

Table of Shared Technology within technology based training packages

This table is an overview of the technologies likely to be shared across the various industries shown below. For full information on the background to this table, please visit <http://www.sharedtechnology.net.au>

	Automotive	Building & Con.	Electrical	Electronics	Engineering	Info Tech	Telecomms
Networking	Increased connectivity between components. Likely to apply across all vehicle types for engine management, emissions, fuel consumption, brake and telemetrics. Increased use of fly-by-wire systems providing for increased problem solving in maintenance and crash repair.	Increased connectivity within residential and commercial buildings. Focus on plug-and-play interconnectivity within lighting, security, fire, and HVAC.	Structured cabling with a variety of increasingly interconnected devices using a variety of cables. Problem solving of networking problems (80% cabling related) with increased levels of tolerance for error.	A variety of networking protocols to be introduced that will expand the current number of protocols and result in problems with interconnectivity between devices. Problem solving with non-compliant or improperly installed components.	Move from proprietary network protocols to more open systems including the increased use of serial, ethernet, TCP/IP and 'fieldbus' style protocols. New devices will see an increase in the amount of data available and decisions are required regarding the frequency of measurement and data archiving.	Further expansion of networking including home networks, increased use of mail servers within commercial environments, data warehousing and development of grid computing within and between enterprises.	Next Generation Networks will focus on instant messaging through ENUM and IPv6 standards. Problem solving with VoIP. Increased conflict between wireless systems, RF signals, building infrastructure and data security
Wireless	Retro-fitting of vehicles for Bluetooth and 802.11 technologies. Problem solving for Internet access and on-line telemetrics.	Increased awareness of the design of buildings and use of materials to facilitate wireless technologies as applied to building infrastructure and personal use.	Awareness of the integration of wireless and cable-based telecommunication technology and incompatibility issues.	Management and coordination of data transmissions between instrumentation and database. Implementation of micro-sized radio transmitting devices.	Selection and commissioning of appropriate RF based transmission networks for manufacturing and process control installations.	Development of security systems for <i>ad hoc</i> networks within secure environments. Development of non-secure networks for consumer access.	Integration and management of a range of RF devices within a network. Problem solving compatibility issues with a range of vendor products and protocols.
Data Processing	Monitoring and evaluation of performance characteristics from telematics data. Interpretation of diagnostics data and determination of maintenance activity	Monitoring of building performance based upon archived data from instrumentation. Primarily related to energy conservation. Some programming of instrument processors with increased 'site-wide' programming of systems.	Increased use of PLC-style appliances will require greater programming capabilities of operatives including reloading software to devices through Internet-based applications.	Programmable microprocessors will provide for greater flexibility but increased complexity in instrumentation devices. Increased requirement for programming capability rather than repair.	Increased availability to data from devices will require enhanced data management skills.	Minimal changes to actual functions but increased availability of data to be managed. Increasing problems with monitoring and recognition of important emerging data sets, effective archiving of data	Continuing demand for greater bandwidth to carry increased loads of data. Conflict likely to arise within networks for priority voice comms and vital data streams.
Electricity Gen.	Fuel cell technology will be introduced into public transport but only in limited areas. 'Clean' diesel likely to play a greater part in hybrid engine technologies.	Increasing use of distributed generation will see energy efficient buildings built and retro-fitted to include solar and fuel cells in premium-energy locations as well as Energy storage.	Increase in distributed generation capacity for connection to grid. Wind generation in available areas to continue to expand with Remote Area Power Supply (RAPS) continuing.	Facilitation of distributed generation with power electronics, regulators and controllers.	Design and development of site-specific generation capacities with an emphasis on reliability and low maintenance.	Introduction of fuel cells for extended operation of portable devices. Development of systems to ensure reliable never-fail power supplies	Little addition except for securing data connections for monitoring remote power generation facilities.