



Change the face  
of your industry.

## How we make it happen.

Reaction Engines develops thermal management technologies which provide a step change in performance, efficiency and sustainability across a range of applications.

Our ground-breaking technology is already changing the face of the following industries:



Our pioneering thermal management solutions provide a range of benefits:



### Sustainable

Significantly improving efficiency of heat management



### Ultra-Compact

Allows for improved design flexibility and can be adapted into existing systems



### High Performance

Significantly outperforms traditional cooling methods



### Effective

Extremely high levels of thermodynamic effectiveness



### Lightweight

Lightweight, space-saving units which enable reduced mass and drag



### Reliable

Improved reliability and durability of powertrains and batteries



### Scalable

Technology can be adapted for any application where heat is a factor in performance



### Durable

Highly durable across temperature ranges and corrosion resistant



# From outer space to your place.

**Reaction Engines develops innovative and lightweight thermal management solutions using technology adapted from our ground-breaking Synergetic Air Breathing Rocket Engine, SABRE. This technology has a wide range of applications across a range of commercial industries.**

From improving lap times in motorsport to converting waste energy into renewable electricity to supporting sustainable aviation and beyond, Reaction Engines can help your business unlock its full potential.



## Aerospace

Our technologies for the aerospace sector are smaller, lighter and more efficient than traditional solutions. They can radically reduce mass and drag to enable zero emission powertrains and increase range and payload capacity.

- Smaller, lighter thermal management solutions
- Lower drag for greater fuel efficiency
- Technologies that enable zero emission aviation
- Adaptable to solutions that can be integrated into existing infrastructures

## Motorsport

The bottom line in any motorsport is faster lap times. Through replacing multiple components with one lighter, smaller and more aerodynamic solution, our thermal management technology will directly facilitate significantly improved lap times and performance.

- Increased design freedom through replacing multiple units with just one
- Ultra-lightweight units directly facilitate faster lap times
- Significantly reduced drag thanks to low pressure drop and air mass flow reductions
- Greener power through efficient heat rejection





## Energy

Our thermal management technologies can radically reduce your carbon footprint – improving process efficiency by turning waste heat into useful energy and reducing operating costs. Lighter and smaller, with lower installations costs, easier system maintenance, and the potential to retrofit heat recovery.

- Reduced carbon impact
- Captures more heat to reuse more thermal energy from the same inputs
- Significantly more compact, lighter units help save space and enable the retrofit of waste heat recovery systems into existing plants
- The effectiveness of the system can be maximised to recover more heat for increased system efficiency and reduced operating costs
- Easy to integrate

## Electric vehicles

Our patented <sup>Hx</sup>LIFE Foils™ enhance battery performance whilst enabling a simpler and lighter pack. Our thermal management systems for EV batteries weigh significantly less than traditional cooling systems and allow for seamless integration with existing battery pack designs and manufacturing processes.

- Efficient heat transfer enables faster charging and increased power output
- Isothermal pack performance increases battery life whilst reducing the need for active cooling systems
- Lightweight and compact system increases energy density of the pack



# Our technologies.

**Our ground-breaking thermal management technologies can help you unlock the potential of your business.**



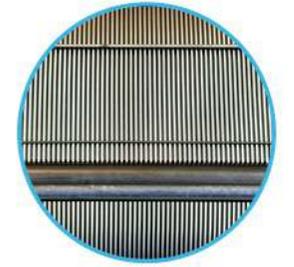
### Water-cooled intercoolers

Compact, lightweight and over 99% effective for compressed cathode air cooling in hydrogen fuel cell powertrains and combustion engine charge air cooling.



### Low drag radiators

Light and compact radiators that reject large amounts of heat with minimal overall drag. Ideal for heat rejection in motorsport and zero emission aerospace.



### Microtube condensers

Ideal for thermal lift systems in electric aviation and rotorcraft. Maximised heat rejection at minimum mass.



### Waste heat recovery heat exchangers

Our primary heat exchangers are perfect for recovering waste heat from power generation and industrial applications. Designed for low pressure drops on both fluid streams, they enable retrofit and higher system efficiencies.



### EV battery thermal management

Our patented, isothermal battery heat management system for electric vehicles facilitates faster charging and simpler, lighter packs.

To discover more about what Reaction Engines can do for your business, open your smartphone's camera and scan this to visit our website:



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