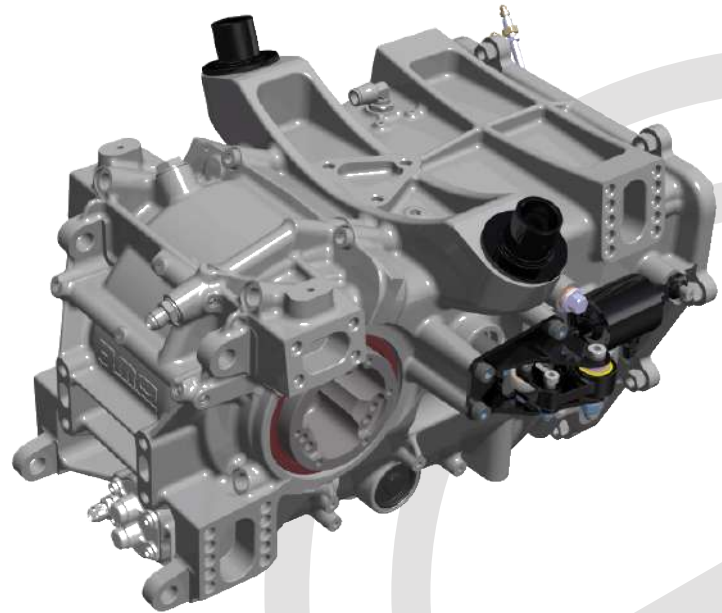


# TRANSMISSION

3MO is a French Gearbox company that creates and build gearboxes for World Rally Cars and many other applications.

Their reputation and involvement for our project were enough to choose them as our gearbox partner.

3MO designed a bespoke casing and well proven internals.





# CHASSIS

The carbon tub is manufactured by **Carbon Composite Solutions** in Germany by a process developed by our partner, **DD-Composites**.

This utilises a carbon-infusion process which ensures efficient production with the highest levels of quality and safety.

Inside the tub you find plenty of space for two, with a class-leading width and personal room making it easy to operate both solo and with a passenger aboard.





# DOUBLE HALO

Inspired by the head protection structure mandated in Formula One at the beginning of 2018, Revolution's version is the first 'halo' type structure to be developed for a two-seater sports prototype car.

## Exceeding FIA Standards

The Structure bolts to Revolution's advanced carbon fibre monocoque chassis. This is made with an energy-efficient infusion process and was built to accommodate two people comfortably, making the Revolution ideal for driver training and corporate driving experiences.

Both the 'Double Halo' and the chassis are compliant with the latest FIA Article 277 safety standards. The 'Double Halo' is manufactured from 50.8mm diameter ROPT510 seamless tubing, exceeding the FIA minimum diameter requirement by over 12%.



ART



# SUSPENSION SYSTEM

## By drivers, for drivers.

Designed from the driver's seat outwards, with driving pleasure and control as a priority.

The pushrod & rocker suspension system features 3-way dampers.

Drivers and teams can also tune the set up of the car with anti-roll bars front and rear with 3<sup>rd</sup> element system to assist with pitch and heave.

## Optional specification

The optional R53 suspension. Compliance for more extreme surfaces.







# COCKPIT

The cockpit section has been designed to provide a perfect driving position.

Its original egg shape gives the driver generous personal room and improves safety.

The two independent seats offer both the passenger and the driver plenty of room to accommodate tall people.

New technology is used for the F1-style steering wheel.

The control of the entire car information is in your hands.

Command the lap timer, temperature gauges, car-to-pit radio, pitlane speed limiter using switches directly positioned on the steering wheel.





