

Australian Business Awards 2022

OE Elsafe PTY

ANIMATE
“Bringing Furniture to Life”

Prepared for

The Australian Business Award for
New Product Innovation (NEW)



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EXECUTIVE SUMMARY

OE Elsafe Australia and its parent company OE Electrics in the UK are experts in powering commercial spaces with over 35 years' experience as industry leaders in the design and manufacture of power and data distribution modules, cable management and soft wiring solutions. An innovative company always looking to provide solutions for the industry and end users, the OE group of companies identified an increasing need for agile cable free powered furniture.

Commercial spaces have been evolving with an increasing move towards smaller working groups and agile spaces. Furniture that can be moved around easily to reconfigure spaces provides options as people move away from desks and into seating areas, booths or even leave the office to work outdoors, at cafes or at other sites. What hasn't changed is the need to keep mobiles and laptops powered and that is where the ANIMATE system comes in.

The first system of its kind, ANIMATE has been created with the end user at the centre of the design process. The result is easily accessible power and charging modules integrated within furniture, powering devices without the need for a fixed power supply. Independence from a fixed power supply provides complete agility in commercial spaces where furniture can be placed to **suit the end users' needs** rather than the available fixed power sockets.

ANIMATE comprises a range of power modules including wireless and USB charging modules which can easily be fitted seamlessly into commercial furniture to power mobiles and laptops. Standing out from anything of its kind, the power at the core of ANIMATE is the commercial grade long lasting QIKPAC Lithium-Ion battery custom designed by OE for the commercial furniture market. Being modular ANIMATE is completely configurable to suit the space and application providing power for as few as one or as many users as is required, and all cable free.

ANIMATE has been designed with its own removal tools, mounting and charging dock. The removal tool enables batteries to be changed quickly so there is no disruption to power. The ANIMATE QIKCHARGE dock will charge 3 QIKPAC batteries at the same time ensuring there are always fully charged QIKPAC batteries available.

ANIMATE provides integrated power for furniture in foyers, malls, airports, education and workspaces where seating is free standing and there is no or limited fixed power supply options. There is special merit for heritage listed buildings where traditionally there are few and difficult to access power sources. Powering a space with QIKPAC often works out more cost effective than installing power cabling and wall sockets and aids in the preservation of a buildings original structure.

The OE Electrics Group are committed to the continual development and implementation of effective sustainability solutions in their business processes and practices. These were applied to the development and application of QIKPAC batteries and the ANIMATE system modules. QIKPAC Lithium Ion Batteries are 95% recyclable with the recovered components being returned to the manufacturing sector to create more lithium ion batteries, effectively creating a circular lithium-ion battery economy.

PROFILE

OE Elsafe Australia and its parent company OE Electrics in the UK are experts in powering commercial spaces with over 35 years' experience as industry leaders in the design and manufacture of commercial power and data distribution modules, soft wiring and cable management.

ANIMATE is a system of interconnecting modular power products designed for easy integration into commercial furniture.

The purpose of ANIMATE is to provide easily accessible, continuous laptop and mobile device charging without the need for a fixed power supply.

At the heart of the ANIMATE system is the OE QIKPAC battery, custom designed by the OE Elsafe in-house research and development team.

Providing a power solution where limited or no fixed power supply exists is especially useful for open spaces, older and heritage listed buildings.

ANIMATE and the QIKPAC battery are fully certified and compliant with all Australian and New Zealand industry regulations

The main components of the ANIMATE system are:

QIKPAC	- Lithium-Ion Battery.
QIKCHARGE	- Triple charging dock.
QIKCARRY	- Portable carry case for QIKPAC (use anywhere)
QIKDOC	- Furniture installation casing for QIKCARRY.
QIKFRAME	- Panel mounting installation frame.
QIKPAC Removal Tool	- For quick removal of QIKPAC from furniture and panels.
ARC-80	- Wireless charger for mobile phones.
TUF HP	- USB A+C laptop, mobile and tablet charger.
TUF HP Removal Tool	- For quick removal of the TUF HP charging module for replacement or upgrade.

ANIMATE includes compatible connectors and cabling designed in house to enable easy installation and maintenance of the ANIMATE system.

PROFILE



QIKPAC Lithium Ion Battery



ANIMATE cables and connectors



QIKPAC QIKCHARGE



QIKPAC QIKCARRY



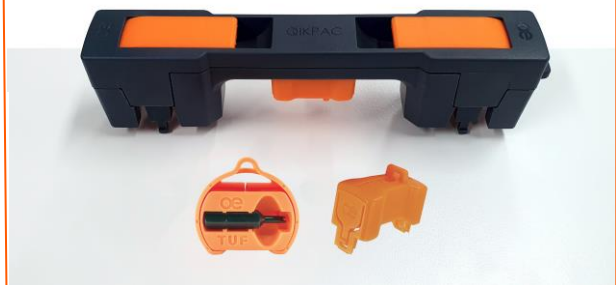
QIKDOC installation case



ARC-80 Wireless Charger



TUF HP power Modules



Removal Tools

FEATURES

Designed as a flexible modular system ANIMATE enables workspace designers to create a solution that fits their space and prioritises their requirements. Every part of the system has been designed to work together to create a bespoke solution that can be tailored to the end users needs.

