Digital Telecommunications Infrastructure

A reform proposal

to dramatically improve the efficiencies for digital Telecommunications, Television and Interactive Multi Media

1 Introduction:

In this paper, I will give reasons why Government policies based on the Hilmer report, are seriously flawed. I will explain, with Telstra[i] as the example, how "economic rationalization" has negatively influenced Government policies in a way that has contributed to private and contrived exploitation and complete interruption of long term technology plans. I will explain how Telstra[ii], while it uses technical devices, that should be defined as illegal, severely constrains market competition. This is destructive to free enterprise, to entrepreneurial opportunities and especially destructive to the future economic relationships with international technologies.

I will explain how a private media cartel[iii] exploits Telstra, even while partly privatized. Now out of regulatory control and disciplines of Government, the media cartel via Foxtel has had more influence, extremely negative influences, on Australia's telecommunications technologies than Government. I will show why this is a serious breakdown in democracy.

I will show that, if Government retains the ownership of Telstra Government can, at little cost, re establish the digital transition program and achieve major economic efficiency gains for future Australians. I will explain how the telecommunications infrastructure can then be equated with a physical transport infrastructure and be effectively and democratically regulated.

Roadways, railways, seaways and airways are essential carriageways for the movement of physical goods, services, people and physical communications. They are open to all users. They are strictly controlled and democratically regulated by Governments. Their efficiency depends on total involvement of research and engineering, complimentary University programs, international standards, the relevant local and national industries, enterprises, communities and Government.

Well-prepared long-term plans are effectively managed for efficient implementation and operation and for future expansion and developments.[iv] The primary objective is to service and support an expanding economy to service open multi competitive markets, to maintain fair trade for all and to service the social needs for all communities.

These capital-intensive infrastructures are strictly regulated and policed for safety and security. They consist of public owned properties and controlled public spaces that are available for other equally essential public infrastructures and services such as water, energy and telecommunications that also require Government ownership, controls and regulations.

Infrastructures can be developed in more efficient ways when planning is complimentary. Underground telecommunication cables can be installed at the same time as underground energy supplies. Water drain off from roads can be used as second grade water for urban needs. Road and rail are infrastructures that will also be available to provide the means for new infrastructures not yet on the drawing board such as automation of physical transport systems, "The intelligent Highway". Otherwise chaos and disorder would prevail!

A telecommunications system is a transport system for invisible traffic for industry, enterprises, public and private information and communication services. It can already be fully automated. It deserves equal Government respect and attention for public services, public safety and public security.

Telstra should not be an institution to finance a media cartel and the media cartel's commercial interests. It should not be an institution, financed by the public to be used to monopolize subscription services for a media cartel. Telstra should not be supporting a media company. It is a public telecommunications institution, which if privatized by Government is a powerful tool to control markets for a media cartel's objectives.[v]

No other country in the world is considering selling public telecommunications infrastructure so that a private company can monopolize the media market. No country in the world is even permitting a private telecommunications company to be used to monopolize subscription television. No private cable company in the world would allow a customer to monopolize his cable business.

Government policies for technology, for telecommunications and for media diversification are out of control. Post sale, Telstra is dangerously out of

control. Australia will be a technology island, alone in the world with only proprietary technology, driven by the media cartel.

This paper will explain that if Telstra[vi] were sold, why News Ltd and its associated cartel partners, not Government, would remain in permanent control of communications, media and relevant technologies and their related policies in Australia. I will explain why this is a most serious, dangerous and undemocratic disservice to the rights of Australian enterprises and individuals. It must be challenged.

The World Bank warns with privatisation of infrastructures, of the near irreversible dangers:

". … *the potential abuse of market power in services that effect many consumers creates pressures for Governments to intervene through intensive regulations on private suppliers or through provision by the public sector."*

In addressing the constraints to the economy and the investment climate, the World Trade Report includes:

"Improving domestic regulations:

Too often, Governments pursue regulatory approaches that fail to achieve the intended social objectives because of wide spread informality, yet harm the investment climate by imposing unnecessary costs and delays, inviting corruption, increasing uncertainty and risk and creating unjustified barriers to competition.

The key is to strike a better balance between market failures and Government failures, ensuring that approaches are adapted to local conditions and by enhancing transparency. Successful reforms remove unjustified burdens and streamline procedures. They reduce regulatory uncertainty and risk by curbing discretion and expanding consultation. And they remove unjustifiable barriers to competition by reducing regulatory barriers to entry and exit and by tackling anticompetitive behavior by firms"

- World development report 2005

The Governments deregulatory approach has been based on the Hilmer report from which Government introduced "deregulation" policies to be replaced by "self regulation", and privatisation of public infrastructures to increase competition in markets. The competitive concept of "market forces" would improve the economic efficiency of Australia.[vii]

I will show how the claims by Government that most other countries are privatizing telecommunications are quite false. Government has not provided to the public comparative studies and relative evaluations of how the Australian telecommunications environment related to the claimed overseas examples, as excuses to commit the public service to a private owner. I will show how media influences over Government's informal

policies permitted the opportunity for News Ltd to install a most serious anti competitive system on the public telecommunication infrastructures of Telstra and Singtel. This was to monopolize subscription television, thus gaining most unreasonable market dominance of Australian media markets, in total contrast to Government public policies.

"Efficient and well priced telecommunications services have a positive impact on the volume of trade and effect the pattern of international specialization. A good telecommunications system is crucial for cross-border trade in services and in just-in-time delivery of goods. State owned monopolies in some countries lack the financial and technical resources to upgrade infrastructure and services to meet the requirements of businesses and consumers. Reform will generally involve at least some privatisation as well as trade liberalization in order to ensure adequate services. Governments still have a regulatory role in guarding against anti-competitive practices affecting access to networks and ensuring universal service."

- *World Trade report 2004*

This document explains how the media cartel involvement with Telstra is the cause of Australia's telecommunications major upgrade policy commitment, the digital transition, to be aborted. Australia has had near two decades of lost opportunities for major efficiency reform. I will show that the influences of media power and influence over Government have blocked the development of technical resources for the advanced telecommunications program in Australia.

2 The new directions in USA and international industry directives

The FCC of USA has issued a code of practice for Digital television to be "plug-and-play" for free and subscription services via terrestrial and cable networks anywhere in USA. [viii] These standardized digital receivers will be sold in retail outlets. The FCC explains "This is crucial towards building products and developing services to help spur the digital transition". This was the initial policy, for Australia, the world's first major program, that has been blocked by Foxtel, a media cartel.

The media cartel's contrived scheme is the cause of the extremely slow take up of digital television in Australia. This aborted Australia's 1990's plan for digital transition. Last year, retailers in Australia sold about 1.4 million analogue television receivers, as many as ever per year, now an antique and obsolete industry except for Australia. Berlin, and most other German cities where digital started after Australia, no longer transmits PAL television.