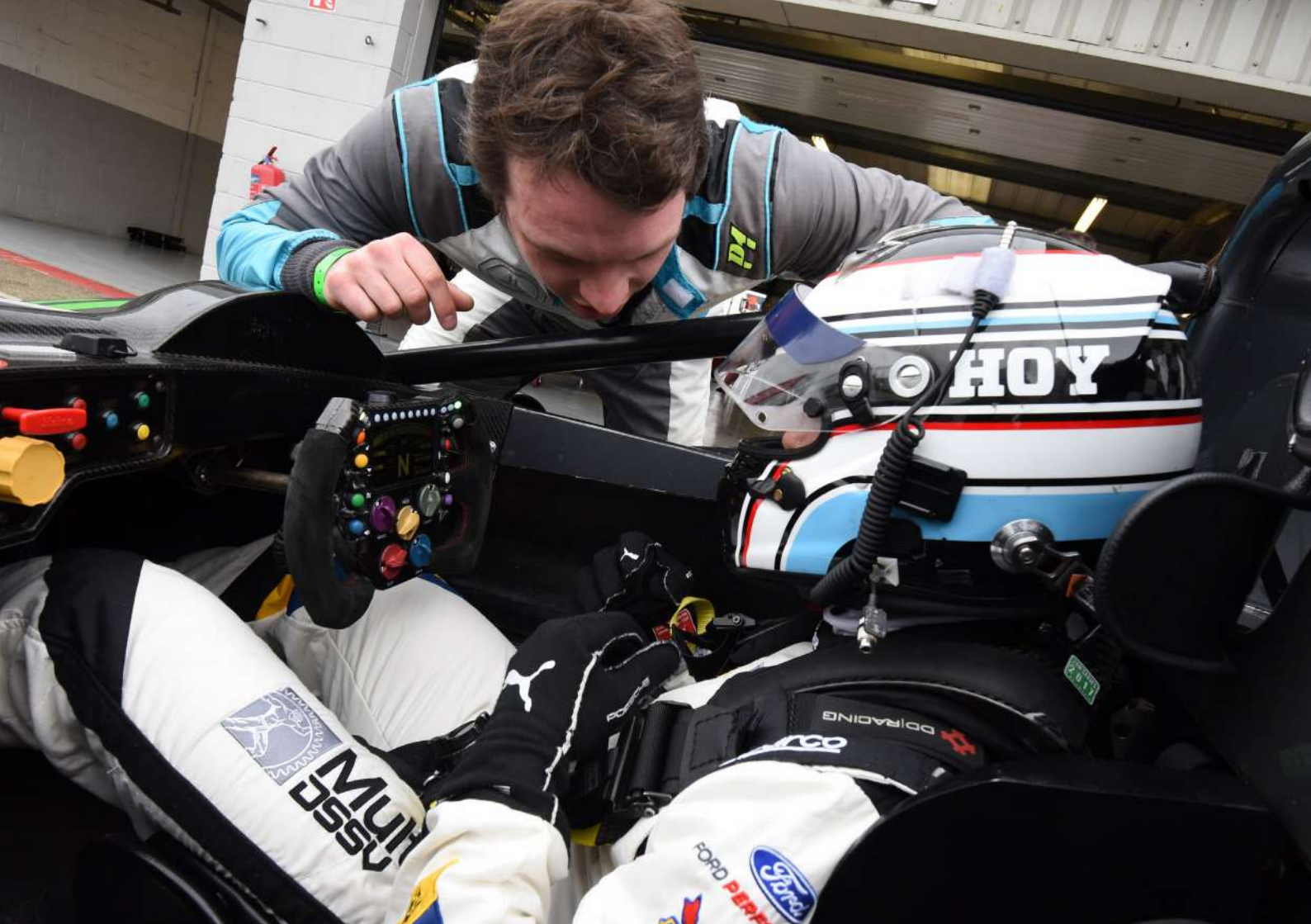
# CONTROL CENTRE

The Revolution control centre is a piece of art in carbon.

It features all latest technologies

- » Multiple push and rotary buttons for controls
- » Paddle shift system
- » Multiple dash displays
- » EPAS control
- » Driving maps





# DATA AND ELECTRONICS

Our electronic package is fitted with the latest CAN technologies enabling Revolution to download very precise data both to monitor the engine and gearbox but also chassis data to train drivers to the best performance.

This system will give you track maps, corner speed etc.

On options, Revolution drivers can have access to data logging but also traction control which is a great help for GT street car owners who need some safety while learning the potential of their car.





SAFETY FIRST

# SAFETY

With the use of modern Finite Element Analysis (F.E.A.) and testing tools used only in F1 and Le Mans-style racing previously.

All components are tested to loads more extreme than they will ever see in service, giving first-time customers confidence and security.



# TRACK DAYS

Low running costs and easy maintenance thanks to its well proven parts, the Revolution is the perfect alternative to high maintenance GT street cars.

**ARRIVE**, press the **START** button and **DRIVE**.

Nothing can describe what you feel behind the F1 steering wheel of the Revolution.

Book your test drive during high profile track days on the best circuits of Europe.