Three of the main components are the QIKPAC battery, TUF-HP USB A+C chargers and the ARC series of wireless chargers.

The power at the heart of ANIMATE is the QIKPAC lithium-Ion battery that can be recharged thousands of times. As a lithium-ion battery, QIKPAC has a higher energy density, voltage capacity and lower self-discharge rate than other rechargeable batteries. A single QIKPAC battery can provide up to 28 hours of power for a standard laptop.

A design feature of the ANIMATE system is that it is modular. If more capacity is needed, you can simply click multiple QIKPAC batteries together. QIKPAC batteries can charge from each other to keep the system power equalized. QIKPAC can be recharged from a mains power supply or alternatively remove QIKPAC with its own specially designed removal tool and recharge on the OE QIKCHARGE charging dock.

TUF-HP is a compact USB A+C laptop and mobile charging module at the power delivery end of ANIMATE. TUF HP is a fast charger incorporating intelligent device recognition enabling optimised charging rates for every device. TUF-HP comes with its own removal tool for quick replacement should damage occur, or to upgrade as technology progresses.

ARC-80 and ARC-H wireless chargers, will charge mobile phones on contact, no cables required. Developed in house by OE Elsafe the ARC charging series are one of the fastest chargers available on the market today. ARC-80 is also Qi certified for multi device compatibility and is specifically designed for fast charging.

ANIMATE has been developed to provide a power solution where limited or no fixed power supply exists. This is especially useful where seating exists in foyers, malls breakout spaces and parts of the workspace where there is no fixed power supply. ANIMATE is also perfectly suited to heritage listed buildings where it is not possible to bring in extra fixed power points.

VIDEO Click - [QIKPAC Video](#)

END USER

The first system of its kind ANIMATE has been created with the end user at the centre of the design process. The result is easily accessible power and charging modules integrated within commercial furniture to power devices without the need for a fixed power supply. Independence from a fixed power supply provides complete agility in commercial spaces where furniture can be placed to suit the **'end users' needs** rather than the available fixed power sockets.

The ANIMATE system is designed for the commercial furniture market where it can be integrated seamlessly into commercial furniture at the point of manufacture or alternatively ANIMATE modules can be retro fitted.

Every module within the ANIMATE range is designed to work together fitting easily into seating, desks, booths, workstations, boardroom tables and other furniture types. Being modular, ANIMATE adapts to the furniture and space available providing bespoke solutions.

The ANIMATE QIKPAC battery can also be shared "between spaces". The end user can take the QIKCARRY (page 10, image 1) component of ANIMATE as a stand-alone portable power supply. The same QIKCARRY with QIKPAC battery can then be clicked into QIKDOC (page 10, image 3) to provide integrated furniture power. QIKPAC can be used between furniture providing power when and where required. Every fully charged QIKPAC battery will provide up to 28 hours of power for a standard laptop, the equivalent of four full charges.

There has been a need for some time for an alternative power supply for heritage listed buildings. Traditionally older and heritage listed buildings have limited power sockets which may provide power for part of the workspace but often not to the extent required for a fully functioning office.

Providing furniture options with integrated power allows the end user to maximise utilization of the workspace without the need to install extra power sockets, saving money and time. QIKPAC batteries and TUF HP power modules lock in place for safety. Both can be easily removed using the custom designed removal tools. Additionally, the tools have been designed to lock together in a single module for easy access and storage.

THE FREEDOM TO WORK ANYWHERE Click - [Animate](#)

R & D

The ANIMATE system was developed over a three-year period by the in-house OE Elsafe and OE Electrics Group research and development departments, launching into the European market mid 2021 and the Australian market early 2022. The ANIMATE system is the first of its kind bridging the gap between a standalone portable power supply to complete power integration for the end user in commercial furniture

The system was built to use the same industry size form factor as mains plugs and sockets - so that batteries could fit into spaces and outer housings that previously housed mains sockets. This presented many design challenges in cell configuration and circuit board layout to ensure the high currents needed to power items could flow without creating too much heat.

The battery also seamlessly integrates with our existing laptop charging TUF HP USB module. The same module that is normally powered by mains can be powered by the battery, and the battery recharged from the USB power supply.

A significant design challenge stemmed from the battery being multi-input and multi output allowing for single or multiple battery installations. To accommodate all possible end user application limitations OE Elsafe created an internal data monitoring system to diagnose all the running conditions of QIKPAC including temperatures, currents, voltages and faults. This system even though it will never be used by customers has allowed OE Elsafe to co-design optimised installations and trouble shoot customer design issues ahead of installation.