Following a special study as a directive from the mayor, the city of Philadelphia has adopted a policy of one public network to remove the conflicts of interest and waste[ix] by private radio networks in competition. Philadelphia will be the special example for USA to provide safety, security and new opportunities from the new digital radio systems for sophisticated

education, personal experiences and competitive commercial opportunities not possible with parallel builds of privately competing infrastructures.

I attach here a news release from the ITU as follows:
"Press Report WTSA-04 [x]

PRESS REPORT ON THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY: MAIN HIGHLIGHTS

New Study Group on next-generation networks

Next-generation networks represent the future evolution of current fixed and mobile networks. The fundamental difference between NGN and today's network is the switch from current 'circuit-switched' networks to 'packet-based' systems such as those using Internet Protocol (IP)[xi]. NGN is expected to give fixed line and mobile users completely seamless communication and to offer unrestricted access by users to different service providers in a multi-service, multi-protocol, multi-vendor environment. The need for global standards for NGN is therefore critical as most operators expect to move to an IP infrastructure."

This was the objective of Telecom Australia with the near $6 Billion upgrade build of a national optical fibre cable to the curb.

Students of "economic rationalization", now the advisors to Government policies and programs, would not be expected to understand what this statement means. Nor would they be involved in the efforts of young engineers in the very long-term, (ten to twenty years) of capital-intensive research and risk programs coordinated by international electronic industrialists. These teams also involve Government representation and Public University Research foundations as coordinated via supportive Governments.

Australia was the first in the world to have a publicly financed national optical cable infrastructure for digital telecommunications, television and inter active multimedia services to the home. Already prepared for "packet based" switching on optical fibre backbone and optical fibre to the curb, this huge program was admired internationally. It appears now, few outside the key media owners in Australia, understood Telecom Australia's engineering insight and sophistication of their long-term plan. The Australian media did not promote and has not explained this major asset and the many special attributes to the public. They were the loudest critics that Telecom Australia was a monopoly that should be privatized. They had other objectives.[xii]

When standardized and strictly regulated for open markets and fair trade, the new digital technologies for telecommunications, television and inter active multi media, permit services to operate in a most flexible and dynamic way not possible with analogue. Spectacular efficiency gains are achievable, throughout the home, from neighbour to neighbour, from city to city, from nation to nation. Seamless and secure interchange from any operator to any

person, home, farm, business, factory, automobile, boat, ship or aircraft for all public telecommunications, television and inter active multi media services are completely automatic.

3 An abusive contrived scheme on Telstra, from experience

In the UK, in the late 80's News Ltd gained by an astute but contrived means, UK Government's permission to control UK's first PayTV operation. Prior to News Ltd involvement the PayTV was a consortium of broadcasters. News Ltd adopted a proprietary device to close the system and vertically control the supply and distribution channels for subscription TV. The UK regulatory bodies had no experience in vertically controlled television and monopolized markets so, like Australian regulators, did not understand the proprietary system or how or where to regulate this practice.

This was a devastating blow to the UK television industrialists and independent program suppliers who now had no direct access to their consumer markets. It was much later that some members of the UK Government began to understand its abusive nature and, by direct Government action, to allow the BBC to broadcast up to 30 channels, free to air, using the new international digital standards to do so.

In Australia the problem is far more serious than the UK experience, as the Government (the people) financed Telstra's new national cable system for telecommunications. Telstra and Singtel are not one of the thousands of privately owned cable companies just for analogue TV as we see in USA or Taiwan. These are not PayTV operations as was the case in the UK. This is a Telstra / Singtel interdependent national and international public telecommunications network, both with majority shareholdings by Governments.

Telstra modified the Telecom Australia cable plan by installing a News Ltd proprietary system to vertically control the television subscription markets in Australia. The system was installed on the Telstra network to ensure no competitor could use the Telstra infrastructure for television without an agreement with News Ltd, via Foxtel. Governments, the Ministers, Government regulators, the board of Telstra, the management of Telstra, accepted this! It should be challenged as to who gave permission for this action. This is anti trade liberalization of the worst kind.

Consumer protection and market protection does not exist for telecommunications access and subscription TV markets in Australia. The media cartel uses Telstra to control Government telecommunications and media policies. If Telstra is sold it will be a private company using devices that for any other company are illegal. Companies on the Stock Exchange register should be forced to inform the public and the Stock Exchange of these illegal practices and report when they are removed.

The "economic rationalists" advice to Government was that Telstra should be privatized to increase competition. The media repeatedly echo this without question.[xiii] By repetition, media have convinced markets that the set

top box is a subscription TV necessity. They do not explain that it is a contrived digital television receiver, a dedicated Foxtel digital television receiver that purposely will not work with Free to Air services. It is contrived not to work with any competitive services. With digital, the proprietor of the scheme is manipulating the industry to his advantage. News Ltd has convinced the Government, the consumers and retailers that it is a "set top box" essential for PayTV, as used all over the world!

No one else in the world has a national public optical cable for digital, television, telecommunications and interactive multimedia. Digital television does not require a separate and unique box for subscription services.

The "Set Top Box" is "**THE DIGITAL TELEVISION RECEIVER"**, without the display or speakers. This is not the simple box in front of an analogue TV that controlled the renting of a privately owned co-axial cable in front of an analogue TV. In Australia, this is a "**DIGITAL TELEVISION RECEIVER" modified for the media cartels legally and financially privileged control of the publicly financed national optical fibre cable for telecommunications, television and interactive multi media.**

The Telstra telecommunications system for television has been modified so that a consumer must have this box to receive subscription television. This contrived arrangement is an exclusive privilege by successive Governments to the media cartel, so the media cartel can lock out all public access to all competitors and to lock out all competitors access to the public via any telecommunications infrastructures without special submissive arrangements. This is totally opposite to trade liberalization.

This is a deceitful and abusive market mal practice to remove from the markets, choice, flexible and far more efficient options.[xiv] **Telstra and the media cartel are totally undisciplined. Once Telstra is sold, worse practices will follow.**

No longer is the Telstra in support of international standards essential to complete the digital transition program for the next generation. Once Telstra is sold, there is no way for Australia to have an opportunity to share with international markets the revolutionary, more flexible and far more efficient telecommunications, television and interactive multi media technologies. The infrastructure has been modified so that it will only support the media cartel's marketing and financial objectives, no matter who is the next owner. Singtel remain legally unprotected. Chaos and disorder prevail!

The selling of Telstra without exposing these severe constraints and market abusive practices to the public, from the Government of Australia, must be the worst sort of corporate governance behaviour.

A detailed description of the attributes and the major efficiency opportunities from a completed digital transition program, follow with more

details of the contrived methods, market manipulation and market power used to gain private monopolies in markets.