# RACE THE FUTURE





**VISION**

# SPECIFICATION Standard 427 Sprint

## CHASSIS

Full carbon fibre monocoque

Designed to Free Formula Article 277

Air Jacks

## AERO DEVICES

Full Carbon Front Wing

Carbon Underfloor & Rear Diffuser

Lightweight Carbon Fibre Bodywork

Dual Element Carbon Rear Wing

## ENGINE

3.7 litre normally-aspirated V6  
427bhp / 308ft lb

Six-Throttle Body Engine Intake

Longitudinal, mid-mounted

Dry sump system

## SUSPENSION

Double wishbone - pushrods & rockers

Cast aluminium uprights

R53 3-way adjustable dampers (optional)

3rd Element Front & Rear

## TRANSMISSION

Transaxle (supporting rear suspension loads)

Multi-plate differential

Pneumatic gear change (including auto-blip for down-change)

## STEERING

Electronic Power-Assisted Steering with 5 adjustable assistance settings

## SAFETY

FIA-tested front crash structure & roll protection

Collapsible steering column

FIA-compliant Fuel Cell

Driver & Passenger Safety HALO

## ELECTRONICS

Bespoke full F1-type steering wheel-operated control system

# SPECIFICATION

## COCKPIT

- Bespoke steering wheel with inbuilt display
- Paddle shift & gear change
- Driver & Passenger Seat with Six-Point Harnesses
- Fully-floating balance bar with adjuster
- Tilton pedal box

## BRAKES

- Front: 300mm floating discs, four piston callipers
- Rear: 280mm floating discs, four piston callipers

## WHEELS/TYRES

- Front: 15" × 8" 205 × 580
- Rear: 16" × 10.5" 265 × 605

## OPTIONAL EXTRAS

- Engine & Chassis Data Logging
- Bespoke Traction Control Module with up to 9 driver-adjustable settings, controlled by wheel speed & yaw sensors

## KEY DIMENSIONS & CAPACITIES

- Length: 4,353mm
- Width: 2,000mm
- Height: 1,125mm
- Wheelbase: 2,660mm
- Track (front): 1,800mm
- Track (rear): 1,780mm
- Fuel Capacity: 80 litres
- Dry Weight: 820kg

## PERFORMANCE

- Power: up to 427bhp / 308 ft lb
- Aerodynamics: 3:1 Efficiency
- 7000N @ Vmax (43% front distribution with balance adjustment)
- Weight Distribution: 45% Front, 55% Rear
- Longitudinal G-Force: Max. 2.5G (braking), up to 1G (acceleration)
- Lateral G-Force: 2.2G

#JOINTHEREVOLUTION



"THE FASTEST CAR I'VE EVER DRIVEN" **ADRIAN REYNARD**

"YOU COULD TELL STRAIGHT AWAY IT WAS A SERIOUS BIT OF KIT. IT'S ONE OF THOSE CARS YOU CAN JUMP IN AND IT GIVES CONFIDENCE TO PUSH. I CAN'T WAIT TO GO RACING AGAIN, THE CARS ARE BRILLIANT TO DRIVE AND COMPETING DURING A FORMULA ONE WEEKEND IS ALWAYS A VERY SPECIAL EXPERIENCE." **SIR CHRIS HOY**



# RACING

The **Sports Prototype Cup** features exclusive classes for **Revolution 427 & 500SC cars**.

The Sports Prototype Cup features ‘races within the race’.

Rather than trying to balance the performance of a variety of different cars, any class of cars is promoted as its own event with the Cup.

For 2022 Revolution will continue to offer high class racing events around the world, having supported Formula One for two seasons and the World Endurance Championship. Contact us for more information about the coming season in your region.



