

Engineering hero a 'man of mettle'

WHEN told he had been selected by 1200 luminaries in the Australian world of engineering as one of eight 'heroes' in his field, Dandenong engineer Dr John Floyd was surprised and chuckled.

"A what? A 'hero'?" asked the founder of Ausmelt Pty Ltd, the inventor of CSIRO's Sirosmelt, a simple but revolutionary, environmentally smart smelting process now being used in every continent of the world except the Arctic and Antarctica.

Like many of the newly-arrived successful industries in Dandenong South, Dr Floyd and Ausmelt do not receive the recognition they are due - by the public or by the investor.

Engineering is not a glamor profession - like medicine, aerospace, computers or even catering, public relations, advertising - so the State Government and the Fellows of the Institution of Engineers Australia decided to raise the profile and nominate those unsung innovators with the glossy publication of 'Victoria's

Unsung Heroes', launched by Minister for Industry, Science and Technology, Mark Birrell. And up bobs non assuming boffin Dr John Floyd who decided to step out of the cloistered security of the CSIRO and put his new technology to the world.

"The CSIRO did not want to interface with industry. They said it was not my role to consult with industry, that I should concentrate on development and research," he said last week.

The CSIRO wanted to pigeon-hole his invention, Sirosmelt,

AUSMELT PTY LTD

DR JOHN FLOYD INVENTOR OF CSIRO'S SIROSMELT

A SMART SMELTING PROCESS USED

WORLD WIDE.



DR John Floyd and plant manager Mick Cartwright inspect the furnace at Ausmelt's Dandenong South testing plant.

and have him and his team look at some other area of research.

So the scientist, then in mid-decade, decided to leave the CSIRO in 1981 and form his own company.

Unlike America, where people like John Floyd would have been headhunted by a major industrial company as soon as his product came up for air, there was no financial support from industry, government or the banks for his technology. Everyone thought it an exciting innovation, but it was new and they thought it therefore risky.

The 19th century American essayist Ralph Waldo Emerson said if someone invented a better mousetrap the world would beat a path to his (her) door. Maybe in America. . .

Dr Floyd used his life saving, his superannuation, long service leave and his family's money to pursue his dream. It was a big punt.

His life was the company and ran the firm from the family home.

"I recommend it to anyone who's an optimist, but it's not the sort of thing a pessimist should try," he said.

John Floyd has always been an optimist, it seems.

He came to Victoria from England aged eight. His father worked as a brickie in the bush.

John Floyd had poor eyesight and had to go to a special school where the students were told not to expect too much in terms of a career.

That was one lesson he ignored. A bright student, John Floyd went on to Melbourne University to do a science degree.

"In my second year one of the subjects was metallurgy [the art or science of extracting a

metal or metals from ores, as by reducing, refining, alloying. . .]. I didn't know what it was."

He had found his niche.

Dr Floyd's teachers recommended he continue his studies after he completed his master's degree. But if he wanted to study for a PhD he would have to go to England.

In his 20s and having little cash - certainly not enough for an air fare - he bought a BSA motor bike and side car and travelled across country to his destination in the early 60s.

The bike fell to pieces at Zurich, so he hitchhiked for the remainder of the trek, finally landing at the door of the eminent metallurgist Prof Richardson at Imperial College, London, the Oxford of Science and Engineering, where he asked if there was a place for him to study for his doctorate.

Somehow Prof Richardson arranged it and John Floyd gained his PhD, returned to Australia and was employed by the CSIRO.

What he began working on at the CSIRO is now being applied worldwide.

Ausmelt employs a high intensity bath smelting process in which metals can be separated and recovered, leaving an inert slag. The recovered metals or compounds can be recycled, while the slag can be put to some useful purpose in construction or road building.

The beauty of the smelter is it could be installed in a household garage and is very low cost and adaptable to existing smelting systems.

It is currently being used in Korea to process 125,000 tonnes of zinc a year, while the Hindustan

Copper Ltd Precious Metals Plant in India will treat less than 100 tonnes a year of very high value silver and gold slimes from the copper processing extract.

Ausmelt also has plants in South Africa, Japan, Germany, Zimbabwe, Namibia, Peru, France, USA and Western Australia - where Sirosmelt had its first, successful commercial application.

In Portland, Victoria Ausmelt and Alcoa have formed a partnership to treat spent potlining - the toxic residue left after the aluminium smelting process.

The program is sufficiently developed to demonstrate the material can be processed to produce clean slag, suitable for road making.

In 1994 Ausmelt was floated on the Australian Stock Exchange. The shares rose from their opening price of \$2.30 to \$10 but have slid due to the worldwide downturn in the resources and minerals sector, and the Asian economic crisis.

That has posted two successive years of losses. Some new projects have been deferred, others cancelled. The company has been forced to make staff cuts at its Kitchen Rd, Dandenong South head office and research and development centre.

But Dr John Floyd, who is deputy chairman of the company, remains an optimist.

He is heading a number of developments in Australia and overseas - ranging from lab and theoretical studies, to solving problems with existing furnaces.