4 The objectives:

Australia has an opportunity to provide consumer markets with a major breakthrough in the dramatically more efficient utilization of spectrum used in public service infrastructures. Government administration and regulatory systems for electronic goods movements (electronic trade and commerce) will parallel the requirements for physical goods movements (physical trade and commerce).

The short-term objective therefore is to remove the exclusive and very privileged control by an astute company, News Ltd on the Australian public service network and eliminate the abusive constraints on network access and consumer media opportunities. These are the contrived technical devices used on Telstra to monopolize the media subscription markets that block the media cartel competitor's access to the telecommunications networks.

The regulator should describe the severe market constraint to the deceived public and define such market control schemes as illegal. Why it has not been classed as illegal is difficult to comprehend. The regulations make it clear.[xv] The Trade Practices also do not tolerate such abuse in physical markets as permitted for the media cartel in electronic markets.

The Australian Government should head the advice of the World Bank, and use strength to resist media power and start to assist and build a decent, unconstrained future for consumers. Australian Government should be promoting liberalized trade and competition in consumer markets, not dividing and selling public funded capital-intensive infrastructures to be used by private monopolists to destroy competition.

A reform program will remove these constraints and permit competition in media markets, removing the concentration of media power on Government policies and on consumer markets in Australia, the power these contrived devices are used to protect. The sale of Telstra is the media cartel's guarantee for the status quo.

On completion of the digital transition program, digital telecommunications, digital television and digital inter active multimedia services, the one complete digital package in Australia, will excel world's best practices.

It will be several decades before any other nation has an infrastructure that includes a national optical cable with attributes to match Australia. This reform program will re establish Australia to participate in the world's growth markets of Technologies, the world's most expanding economy.[xvi]

The Digital Multimedia system (Telephony, Television and Interactive Multi Media)

1. The Information The informer Processing into electronic format (The reverse for interactive communications)	2. The digital "product" Digitizing the information (Trans coding) Labeling, time stamping, addressing etc	3. Packaging Disassembly and packaging of products for storage or for deliveries to Customer / end user	4. Containers Processes for transmission (as appropriate) for satellite, cable, terrestrial carrier systems Labeling and addressing	5. Transport The carriers, satellite cable, terrestrial fixed and / or mobile network routing	6. Processes for reception from networks Reading Labels, time stamping etc (as appropriate re sorting into "product" files)	7. Unpacking Re-assembly of "products" for efficient storage or end user Reading Labels, time stamping etc	8. The product Decoding digital information into user intelligence. (The information.)	9. The Informed Use in real time (near real time) or by time shift use of the product. (The reverse for interactive communications)

A horizontal market. One, totally integrated open and seamless inter operable public infrastructure

Individuals or Groups - Personal - Consumer - Commercial - Technical - Financial - Health - Pleasure - Teacher - Manufacturer - Wholesaler - Retailers - Publishers - Producers - Security - Industrial & commercial controls - ETC	Homes Pedestrians Cars Trains Aircraft Offices Factories Clubs Schools Universities Banks Governments Businesses Producers Stores Libraries Institutions Infrastructures -ETC	Distribution channels	The electromagnetic transport system for: Electronic data, files and programs in real-time or as time shift, free, subscription, single or bulk via: Satellite Cable Terrestrial -short medium and long haul of electronic goods and services The physical transport system for: Data, papers, books movies via, tape, discs, memory cards etc via: Road Rail Sea Air -short medium and long haul of physical goods and services	Distribution channels	Homes Pedestrians Cars Trains Aircraft Offices Factories Clubs Schools Universities Banks Governments Businesses Producers Stores Libraries Institutions Infrastructures -ETC	Individuals or Groups - Personal - Consumer - Commercial - Technical - Financial - Health - Pleasure - Learner - Manufacturer - Wholesaler - Retailers - Publishers - Producers - Security - Industrial & commercial controls - ETC

Privatisation with conditional interfaces:

Media monopolists objectives – vertical control of electronic media markets by proprietary systems to lock out competitors

Competitive proprietary infrastructures

Competitive proprietary infrastructures

5 The reform proposal (See App IV)

The telecommunications public infrastructure is a strategic and most complex resource for a nation. It is an essential institution to service private and business requirements of individuals and to service local, national and international organizations. Like public roadways it is vital to the economy. Like public roadways, it is a natural monopoly. Therefore, it should not be outside the full control or public ownership of Government. A remedy is to revert to a sound institution that is legally, financially, economically and socially responsible to the public and controlled by Government.[xvii]

Singtel[xviii] incorrectly claimed a competitor of Telstra (for reasons explained later), is now the owner of Optus. The Australian Government once owned Optus. As a consequence of the "economical rationalization" policies promoted to Government, the "privatisation" of public infrastructures, "self regulation" and "market forces", we can read in Hansard the lobbying between, Foxtel, Telstra and Optus and how the consequences were costly to Optus. Optus's request to share the new Telstra cable was denied. Optus was excluded from sharing the new Telstra cable infrastructure. Optus well understood the irrational economic consequences of parallel infrastructures to homes. The Government insisted on its technically irrational capital-intensive policy, a program of complete waste, to have telecommunication competitors. Optus was forced to build another capital-intensive cable system in parallel with Telstra[xix].

"Market forces" rather than Government intervention allowed the opportunity for News Ltd to eventually gain exclusive use of the Telstra cable for television, financed by a generous public. Because of the exclusive cable use arrangements with News Ltd, Optus, with the built in Foxtel problem and economically in trouble following News Ltd involvement with Telstra policies, is now in foreign hands, about 60 percent owned by the Government of Singapore. However its shares are traded on the Australian stock exchange.

It is irrational that Telstra be permitted to commercially compete in markets it is supposed to be serving as a public service. Telstra has the potential now to assist in the financing of the media cartel market objectives over almost any competitor in Australia and internationally as per the directions of the cartel. This is not Government for the people.

A rather straightforward and inexpensive way to repair the vast damage and near two decades of delay to Australia's digital transition program is to set up a commission to regulate the industry, and in particular, to regain Government's control of the financial, legal and technical behaviour irregularities of Telstra.

The top priority is for the commissions to be responsible to enforce regulatory control on Telstra and to restart the digital transition program.

Consideration could later be given to a merger of Telstra and Singtel under one regulatory commission responsible to the Australia/Singapore Governments. Only Telstra has copper phone lines to almost every home and office. Only Singtel has satellites that cover Australia, New Zealand and Asia. Telstra has investments in international undersea cable routes. They both have telecommunications cables to the home that has been monopolized for television by Foxtel, the media cartel. They both have mobile phone infrastructures that should have been built in series, not wastefully in parallel. They both have trunking that can be efficiently merged. Further intensive capital build should be for network expansion in series, not in parallel. The irresponsible capital intensive waste of ugly infrastructures built in parallel should cease immediately.

The board of Singtel is focussed on the telecommunications business.