**FOCUS**





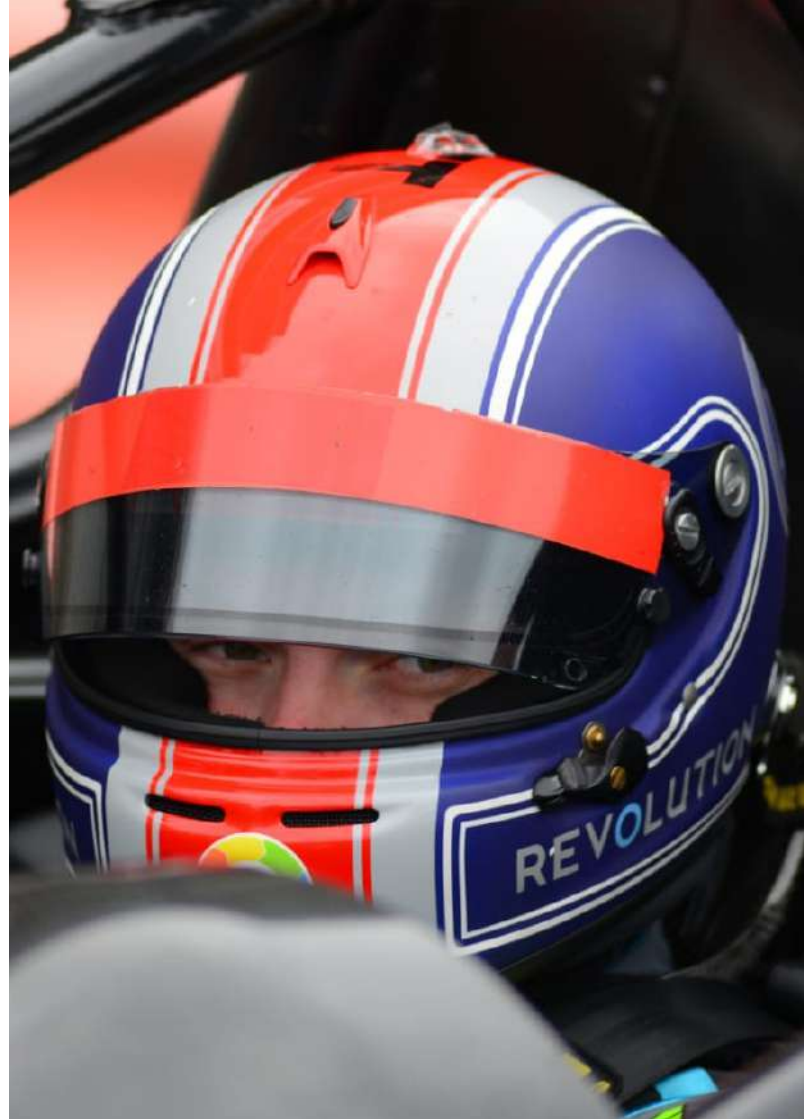
# CUSTOMER SERVICE

The **Revolution** is obtainable through fully-trained Distributors, working closely with the factory to provide an unrivalled service and customer satisfaction worldwide.

The large target audience includes race enthusiasts eager for the thrill, aspiring racers looking to progress to the upper reaches of the sport, track-day drivers who appreciate quality lightweight cars with accessible aerodynamics, race schools, and motorsport country clubs.

All require cost-effective purchase and running costs with reliability. In addition, they are all looking for something new that is a match for the technology at the highest end of the sport.

This is the **Revolution**.



# MOTORSPORT GLOSSARY

**Le Mans Prototype (LMP):** Le Mans Prototypes are the fastest closed-wheel racing cars used in circuit racing. Technical requirements include bodywork covering all mechanical components of the car.

**CFD:** Computational Fluid Dynamics and Thermal Simulation Tools help predict product performance, optimize designs, and validate product behavior before manufacturing.

**F.E.A.:** The Finite Element Analysis (FEA) is the simulation of any given physical phenomenon using the numerical technique called Finite Element Method (FEM). Engineers use it to reduce the number of physical prototypes and experiments and optimize components in their design phase to develop better products, faster.

**E.C.U.:** An Engine Control Unit (ECU), also commonly called an engine control module (ECM), is a type of electronic control unit that controls a series of actuators on an internal combustion engine to ensure optimal engine performance

**W.R.C.:** The World Rally Championship (WRC) is a rallying series organised by the FIA (The governing body of motorsport).

**Dry Sump Engine:** A dry-sump system is a method to manage the lubricating motor oil in four-stroke driven internal combustion engines. A dry-sump system offers many advantages:

Improved engine reliability due to consistent oil pressure. This is the reason why dry-sumps were invented.

Increased oil capacity by using a large external reservoir, that would be impractical in a wet-sump system.

Prevention of the engine experiencing oil-starvation during high g-loads, which is particularly useful in racing cars.

Improvements to vehicle handling and stability. The vehicle's center of gravity can be lowered by mounting the engine lower in the chassis due to a shallow sump profile.

Improved oil temperature control. This is due to increased oil volume providing resistance to heat saturation.

The ability to release gases trapped in the oil from ring blow-by and the action of the crankshaft and other moving parts in the oil.

Improved pump efficiency to maintain oil supply to the engine.

# REVOLUTION RACE CARS

Revolution Race Cars  
Unit 2 Frankland Commerce Park  
Harrier Way  
Eagle Business Park  
Yaxley, Peterborough  
PE7 3NN United Kingdom

(w): [www.revolutionracecars.com](http://www.revolutionracecars.com)

(t): Phil Abbott 00 44 (0) 7713 391954

(e): [phil@revolutionracecars.com](mailto:phil@revolutionracecars.com)



SEE YOU ON **TRACK**