



ICT International Pty Ltd

Enabling better global research outcomes in soil, plant & environmental monitoring

A Lifelong Journey of Vision and Commitment

Thank you for coming and it is indeed Susan and my pleasure to be able to showcase ICT International's activities.

ICT International and what you will experience today is the result of a vision and life-long commitment to better understand and improve efficiency of water use in agriculture and the natural environment.

It was obvious to me in the 1960's from observation on my family's farm but further confirmed in travels and study in the 1970's that we needed to have a better understanding of how water moved in the dryland cropping system.

How to capture more rainfall? How to grow more crop with that rainfall? Answers to these questions were the key to our family farm's future.!!!

The solutions needed necessitated an understanding of water movement in the soil & plant from first principles so that solutions could be developed and built to suit the needs of agriculture and farmers such as my father. Hence off to University and necessarily a PhD to really come to grips with the understanding needed to develop solutions. The solutions needed a strong understanding of scientific principles and critical thinking. The principles of physics, chemistry & maths and how these applied to soil & plant science.

I tried, within the system to effect change, but I quickly realised that the tools to make the needed quantitative measurements had to be placed in farmers hands and that publication would not provide a management solution.

I had to empower farmers so that they could become more water efficient in both their irrigated and dryland cropping systems. Then I had to provide the farmers with tools (neutron probe in first instance) and training to do this.

Inevitably this meant that I had to start an organisation that could source and adapt the technologies needed for quantitative monitoring by farmers. Firstly, it was Neutron Probe Services which became Irricrop Technologies (ICT) and with exporting, today ICT International.

I dared put the tools in the hands of the people responsible for the resource!!!!

Yes, I got lectures from very senior CSIRO scientists at the time telling me that it was not that easy and that I was prostituting science. I remember vividly one such occasion on the steps of Narrabri Post Office in the mid 1980's.

The plant's turn to be monitored.

The many years as an agronomist and consultant assisting farmers, especially cotton farmers, with irrigation decision making made me realise that it was really the plant we should be measuring with supportive information from the soil.

The plant is the ultimate transducer, it is on the supply side monitoring soil moisture & soil physical condition and on the demand side atmospheric demand and fruit load.

All I knew was that we had to measure the plant. I was an agronomist with a passion but with a solid comprehension of the science needed and the principles involved to directly monitor plant water use.

We needed to measure the plant water use and plant water stress. How to do this?

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I travelled the world seeking scientists who had such potential solutions, found them and started collaborations to develop firstly sap flow and then the infinitely technically more difficult stem psychrometer.

Every day now our customers both scientists and farmers are developing new data, new knowledge and new management outcomes. They are the scientists and farmers that are ahead of the crowd whose drive for better understanding and better management outcomes are leading the way toward more efficient water use in agriculture and the environment.

In September 2019, ICT International launched globally an IoT Catalogue as the latest development. IoT (Internet of Things) offer great opportunities for collaboration. This dynamic catalogue is rapidly becoming the collective outcome of a large and collaborative effort of specialist skills, knowledge and resources. It is through collaboration that the relatively small numbers of highly specialised sensors and sensor systems as deployed in agriculture and the environment can be developed and cost effectively manufactured to a standard high enough standard to sustainably generate an export outcome.

In conclusion.

The customer base is in more than 50x countries with Germany, USA and China being our largest customers. About 90% of our production is exported.

Innovation and Disruption are a way of life at ICT International.

Taking on the difficult challenges, sticking to the first principles of science (physics, chemistry & maths), having a conviction and belief in what you are doing and going forward to continue to develop and provide monitoring solutions for agriculture and the environment.

Thank you for coming and it is indeed Susan and my pleasure to be able to showcase ICT International's activities for all to benefit.

Dr Peter Cull
Managing Director
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