

# Aust hearing technology backs new German device

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In one of the funnier scenes in the movie comedy *Yellowbeard*, John Cleese's character, Blind Pew, asserts he has acute hearing -- to the bemusement of others, who, amid the hubbub of street noise, hear it as "a cute earring".

If people with normal hearing have trouble filtering a clear message from the noisy medium, the problem is magnified enormously for the hearing-impaired.

It's also a major technical challenge for hearing aid makers, because conventional hearing aids magnify all sounds equally.

Germany's Interton has recently launched an advanced hearing aid that exploits a unique computer chip and software developed by Melbourne-based biomedical company Dynamic Hearing, that elegantly solves the problem of hearing speech clearly in oppressively noisy environments.

Interton's revolutionary hearing aid employs the same ADRO (Advanced Dynamic Range Optimisation) technology used in Cochlear's famed 'bionic ear'. Dynamic Hearing was spun out of the CRC for Cochlear Hearing Aid Innovation,

Dynamic's CEO, Dr Elaine Saunders, who was last year awarded a Telstra Business Women's Award, said Interton and Dynamic Hearing were getting "excellent reports" on the new hearing aid's performance a month after its launch at big trade show in the US last month.

"Interton says it has had the best response to the new hearing aid of any product it has developed," Saunders said.

The heart of the device is a tiny microprocessor, the size of a match head, and sophisticated software that rapidly analyses and then adjusts sound intensity in 128 channels covering the normal audible spectrum.

The tiny chip has very high processing power, but such low power consumption that the hearing aid's tiny, on-board battery requires replacement or recharging only once a week.

"It's a nice complement to the cochlear implant," she said. "A hearing-impaired person could have a cochlear implant on one side, and wear an adaptive hearing aid on the other."

Saunders said the technology doesn't 'squash' the sound -- it uses statistical analyses and 'fuzzy logic' to identify high-intensity frequencies and reduce them to a comfortable level,

so that speech can be easily detected. For example, someone wearing a hearing aid could hear what another person was saying, in the presence of a loud car alarm.

"We do it in a completely new way," she said. "It can be fitted to any individual, with any level of hearing impairment, and it will adjust dynamically to every environment. It's very intelligent, and it's a big step forward in sound processing technology."

Interton already had around 5 per cent of the US market, and was one of the world's fastest growing hearing aid companies, she said.

Saunders said the same technology could be incorporated into headsets, and that there were also good market prospects in the hi-fi sound market. The company has a suite of sound-processing software products that can be mixed and matched to a wide range of digital sound-processing applications.