The myriad of electronic functions and safety features within a single QIKPAC battery are enabled using coding. Overall, for this project it is estimated OE Elsafe have written close to 16,000 lines of code in both C & Python language. This includes QIKPAC firmware and relating functions as well as the code for test equipment that has been built specifically for QIKPAC.

QIKPAC Click - [QIKPAC Specifications and Information](#)

R & D

QIKPAC battery lithium-ion cells hold significant energy requiring robust safety measures. Inbuilt safety measures include internal switches that turn off loads that are attempting to draw more current than the connectors allow. The design was completed with hardware switches backing up software code so there is multiple backup redundancy. QIKPAC has been designed to physically withstand multiple drops onto concrete.

To work alongside our target market of commercial furniture manufacturers and the lifespan of commercial furniture, QIKPAC has been designed to achieve a 5 – 10 year working life. Robust technologies borrowed from the learnings of electrical vehicle manufacturers in implementing charging and battery management strategies and the algorithms to optimize cycle life have been incorporated into QIKPAC.

A key outcome for OE Elsafe in their research and development of products is sustainability with QIKPAC batteries being 95% recyclable. We also focus heavily on making modular systems where individual parts can be upgraded or replaced with new technology without needing to upgrade the entire solution.

QIKPAC Click - [QIKPAC Specifications and Information](#)

Appendix and Supporting Media Links

WEB

<https://www.oeelsafe.com.au/animate/>

VIDEO

[QIKPAC Video](#)

THE FREEDOM TO WORK ANYWHERE

[ANIMATE](#)

ANIMATE BROCHURE

[Animate PDF](#)

POWERED BY QIKPAC

<https://www.oeelsafe.com.au/qikpac/>

[QIKPAC Datasheet](#)

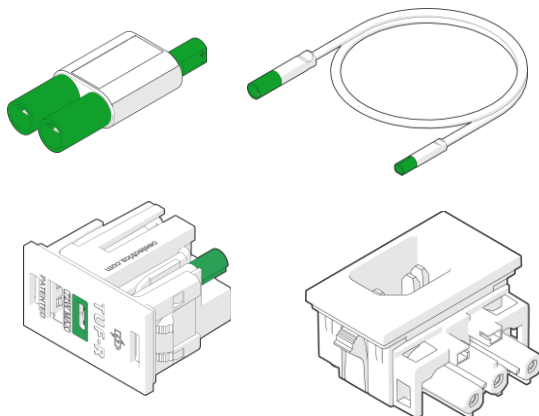
[MSDS Safety](#)



QIKPAC Battery - the power at the heart of the ANIMATE system.
Designed by OE Elsafe



QIKPAC Charging Dock.
Charge up to three at one time.
Designed by OE Elsafe



ANIMATE system power and installation accessories.
Designed by OE Elsafe



ANIMATE system carry and installation cases.
Designed by OE Elsafe



QIKPAC Battery in QIKCARRY, up to 28 hours of portable take anywhere laptop power. Designed by OE Elsafe



ANIMATE components QIKPAC battery plus TUF USB laptop charging integrated in ottoman. Designed by OE Elsafe



ANIMATE components QIKDOC (installation module) with QIKPAC, plus PICCOLO TUF HP desktop laptop / mobile charger. Designed by OE Elsafe



ANIMATE components QIKPAC and TUF HP Laptop charging integrated in mobile booth. Designed by OE Elsafe



ANIMATE is scalable. The more QIKPAC batteries, the longer the power lasts.

OE have also designed, and manufactured installation extrusion that can be included into furniture or used on its own.

All Designed by OE Elsafe



The QIKPAC battery can be recharged in-situ via a custom designed recharging power module

Designed by OE Elsafe



The QIKPAC battery can be removed with the custom designed removal tool and recharged on the QIKCHARGE charging dock.

Designed by OE Elsafe



CASE STUDY – February 2022

The first ANIMATE sale in Australia was to Sydney Grammar School.

Sydney Grammar approached OE Elsafe for a solution to their usually laborious and time-consuming exam setup process. Previously they had been taking well over 3 days to setup, with cables being taped to the floor presenting a serious safety and trip hazard. The cables also needed rechecking between each exam and retaping where they had moved in the foot traffic.

By using QIKPAC QIKCARRY as a standalone solution the three rooms were set up in three hours with the QIKPAC batteries lasting the entire exam period.

When not being used at exam times the same QIKPAC batteries are then used to power other spaces across the campus including libraries, flexible classrooms and staff rooms.

In all the same QIKPAC batteries will service four or more spaces in the school maximising their investment.

Solution co-designed by Sydney Grammar and OE Elsafe