The board of Telstra is not supporting the international standardization of digital technologies for telecommunications, television and multi media. The board does not offer to the public or its shareholders any long-term plans for an efficient telecommunications infrastructure. It does not explain the details of the business commitments with Foxtel in its public reports. It has not disciplined the extreme waste of the Telstra capital. [xx]Telstra seems to be focussed on News Ltd's long term objectives using Telstra capital and the political "market forces" policies to finance and expand into more media associated businesses aligned with the media cartel objectives. It gives the impression that Telstra is using "self regulations" and "market forces" as an opportunity to use public finance to prepare Telstra for the media cartel's post privatisation objectives. If this were not so, Telstra would be totally involved in the new technologies for Australian markets and assisting Government to do so. Without the Hilmer report informalities, this would not have been possible.

As I observe the more recent organization of Telstra, Telstra employs a Lawyer responsible for the key technology sectors. For telecommunication the most critical factors are technologies.[xxi] Any nation's central reference for technologies is via the chief engineer of telecommunications. It seems strange that Government leaves this role to a Lawyer. Questions should be asked of Government, why have all the series of responsible Ministers involved, continued to allow and expect that Australian technologies be the responsibility of a Lawyer. This is where digital transition should have been profoundly promoted. Surely this is blind man's bluff with Government and with the ACCC.

A competent engineer, directed by Government for Telstra to operate to international standards, as the electronic industry advised the Prime Minister at the time of the "nor Fish nor Fowl," comment, would have put Telstra on track to support the digital transition program. Later without organizational change the fire sale is priority.

The proposed merging, as a later evaluation, of Singtel and Telstra consolidates the technical and public service opportunities into a solid and sound foundation. This removes conflicts, unnecessary legal costs, the

unbelievable waste of capital in overbuild of infrastructures, and the completely unnecessary costs and constraints on Australian consumers. The Singtel board already includes Australians. If the two institutions are merged into one, the Singtel board and management could replace Telstra board and management. The merged groups will be an efficient institution, a partnership between the Singapore Government, the Australian Government and the public, as users and as shareholders.

Singtel's natural plan would be to integrate into a standardized seamless infrastructure. This will also give Australia an opportunity to regain a stake in the emerging new satellite technologies that was lost from Australia with the collapse of Optus. Government should consider the idea that the merged Telstra / Singtel group also has participation from Macquarie Communications Infrastructure Group.[xxii] This company also manages the transmissions of public television spectrum (ABC and SBS) that is an essential element in the digital transition program. As explained later, this is a major component of digital transition that Government and its advisors, as with Telstra, seem to have no recognition of its nature and critical importance.

The economists did not value the public asset of the ABC/SBS networks as being a strategic opportunity for the digital transition for the integration into the future digital telecommunications and television network. "Economic rationalist" evaluation was "today's value", an analogue / digital TV network and advised Government accordingly. It was a public infrastructure to be privatized to create more competition. However, it is in much better care than Telstra.

This spectrum is still controlled for use by the ABA / ACA agency.[xxiii] The real opportunities for the digital transition must be studied in depth. A total re evaluation of all spectrum, including the terrestrial spectrum allocated to commercial TV, is an urgent and essential program before any further commitments that could relate to Government's "long term" digital transition plan. (This concept is introduced later) Without the Government's strict control and majority ownership of the Telstra, the Government has lost such an opportunity. This will be a devastating loss for Australian consumers, Australian industrialists and Australian commercial enterprises for many decades to come.

The new telecommunications board or commission appointments could follow a process similar to the FCC with its own legal and technical departments directly responsible to the commission. This commission could be set up to also represent the commercial interests of all existing and potential operators for the free distribution or marketing of electronic goods and services and all users of public spectrum infrastructures for electronic carriageways. They would assist private businesses to evaluate the commercial opportunities of technical trials and developments, to steer the time frames for market entry, also for media opportunities but not media interference.

The Government's commitment to set up the ABA / ACA agency, as a combined unit is a positive step. Their responsibilities would be to the new commission. The commission would involve Universities that must be urgently well equipped with the new components and testing systems that use the international standards and technologies. This is not expensive. Australia must have qualified and experienced research engineering groups to act for the public interests and to aid in the disciplines in markets for new technologies and technical programs. These are the engineers that must represent Australia in international forums concerning the technologies, planning, engineering and standards relating to satellite, cable, terrestrial and wire technologies and applications. Private organizations, which have their own conflicting agenda, should not be representing the public as they do now. The many "Self Regulating" industry bodies, all in conflict with each other, have already contributed to confusion and financial waste.

The commission's department will then have direct experience, understanding and the insight to intelligently evaluate the local, national and international market realities and future directions of the technologies. They will understand the most efficient deployment of public spectrum for consumer markets and service operators as existed for Telecom Australia. They will provide assistance to Government's long term plans and policies.

The new commission, an institution, a foundation, will operate with public and commercial participation, with a link to University centres of competence that understands and disciplines all the essential technologies and applications related to public market activities and a public reference. For instance the special characteristics and attributes of the modulation, coding and decoding systems for radio, for terrestrial, for cable, for satellite etc essential for seamless networking. This knowledge includes the methods and standards to efficiently integrate all electronic "carriageways" and systems integration with physical carriageways and administration that enable Government to also integrate their procedures. This department of the commission will collect and compile the data used for seamless operation, for automated management across the different systems, satellite cable, terrestrial etc.

Methods of subscription and payment for services can be used without Foxtel's inefficient proprietary system. A standardized system based on new digital technologies for open and transparent administration, account management and open access to telecommunications networks for all. Foxtel, without Telstra as a partner, could remain as service operators, on the cable but over time, strictly operating to international standards as regulated for Australia.

This program could never be achieved with Telstra privatized with no means for Government to control Telstra's devious legal, financial, technical and social misbehaviors and with multiples of private systems for public communications that continue today in Australia with so many "self regulations" conflicts and legal costs.

The ABA / ACA already have responsibility for the radio and television frequencies and channel planning and licensing of publicly utilised terrestrial spectrum (see below further concepts re spectrum planning). Their responsibilities should also include publicly deployed satellite and cable spectrum used to extend the public infrastructure for all automated services in open markets. Their responsibilities will include regulatory controls of the modulation and coding standards as they continue to progress to ensure transparent and seamless interchange from neighbour to neighbour, from city to city, from country to country.

This department would supply the public service information and coordinate the continuing developments of conformance testing facilities within the equipped Universities, to stem for instance, Telstra's proprietary practices. This compliance testing to international standards is fundamental for inter-operable network components and consumer products that work without conflicts in multi competitive commercial and consumer markets. They would ensure that standards committees observe the "ITU WTSA-04" continually progressive objectives.

