



University of Wollongong

Faculty of Engineering

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Tuesday, 13th March, 2001
C/ PO Box U20,
University of Wollongong,
WOLLONGONG,
NSW 2500

ResTec Pty Limited,
Level 2,
1 Rosebery Ave,
ROSEBERY,
NSW 2018

Re: Tesla's microwave technology as applied to zinc and other metals recovery.

Interested Parties,

I have had a long association with the research and development of new metallurgical technologies, both for private and government enterprises, in Australia and overseas. Few technological advances have been so earmarked for success as have those based on the microwave and associated electromagnetic applications. This has been found to be particularly so for microwave applications to minerals processing and extraction pyrometallurgy. Countless technical publications over many decades are testament to this fact.

I have had the privilege of being associated with much exciting microwave research work over the past fifteen years. Of the various research fields, the novel work done in extraction pyrometallurgy by Mr Tanner-Jones has proved outstanding. Following a successful research programme, the proposed development stages for the present microwave stimulated zinc fuming are destined for an ordered progression towards successful commercial application. Like other proposed applications of this new generation technology, this project has the propensity to be enormously beneficial to the national economy.

Further, the recovery of valuable metallic commodities from slags and other metallurgical by-products, materials previously regarded as economically intractable wastes, is a welcome and long overdue approach which re-defines the term "resource". I wholeheartedly commend the Tesla microwave technology to those wishing to involve themselves either technically or financially in the project.

Yours sincerely,

A handwritten signature in cursive script that reads "Howard K. Worner".

Professor Howard K. Worner.
[Private correspondence by mail only (as above).]

'Icon of metallurgy' donates rare collection

Emeritus Professor Worner pictured at the official opening of his collection with the Deputy Vice-Chancellor, Professor Peter Robinson (centre) and Vice-Principal (International) and Managing Director of ITC, Mr Jim Langridge.



The first stage of a rare collection of mineral and rock samples, the Howard Worner Collection, was officially opened on 7 September in the main foyer of the Sciences Building.

Emeritus Professor Howard Worner, has donated his collection (started in 1932) to UOW which consists of about 1,000 mineral and rock samples, predominantly containing Australian specimens, the collection includes samples from all over the world with significant contributions from Mexico and Chile. The first stage involves about 650 pieces going on permanent display.

Historically significant specimens include those from Sir Laurence Mawby and Sir Douglas Mawson.

Two UOW staff who played a key role in assembling and displaying the collection are Dr Paul Carr and Mrs Penny Williamson from the School of Geosciences.

Dr Carr described the collection as being "scientifically, historically and aesthetically valuable".

The collection also includes the various awards bestowed upon Professor Worner who still does occasional work for ITC as a Scientific Adviser aged 87. It was in 1986 that Professor Worner was invited by UOW to take up a position as Director of ITC's Microwave Applications Research Centre.

From the late 1930s and early 1940s when he was considered the leading world authority in scientific study of dental and surgical materials (work that led to the Australian Dental Standards Bureau), through to extensive investigation into iron smelting and casting, his work has been at the forefront of Australian and international development.

Without slowing down at all, Professor Worner developed a way to convert steelworks waste dust and sewage into usable iron compounds early in the 1990s.

The Deputy Vice-Chancellor, Professor Peter Robinson and the Vice-Principal (International) and Managing Director of ITC, Mr Jim Langridge, reminisced of their long-term associations with Professor Worner.

Professor Robinson described Professor Worner as a "true icon of Australian metallurgy and materials science" pointing out that he has mentored generations of metallurgists.



Dr Paul Carr and Mrs Penny Williamson who helped assemble and set up the rare collection of mineral and rock samples are pictured with Emeritus Professor Worner.

ITC marks its 20th anniversary

While the University of Wollongong is this year celebrating its 50th anniversary, the largest of the University's subsidiary companies, Illawarra Technology Corporation (ITC), is celebrating a milestone of its own - its 20th anniversary.

ITC was originally established in 1981 as "UniAdvice", a consulting division of The Friends of the University of Wollongong Ltd. The Illawarra Technology Centre Limited was established in 1984, as the foundation facility for new technologies and commercialisation of research within UOW.

In 1987 UniAdvice Ltd was established as a separate company and in 1990 Illawarra Technology Corporation Ltd was established as the umbrella company for UOW's commercial activities. This involved the consolidation of seven subsidiary companies and 14 profit centres.

ITC has today grown to comprise more than 220 full-time employees and has a projected 2001 turnover of \$32 million.

The company's operations involve running Wollongong University College, which expanded its activities into Sydney in 1997. Since 1993 ITC has operated UOW's only offshore campus in Dubai. In late 1999, ITC obtained a formal licence from the Federal Government of the United Arab Emirates to operate the campus in Dubai - the first and still only Western University to achieve such recognition. ITC had previously been operating in Dubai under a licence from the State Ministry of Education and holding a trading licence from the Dubai Municipality. Last year saw the relocation of the campus to a new, purpose-built facility in Jumeirah Beach, Dubai.

ITC also secured the first of a number of international consulting projects with AusAID, the Asian Development Bank and the World Bank in 1993 and has now won \$40m in contracts in nine countries through international competitive bidding.

ITC has recently established a new subsidiary company, ITC Europe Ltd, with a registered office in Rochester, England, to provide an entrance to the European Union marketplace.

ITC Managing Director, Mr James Langridge said ITC has established a reputation over the years for providing commercially viable and enterprising solutions to major complex problems.

"It has developed, on behalf of the University as its shareholder, an enviable reputation which has enabled it to win contracts across the world against major international competitors. It is now recognised as a professional services company of excellence in pursuing its aim of providing solutions for a better world, and secures 80 per cent of its sales revenue through export earnings," Mr Langridge said.

Planned growth should see the company achieve its target of \$38m per annum turnover in three years, and through a service contract with the University, should exceed a turnover of \$65m per annum, by 2003.





ITC Managing Director, Mr James Langridge, addresses guests at the company's recent 20th anniversary celebration.