

CASE STUDY



Global Manufacturer of Supercapacitors Chooses Humiscope for Complete Solution



Humiscope

Master your indoors

The Client

Introducing Cap-XX Australia

Backed by some of the world's leading technology investors, Australian corporation CAP-XX, is a world leader in the design and manufacture of thin, flat supercapacitors.

Supercapacitors are energy storage devices that offer what is missing between batteries and conventional capacitors. They store more energy than capacitors and supply it at higher power than batteries.

The unique feature of Cap-XX supercapacitors is that it offers very high-power density, ultra-long life and high energy storage capacity in a space-efficient prismatic package.

Cap-XX develops, manufactures, and sells supercapacitors to the Asia Pacific, European and North American markets.



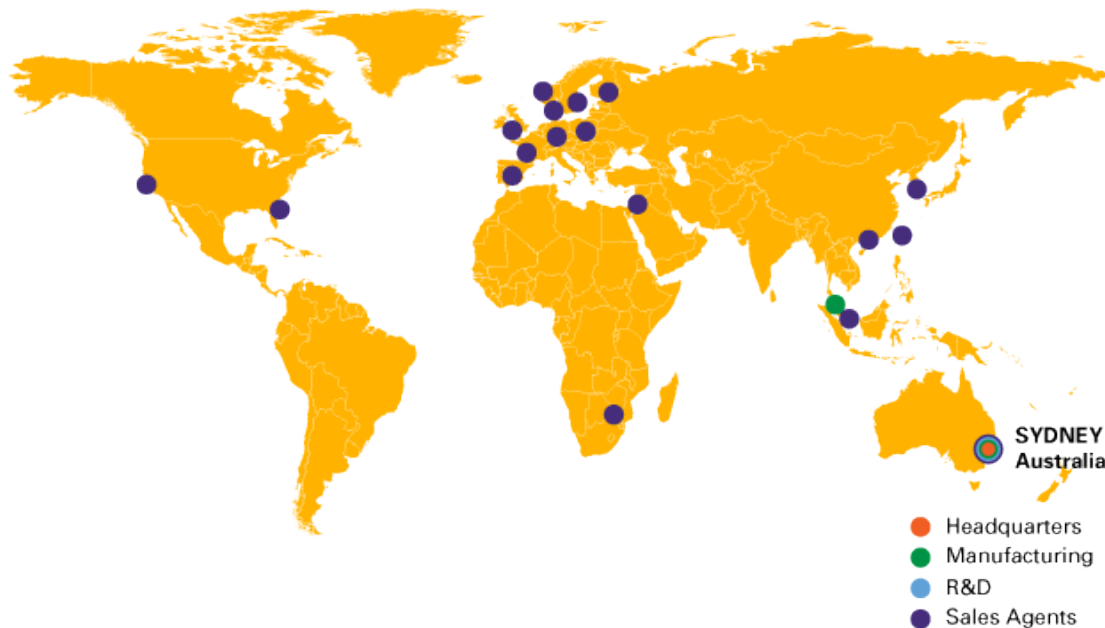
Listed on the
London Stock
Exchange



World Leader
in Design &
Manufacture



Enviro-friendly
Non-toxic
Metal



The Situation

Challenge

Consistant Conditions Required

In late 2019 Cap-XX acquired its Japanese branch, Murata.

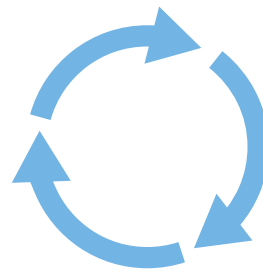
In 2020 it relocated the Murata supercapacitor production line to its Sydney Manufacturing plant.

As a result, Cap-XX needed to expand its Sydney facility and add an additional production space.

In order to manufacture super-capacitors an ultra-low humidity, low dew point, ultra dry room is required.

Incorrect conditions can adversely affect the performance of super-capacitors because the structure of nanomaterials can be altered during electrode preparation which may hinder achieving the best electro-chemical performance.

A consistently maintained ultra-low humidity, low dew point, ultra-dry room is critical.



“
We chose Humiscope because they had a great understanding of our requirements which led to a tailor made option suited to our process and available budget.

~ Dallas Garratt
GM - Operations, Cap-XX (Australia) Pty Ltd

Enter Humiscope

Indoor Environment Specialists

We are a group of engineers, technicians and draftsmen dedicated to our clients and committed to providing energy efficient indoor environment systems: from simple applications to specially engineered solutions.

In 2020 Humiscope was contracted by Cap-XX to convert a large warehouse into an ultra-dry production room.

Part of the materials used to make these Supercapacitors are hygroscopic powders of activated carbon. The handling of moisture sensitive material in manufacturing requires an ultra-dry environment.

Through their meeting with Humiscope, Cap-XX was able to ascertain that Humiscope was highly skilled and understood the specific needs of the industry.

We solve indoor climate challenges in ways our competitors cannot.

“ Humiscope offered strong technical support during the inquiry and tender process which provided confidence in the technical knowledge of the company.

*~ Dallas Garratt
GM - Operations, Cap-XX (Australia) Pty Ltd*



**Humiscope is the only
Australian owned and
operated company
offering complete
end-to-end solutions
for low dew point,
ultra-dry rooms.**

Master your indoors

The Solution

Working Together

Humiscope and Cap-XX worked together to ascertain the specific requirements of the space. With the solution being an ultra-dry, ultra low humidity production space. With a dew point of -55 and a consistent room temperature of 22° C. Warm but ultra-dry.

Discussion points:

- 1 Client's business requirements
- 2 Main concern/issue
- 3 Ultra-dry room capacity
- 4 Ultra-dry room conditions
- 5 Ideal climate conditions
- 6 Budget constraints

With over 35 years' experience mastering indoor environments, it's safe to say we know our stuff.



“ Working with Humiscope through the design process was smooth and Humiscope worked well to overcome technical challenges presented with a space constrained project site.

~ Dallas Garratt Cap-XX (Australia) Pty Ltd

The Solution

Humiscope designed the HVAC system which comprised of a Low Dew Point TFT Desiccant Dehumidifier and Clivet Glycol Chiller which was set to chill the water system and feed -5° water to the dehumidifiers' pre-cooling coil.

The dehumidifier worked to cool and dry the air simultaneously.

Humiscope techs and engineers prebuilt the machinery at their workshop, retrofitting the two systems together before transporting it to Cap-XX Australia.

Once on site Humiscope installed the equipment by running fully sealed duct between the systems and the room.



The system is essential for our production process and operates 24/7.

It has been very reliable since installation.

The room is consistently dry at -50°C to -55°C and quick recovery rate after operator entry.

~ Dallas Garratt Cap-XX (Australia) Pty Ltd



Call us – obligation
free – and we can
talk through your
specific concerns
and suggest some
solutions that would
work best for you!

Humiscope

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