[xxiv]Regulatory standards and controls are essential for efficient, safe and secure logistics and infrastructures for physical transport and communication via road, rail, sea and air. Digital electronic transport and communication logistics and infrastructures via satellite, cable, and terrestrial carriageways demand equal attention from Governments. The efficiency rewards for careful long term planning will be revolutionary. Market rewards for Australian developers in these technologies and application for emerging global markets could be significant. Efficient economies that more fairly distribute wealth and share values will replace the economical exploitation by private monopolists that is rapidly developing as a consequence of the Hilmer report.

The new Commission will report to Parliament, as a whole not to one Minister. Even the Prime Minister ignores electronic industrialist's input and refers it to the DCITA department, unread. Yet the media, especially the cartel, have no difficulty gaining the full attention of the Prime Minister at any time. It is totally unfair for Parliament to expect one representative to battle the media power in Australia. Ministers continually lose ground and resign before any change to markets is realised. The industrial electronic engineering groups, the essential talents for change have no continuity of policies, so they are fading from sight. The future economy of Australia depends on the effectiveness of a current sound engineering foundation.

The way out of this chaos is for a commission to be responsible to Government to reclaim Government's power to legally, technically and financially and socially control Telstra. The commission would be responsible to Government for the digital transition program, reporting to all members of Parliament, as are the disciplinary systems in USA and the EEC council.

6 Realignment of spectrum and new planning of carriageways

The need for long term planning is explained, and in particular, why and how to re map all spectrum for the digital transition. Telstra is the most essential element as it is the only one with telephone connections to almost all homes. Until every home or office is interconnected by cable, terrestrial or satellite, whoever controls the telephone, the copper pairs, controls the future access to all markets. As the media cartel know and as the Government does not understand, with digital interactive systems, the telephone is the only universal return link for most inter active services. Who controls this link, and with proprietary technologies, has the power to control or intercept all markets. Telstra in private hands under the influence of a media cartel is a time bomb.

The telephone is a most critical link for all and everyone's inter active services. Sold, Australia has no recovery of its losses. Carriageways from where to where, interchanges and netting etc requires re mapping including in the meantime, the plain old telephone.

Forward and return carriageways need to be planned. Traffic volumes differ between forward and return traffic so in many cases the return carriageways may be quite different to forward carriageways.

Australia has forgotten its commitments made in the early 90's for the Australian superhighways by year 2006 and diversification of media, and the original plan for the huge near $6 billion Telstra domestic cable extension of cable past 6 million homes and to replace telephone wires with cable. The unwarranted disintegration of infrastructures for privatisation and media control, the dismantling of a once sound foundation, that is already disrupting the means for open access and transparent interactive services is not beyond repair.

Telstra is the only element, and most fortunately, still a major element and still a natural monopoly that is still in Government control. Government has an opportunity, with little expense but with forceful disciplinary action, to develop policies and long term plans for seamless digital transition program for Australia. If Telstra is sold, this will not be possible. Australia is under the control of a media cartel and will remain so.

The proposed program is a paradigm shift in the management and licensing of spectrum and the management and licensing of service operators. We have an opportunity and a Government mandate that could remove the national monopolistic control on subscription media in Australia.

As with most electronics, production costs fall, approximately 15 - 25% per year, hence the reduction in mobile telephony of 5 – 6%. The difference is the inefficient infrastructure costs. The cost reductions are because more software is replacing more hardware. In Europe where long term planning of spectrum was done on a technically progressive "commercial realization" program, the market efficiency gains have been vastly superior to Australia.

Today it is affordable in the more economically progressive nations to connect every home directly with optical cable rather than copper wire telephones. Mobile phones couple together people on the move. Low cost computer systems, (packet switching) not copper-wire pair telephone exchanges, (circuit switching) manage the traffic seamlessly and automatically.

Terrestrial television channels and radio mobile phone infrastructures as carriageways that service the public to homes and offices will no longer commercially compete with new cable. However, terrestrial channels and radio spectrum have one especially important market. This market is the needs and interests of people on the move or at remote locations without cable.

Terrestrial frequencies, the radio and TV channels have a special value. The value can be realized by changing Government's focus. Cable is far more efficient for telephony, radio and television. Terrestrial spectrum is more value to society when used for people on the move and for services required by commercial enterprises for people on the move, servicing physical transport infrastructures. The analogue TV channels, when released could be a substitute for cable where cable does not exist.

TV and radio analogue channels when released for digital can be evaluated for the potential for long distances communications than currently possible with mobile telephony. TV, radio, and mapping updates and traffic flow information, business information can all be discrete functions supplied in one channel that currently is used for analogue TV.

These channels can then be netted to provide 15 – 20 Mbts electronic carriageways for telecommunications, television and inter active multimedia services, to and from many remote areas. This will provide one of the solutions, the special need for equality of services for outback Australians, due to the unique geographical mapping of the more remote towns and homes. The media cartel control of Telstra and their control of terrestrial TV spectrum are blocking this special opportunity from digital technologies.

Telecommunications and television to fixed locations is far more efficient for consumers via cable. Every TV licence holder should have equal service opportunities, free and subscription to consumers via cable where cable exists. TV program affiliation is now a thing of the past. Local stations for local communities should be encouraged. The Australian investments in the cable infrastructure are being wasted and corrupted by the exclusive Foxtel arrangements.

The new policies and legislation should clearly define the complimentary parts of the system, the "carriage ways" with spectrum planning for satellite cable and terrestrial systems, the Government mapping of the carriageways, with their specifications and attributes for digital services. This is the equivalent of road, rail and flight-path mapping. No longer is it a requirement, in commercial and consumer markets to define the use of spectrum to one service from one supplier.

The organization of operators is more complex as a transition phase must be crossed. However the most important issue, to maximize efficient use of spectrum, is that Government owns and controls all public "carriageways" (public spectrum for public carriageways). Bytes can be counted so a common scale of prices for all markets can be based on rental and / or volume / price / frequency basis for all services to all, an open public price list managed by the commission. This is fair trade for the existing private phone operators and private distributors.

The cable should revert to its originally engineered purpose, be open to all telecommunication and all television and interactive services. Terrestrial frequencies can be efficiently planned by selecting the spectrum attributes that best match short, medium or long range networking for people walking in streets, people in cars or people in trains and boats, or people alone in the out backs of Australia. Satellites will service ships, aircraft and remote locations.

The Telecom Australia plan, delayed now by near two decades, would have easily provided mobile (hand held devices) for the remote homes in Adelaide for immediate calls for help. But instead, lives have been lost.

The shallow words "Fix the problems in the bush" are irresponsible inactive actions that become propaganda to divert public away from the real understanding of the real issues. The Telstra board has no intention to solve these problems, problems that are not technically difficult or expensive. They use this to contrive special financial claims from Government.[xxv]

The FCC regulates for such irresponsible activities as we see from Telstra with their neglect of remote services. They understand that this neglect of remote areas is the normal expectation from any privately owned monopoly. But in Australia, Telstra is not yet a privately owned monopoly but for too long, not disciplined by Government.

