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building global communications

Ericsson AsiaPacificLab Australia is the largest private research organisation in Australia dedicated to information and communications technology. With 500 experienced engineers and scientists, we contribute to new technologies that are adopted around the world.

Our work results in new products and services for Ericsson, helping customers take advantage of the power of modern networks. At the same time, we help shape the open standards that are used by the telecommunications industry to unify global communications.

These efforts are usually invisible to the everyday consumers who use our technology with their mobile phones, home phones and Internet services.

Even so, our achievements helped build the foundations for many services used globally today. Our skills are already contributing to the communications services still to come.





leading skills

As the largest centre of its kind in Australia, AsiaPacificLab attracts leading scientists and engineers who test the boundaries of the latest technologies.

Our people represent the diversity of Australia's science and engineering talent, coming from 50 different national backgrounds and drawing on skills that range from pure mathematics to computer programming, electrical engineering and other fields of information technology. While most have Bachelor degrees, including double degrees, others have Masters degrees and Doctorates.

As a result, our teams consistently develop breakthrough technologies. In the five years to 2001, AsiaPacificLab staff were responsible for 37 patents registered by Ericsson internationally.

We are always creating new opportunities for skilled Australians, too. Through Ericsson Australia's graduate program, we have hired more than two hundred new graduates over the past decade.

To keep expanding Australia's technical strengths, we are also a member of the IT Skills Hub, an industry-wide training and education initiative supported by the Federal Government.

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deep experience

AsiaPacificLab traces its history back to 1890, when Ericsson sold its first telephone in Australia. In 1959 the Post Master General (a precursor to Telecom Australia, now known as Telstra) selected the locally developed Ericsson crossbar exchange for its national network. By 1968 we had 50 engineers developing leading technology for the Australian telecommunications industry – the foundation of what is AsiaPacificLab today.

Over the past four decades, local Ericsson research teams have contributed to some of the most important breakthroughs in telecommunications.

Driven by Telecom's need for more efficient rural communications, our researchers worked on the technologies that ultimately produced the first digital switching system. Launched as the Ericsson AXE product range in the 1970s, the new switch revolutionised the capacity and quality of modern communications.

Our staff also helped formulate the standards that made International Subscriber Dialling (ISD) much easier in the 1970s. And we worked alongside our partners at Telecom to pioneer the introduction of Integrated Services Digital Network (ISDN) two decades ago, helping to set the standards that govern ISDN to this day.

More recently, we've worked on the underlying technology to enable Voice over Internet Protocol (VoIP), producing more efficient and cost-effective communications networks. At a time when many VoIP systems were still experimental, we helped create one of the first commercial VoIP networks and contributed to the standards that underpin Internet communications.

Our work is recognised for its leadership. The Powerhouse Museum named Ericsson on its list of historic Australian innovations for our work on automatic phone-call distribution, a fundamental technology that supports today's telephone call centres. Says the museum: "It really has changed the way customers interact with businesses. It's also turned customer service in call centres into an industry – and a career."



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breakthrough technologies

We develop technologies that will reshape the coming era of communications, enabling connections that most people are likely to take for granted on mobile phones, traditional telephones and the Internet.

> Our major research activities focus on areas like wireless communications standards, broadband Internet, core switching technologies and third generation (3G) mobile communications where we are the leading provider. We are also working on the next version of the Internet Protocol, the world's most important networking 'language'.

Our initiatives include:

- Research into Voice over Internet Protocol (VoIP), carrying traditional voice telephone calls over digital Internet connections in order to integrate data and voice networks and reduce costs for consumers and businesses;
- Advanced work on Asynchronous Transfer Mode (ATM), the broadband networking standard that defines the way communications signals are carried over backbone networks around the world;
- Creating new 3G technologies to deliver emerging 3G services and applications over the coming years, as communications companies invest in new networks; and
- Developing the technologies and standards to support Internet Protocol Version 6 (IPv6), augmenting the protocol that underlies every piece of Internet traffic.



We also participate in the development of crucial new standards for the communications industry as a whole.

Members of our research staff serve on committees at the European Telecommunications Standards Institute, the Institute of Electrical and Electronics Engineers, the International Telecommunications Union and the Internet Engineering Task Force. At these and other forums, we've contributed to the standards that shaped 3G, IPv6 and other technologies.



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inside our lab



AsiaPacificLab operates as a cluster of specialised research and development groups, each investigating a distinct set of technologies and contributing towards different aspects of Ericsson's activities worldwide.

Communications Platforms develops the software and hardware that make up the backbone and access layers of modern networks such as Universal Mobile Telecommunications System (UMTS) and Ericsson's multi-service network solution, ENGINE. The explosion in data communications means that the group is being called upon more than ever to design core products for Ericsson's next generation of equipment – including the leading AXE system as well as the forthcoming Cello Packet Platform and TSP system.

Fixed and Mobile Core Networks

concentrates on the ATM and Internet Protocol signalling technology at the heart of new mobile and fixed networks. Much of this work contributes to the development of new 3G networks thanks to the group's work on the UMTS standard. The work is also fundamental to Ericsson's ENGINE solution. As networks migrate to open standards, this highly skilled team will be leading the development of new systems.

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Network Applications

helps to create solutions for Ericsson's customers around the world. Solution applications include Phone Doubler, an award-winning Voice over IP (VoIP) system that enables a normal phone line to carry both voice and data communications simultaneously. The group's XMATE network management program has been implemented at more than 140 sites in over 50 countries, while the NMOSS solution provides a single control point for complex networks worldwide. This group of leading designers also provides service networks and network management customisation to meet specific <u>customer needs in the Asia Pacific region.</u>











broader connections

Our work is connected to research projects around Australia. We are an important contributor to a network of research organisations including major Australian institutes as well as prominent universities.

> Through the efforts of Ericsson Australia's Mobility World initiative, our research supports thousands of Australian developers who are working on new applications and services for mobile networks, especially 3G systems.

AsiaPacificLab also supports Ericsson Equity Alliances, the investment program that helps young Australian companies gain access to technology, business partnerships and seed capital.

Our work is also closely linked to Australia's leading research groups. AsiaPacificLab works with the Australian Photonics Cooperative Research Centre and the Australian Telecommunications Cooperative Research Centre. As a result of these two programs and our other partnerships, we support research at more than eight Australian universities.

creating the future

"AsiaPacificLab is proud to continue Ericsson's tradition of substantial and consistent investment in Australian skills and technologies for the global market. Our efforts are fundamental to the evolution of today's communications, extending the services and applications used by service providers and consumers worldwide."

Ric Clark, CEO

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