The new digital technologies provide the options for free and subscription services and permit operators to service their customers as a one to one, one to a few, one to many and / or one to all. Priorities can be set. Programs can be compiled and scheduled in most flexible ways for local, regional and / or national audiences for quality service options for individuals, fixed locations or mobile, or to small and large focussed groups, or small or large communities.

The markets will be fertile for entrepreneurial opportunities and a more democratic distribution of wealth. No longer will Government allow massive amounts of capital to be wasted on inefficient parallel infrastructures. Any lesser economy could not have survived the many $Billions lost and the two decades of lost opportunity.

So critical elements for an efficient digital telecommunication, television and inter active multimedia public service infrastructure for personal or commercial services, within a long term plan, include:

The methods and costs of further infrastructure expansion and wire pair replacement and re alignment of networks taking into account the energy infrastructure costs of a network in relation to infrastructure's efficient utilization for markets. Government will provide via the commission the planning for the digital carriageways.

The developments of human resource for network management and software engineering, for seamless transition across transport networks relative to the natural frequency attributes, short, medium or long haul services.

The locations and future expected population expansion of fixed terminals (industrial commercial, offices and homes)

The movements and population density of mobile terminals (pedestrians, construction, agriculture, automobiles, trains, boats aircraft etc)

Infrastructure management and machine control systems – (monitoring controlling and administration, energy, water etc).

These elements could be a basis for a long-term plan, to engineer and to map the digital transport carriageways. The systems and processes for the infrastructure and re alignment of spectrum to develop the planning, the missions, objectives, critical success factors and performance indicators for the optimum efficiency and support for any and all markets and social needs for the next five decades.

This renewal program is a paradigm shift and requires long term planning and regulatory changes by Government to optimize the dramatic efficiency improvements available to our nation.

The very long term (6 – 8 years) change process from now to the future demands strong firm actions from Government as a whole and strong institutional support. It should be done with extreme care, testing of trials, careful commercial planning and technical skill training. Competition can be realised by multi competitive subcontracting to private companies as plans are put into actions. This would spread the skills and entrepreneurial opportunities to develop the local economy.

There is no economical, technical or commercial case to sell Telstra.[xxvi] The profits from Telstra are about book value paid every three or four years. This is sufficient to finance most programs from the existing optical fibre cable to the curb to complete the optical fibre cable to the home within the next decade.

The Government should not have a "Financing Problem"[xxvii] as claimed by Telstra management if Telstra is not privatized. "Government bonds" is one of the many simple ways to finance Telstra for further expansion and developments. However it is true that the consumers and commercial markets do have efficiency and major marketing conflicts that will occupy

legal fraternities for decades to come, and will steadily worsen if Telstra is privatized.

Other funds can be realised by the sale of unrelated businesses such the Telstra participation in Foxtel, the advertising business, DVD sales, etc, these most unethical conflicts of interest by a telecommunications institution.

7 The digital telecommunications, television and multi media system

Australia was the first country, in the world to prepare for this total digital package. Even now, no other nation is so prepared. Australia is a world pioneer as were the Australian engineering groups that put it into first operation. No other nation has yet had this experience. So it is important for every one in Parliament to understand what the losses to Australia's future will be if Government committed the sale of Telstra. The explanation of what this is, and how and why it was aborted follows.

Digital services include real-time services such as a phone conversation, or a time shift "product" such as an e-mail to be read later. It could be a subscription to a TV channel. All digital electronic programs and services can be identified, labeled and counted as a trade value item, as digital electronic "products." Any "product" can be disassembled for efficient packing, into many sorted and labeled parts or packets, packed dispatched and reassembled for end user at the addressed destination, all automatically.

Chart on page 9, the simplified concept of a digital communications system involves nine process elements:

1. The information or instructions at source. This is where the information is compiled, spoken or produced etc. It varies from a phone call, to a business report, to a high definition movie production. Each is a digital production process for a discrete "product".

2. Each, component part, sound, image, text etc of a total "product", is digitally converted into identifiable "parts and relationships." The component parts of a "product" have relationships, the sound for a movie, the voice and pauses, the responses of a telephone conversation. These relationships are "written" on the digital electronic component parts of a "product" as time stamps and labels and can include source and the address of information for the "product". Products are filed with these relationships recorded. This could be a digital file of a letter, a book, a movie, a radio or TV program, a phone call etc. Digitized as "products", they are filed in storage for the next process. Software engineers compile control programs, as applications to manage these processes. Software engineers compile software "engines" to manage the transportation of these "products".

3. "Products" are disassembled, the parts are identified, packed and labeled, (packets) and filed as "product" parts. This disassembly is to optimize the use of (electronic) space in electronic transport containers.

4. With all the parts labeled, time stamped etc. for each discrete "product" these packets are stored in readiness for dispatch. Different parts of different products can be stored in different containers. The containers are labeled and addressed. When ready, the containers will be loaded by the software "engine" on to the carrier used for transport to the recipient.

5. The transport system loads the containers on to the carriageway carriers that deliver the containers to the destination address or redistribution terminal. The electronic containers are specialized and standardized for optimum efficiency for satellite, cable or for terrestrial carriageways, as we do for air, sea, road or rail transport systems. At destination or at a point of redistribution, containers are unloaded and the "product" parts will be appropriately resorted at or for the specified address.

6. Proprietary systems are systems where proprietors purposely change these labels from international standards for the labeling systems, thus spoiling the efficiency of an integrated national and international seamless electronic logistic system. Standard systems read all labels from office or studio and throughout the total network to home appliances or office computer. Standard processes will not read proprietary labels. For a standard system to transport proprietary labeled "product", it must have a special system as well, provided by the proprietary owner of their private label read and write method, the changes from the international standard system (conversion of protocols).

   Proprietary owner expects special consideration for the passing over of his secret and private way of labeling. The proprietor may insist that his components must be used and not expose his secret labeling system. Alternatively it is used to block competitors, as is the case with Telstra. It also stops Governments from reading their "goods movement" information. The proprietor could, at any time, read any of the labels and addresses passing through the proprietor's system.

7. This inefficiency, or proprietary interference, is not tolerated in the physical world of goods movements. Internationally, the logistics for good movements, container and documentation standards etc, are very strictly disciplined.

8. In the electronic digital industry and commerce world, this is the digital divide, the objectives of monopolists to control markets by private control of the digital system by not supporting open standardization. Any others with a need to use the proprietary system are subservient to their private commercial arrangements and agreements of the proprietor.

   Australia does not regulate standards. However, to ensure a completely seamless system post transition, regulations must be mandatory. Therefore the standardization work should be far better disciplined than is the current methods.

9. Now back to the standard system, at the destination reception point, the container is unpacked.

10. The product parts unpacking process includes the filing of the parts into labeled storage bins. (Electronic files).

11. The parts are reassembled into the original discrete “products” for use. This can be done as the receiving device, a computer as a TV for instance, can read the labels and follow the instructions (or radio, or email etc.). The home systems as sold in all retail outlets, Free to air, DVDs, digital cameras, PC’s etc are equipped to read international standard labels as internationally standardized. Foxtel boxes do not.

12. The products are put to use, the user hears, reads, watches, replies, or the “products” are kept in store for future reference or use (time shift) for learning, entertainment, reference etc, all happening near the speed of light!

When international standards apply throughout the networks, these processes are seamless, inter operable, totally automatic and near the speed of light. This efficiency across many private infrastructures is not possible when each independent private network uses their proprietary schemes.

Too many unnecessary, expensive and wasteful conflicts of interest arise that have become political nightmares for regulators, when Governments disintegrate the infrastructure to private owners. This is becoming a major market opportunity for lawyers, as we read about almost daily. (See FCC comments later).

Digital systems use “identifiers” for each part (packet), (sound, image, text, movie, etc,) and for source addresses and destination addresses in a standardized way as we do for letters and packages via the Australia Post.

Digital systems automatically write and read this information (headers) for local, national and international services throughout the total standardized network. This equates to the logistics management of a physical goods movement and transport system. International standards detail how these work and where the information is required. These include identifications for local, regional, national interchange and international services, as we experience with e-mails.

Telstra purposefully neglects these essential standardization requirements on cable for television and interactive multi media. Logistics systems must be strictly standardized if telecommunication services are to be far more efficient for industry and commerce than current achievements. DVB.org / ETSI / ITU / EBU are the main international bodies.

With the input of the label data as standard, clever software developers build the “engines” to drive the systems, processes and administration as required for specific operators and / or suppliers and customers. The software developers’ programs can be their commercial proprietary property as

products to be marketed to operators of standard systems in local, national and international multi competitive markets.

8 The electromagnetic spectrum for digital communications

This section is to focus on the more subtle issues, to explain some of the constraints created by Government commitments that reverse the Government's intent for a digital transition. The objective here is to explain why the Hilmer policies are up side down. Government should reverse the Hilmer policy concepts to reality policy concepts.

The first is the essential realization to minimize, not maximize the capital so illogically and wastefully spent on duplicated parallel build of capital-intensive infrastructures. The second is to prohibit the monopolistic control and use of the electronic carriageways (the Telstra problem) and to maximize access and flexible utilization of telecommunications for all.

The Hilmer concepts have permitted policies to become completely up side down and have lead to intolerable waste in overbuild of infrastructures and intolerable monopolies on access to the electronic consumer markets and severe constraints on trade liberalization.

So the long term plan with the digital transition is to reverse or remove the clumsy steam roller, minimize the cost of infrastructure, and maximize the flexible utilization of the electronic carriageways. This will maximize all spectrum efficiency by optimization of carriageways, as they are open to all traffic within multi competitive open markets and fair trade.

This concept will only be efficient and competitive by applying strict regulation re the critical issues. So Government needs to understand the critical issues, or they fly blind with no technology assistance.

The scientific discovery to artificially propagate, control and manage frequencies within the electromagnetic spectrum is very recent history. In the beginning only the very low frequencies could be artificially propagated and used for telephony. As the sciences developed, higher and higher frequencies were managed in a way to build economical markets for radio and later television (and radar).

It is only in the last half decade that the frequencies of light have become economic for communication networks to the home. These extremely high frequencies have the advantage of less energy, the use of small components and the ease to group a wide range of adjacent frequencies together as the carriers, that can be propagated, controlled and managed as carriageways for vast loads of electronic goods and services.

From digital technologies and engineering the frequencies are managed in ways to optimize these natural characteristics. Frequencies can be measured and divided into bands and channels within bands.

The frequency groupings of the electromagnetic spectrum used for public services are defined by international Government agencies and become published standards for the public. These are complimentary between the source of the propagation of the frequencies and the receptor for these frequencies. This is the channel selecting section of equipment, tuning into a defined range of electromagnetic frequencies.

These frequency groupings are internationally, the channel standards, standardized for optimizing the technical compromises and efficiency for international markets. These can differ by region due to historical commitments. For efficient markets these channels must be strictly standardized for satellite cable and terrestrial services to homes and offices.

Media monopolists claim to Government that this is not necessary for cable or satellite (new consumer markets). Their ambition is to have proprietary standards to control their markets. Governments, supportive of protecting fair trade in consumer markets and maximizing efficiencies in multi competitive markets standardize all public channels. BBC, UK has achieved this breakthrough but not via OFCOM.

One frequency group when used for an analogue "channel" has the essential requirement of being complimentary with only one "program" service. The same frequency group as a digital channel is now a carriageway for any assortment of discrete digital services, phone calls, radio programs, movies, e-mails, a business reports, two or three TV programs, etc – any assortment of electronic "products"

The media lobbyists have convinced Government that this means "Multichannelling". This is technically incorrect! We cannot tune into these so-called multichannels. This is another example how media has the power over intelligence for contrived misinformation to confuse the public and the bureaucracy when the bureaucracy has no means to "Test" these claims. This meaningless misinformation inhibits intelligent understanding of digital technologies. It removes the most important element in understanding the flexibility of digital technologies. It is contrived to give the idea that this is a sub set of television. "Multichannel" is now written into Australian legislation!

Digital engineering that advances the methods to control and manage spectrum for the different transport systems, cable, terrestrial, satellite etc. was a major step forward. Establishing a common set of rules that enabled the management of services throughout an integrated service infrastructure, (satellite, cable, terrestrial, tapes, personal computers, discs and memory sticks and cards) for telecommunications, television and interactive multi media services to be automated, is the most critical major aspect of standardization. It is <u>the</u> multi competitive market.

These inter operable characteristics of digital technologies are a special and essential attribute (as explained later) that has been purposely neglected in the Australian Standards committees, where the major influence and committee structures, due in particular to self regulation, are from media

companies. Seamless automated systems depend on the inter operability between satellite, cable and terrestrial carriageways and domestic equipment.

When industrialists proposed via Standards Australia committees that this should be top priority, the media representation rejected the proposal. It is still not a study group within Standards Australia or any University.

The distances that an electromagnetic radio frequency is useful for communications between two points, varies with the frequencies propagated. This is one of the critical and natural characteristics of each frequency of the electromagnetic spectrum. Low frequencies travel long distances, several times around the world before exhausting useful energy. Most objects are transparent to the lower frequencies. Low frequencies will bend over mountains and travel down valleys. Low frequencies require very high amounts of energy to travel long distance. Components, by nature, must be large. It is only technically possible to group a few adjacent frequencies together as a carriageway so low frequencies are not useful for transporting commercial "products" with load volumes higher than voice or low quality music. Their main use now is with defence systems and scientific research.

Very high frequencies require much less energy but travel shorter distance with less bending. They reflect off most objects. The higher the frequency the shorter the distance traveled before the frequencies run out of useful energy to support services. These are natural characteristics of the electromagnetic spectrum and define the transmission limits. The concept of auctioning spectrum, for one application without any understanding of the flexible nature of digital, and issuing licenses for proprietary infrastructures in parallel, has seriously perverted efficient and progressive deployment of spectrum and contributed to extremely unfair marketing. The waste is not only in the infrastructure but also throughout the whole supply chain. Producing, supplying, delivering, installing, setting up proprietary and customized processes for each independent operator is expensive and capital intensive.

PayTV spectrum auctioning is a real example of complete failure of Government copycat policies and regulations when public and Governments are kept ignorant and ill informed of technologies and their developments towards market applications. This has resulted in most unsatisfactory financial waste in Australia.

The first auctioned spectrum was for very capital-intensive satellite spectrum with later huge losses after Government allowed News Ltd exclusive use of the Telstra cable. News Ltd with no capital-intensive spectrum or cable investment at all, (the capital-intensive commitments for all other PayTV licence holders) had exclusive use of a far superior technology. This is one simple example of most abusive and unethical market behaviour, as one of the negative consequences of spectrum auctioning that still has not been corrected.

These illogical practices continue for private mobile phone schemes copied from other nations with different market infrastructures and history.

Eventually, because these policies are based on irrational "economic rationalization" ideals, that omit the long-term dynamics of technologies and markets, these small, actually privately contrived, monopolies will mostly likely become the sole operation of one private monopolist. This process is already underway in Australia. (See later, the history in USA.).

Digital carriers on each carriageway transport the services. All services are identified, labeled and addressed and packed into packets ready for dispatch. Packets of various services (the digital "products") may be randomly packed into containers for optimum transport efficiency. The packets, now within transport containers, are then loaded onto the specific carriers (specifically engineered for optimum efficiency for each carriageway, specific for cable, specific for satellite and specific for terrestrial TV and specific for telephony) and transported along the specified digital carriageway. At reception, the packets are sorted into correct files for their function. This is possible, as they have all been labeled and time stamped before dispatch, automatically!

The more frequencies used for any carriageway (the bandwidth of a channel), the larger and the greater variety of goods and services that can be loaded and transported. Understanding the constraints and attributes of the natural characteristic of each frequency on the bandwidth and distance are important characteristics to be considered for long-term planning. The higher the frequencies, the easier and cheaper relative to load capacity, almost exponentially, to group even wider range of frequencies into channels, the super carriageway, and to build the electronic containers and manage their transport on the electronic carriageways. Engineers are continually developing more efficient containers.

The international industrialist's consortium carefully coordinates research and developments with commercial opportunities. It is important that the commission become a member of this consortium to gain the insight and overview of these intense programs. If Government were a member when first invited, the enormous waste in Australia would not have existed. By now, Telstra would have been open to all markets. The digital transition program would have been almost complete.

Auctioning of spectrum while ignoring all these differentials, unwittingly gives some spectrum purchasers, market advantages to disadvantage other spectrum buyers in an earlier time frame. But it is also destroying the efficiency potential emerging from new engineering. Australia once had the means to advise and demonstrate to Government these technology issues, but these engineering groups, due to media interference, no longer exist.

The long-term developments within research laboratories around the world are not known or not understood by the auctioneers or many of the buyers expecting to exploit a market opportunity. The Australian Government does not participate, as a member, to be involved in the long-term international research and developments. Persuaded by the media, Government declined an invitation to do so. Early starters with capital intensive spectrum and privately financed infrastructures are not compensated when Governments

later auction new spectrum with new and additional market attributes not available to the early investors. Astute companies such as News Ltd understood these issues and Government policy gaps in their ability to control "market forces" and waited as the Telstra cable progressed.

We cannot electronically transport people yet. That is still an imaginary idea for movies. Digital telecommunications systems automatically select the carriers, automatically pack the correct containers for each selected carrier. Digital systems automatically transpose "goods and services" such as documents, phone calls, movies, radio and television programs, data, learning programs etc. These are transposed into their discrete digital electronic equivalents as "products" that can then be labeled, packed, time stamped and transported on the new special carriageways, within the maximum traffic limits of the carriageway for **any flexible mix** of digital electronic "products" which are the electronic goods and services. But only possible when common standards operate throughout the system. This is not multichannelling, this is a product mix in one channel, but is what the media in Australia have called multichannelling.

The main disadvantages of using higher and higher frequencies for transporting "goods and services" are the shorter and shorter distances before the useful energy expires. When light beams are used for transport systems, the useful energy expires within a few kilometers.

With near spent energy the digital carriers unload containers and reload them onto the newly fuelled carriers to be transported to the next refueling station. In the analogue past, we called these fueling station transmitters. In the digital world, relay stations, (the refueling stations) are more frequently employed than just transmitters alone.

The mobile phone cell netting systems, the World Wide Web systems are all relay systems using refueling stations. At each refueling station, the transfer of goods and services is completely automatic, even from motor vehicles to different motor vehicles as they pass from one mobile phone cell to the next. Re charged transport carriers are used to transport electronic goods and services along the next leg to the next refueling station. Alternatively any refueling station can be a specialized station, for instance one that is engineered to be a redistribution store, where electronic goods and services can be resorted, reselected and repacked into new containers that are loaded and re routed via a different carriageway. When the infrastructure is standardized throughout, this process is seamless and automatic.

From a redistribution station (equating the logistics of a central store) different carriageways redirect services, for instance a branch to a home connection, a transport interchange for satellite carrier or terrestrial carrier for re routing or redistribution. Each cable, satellite and terrestrial carrier system uses specialized container methods designed and engineered for the most efficient utilization of that specific carriageway as shipping and airfreight use different containers. The interchange process (packet switching) automatically unloads and reloads containers to adapt not only to

the container standard but also to the channel planning and bandwidth of the "packet switched" selected carriageway.

Carriageways that use the frequency of light have the potential to carry any assortment of electronic "goods and services" up to the largest of loads, from telephone conversations up to hundreds of HDTV programs to the home. The glass fibre tubes for the carriers are wrapped inside a light proof cable. This cable must also carry the energy, (power cables) to refuel or re energize the selected frequencies of the light spectrum being used as the carriers, every few kilometers along the cable (the light amplifiers.). At the many refueling stations, digital management systems seamlessly pass the digital "goods and services" across to the refueled transport carriers, according to the direction of travel, automatically. The first optical cable system to circumnavigate the world was completed in 1997.

Optical fibre cable and their energy supply and refueling systems, relative to recoveries, are now cheaper to manufacture and install than the plain old telephone and telephone wires that also require expensive and slow "circuit switched" exchange systems.

Satellites can pin point beams to provide point to point services for instance to distribute services to cable head ends or remote homes or people on the move, or an outback person alone, or from a point, as broad beams to service large areas. Satellite carriageways are "line of site" from the satellite to the receptor. High rise buildings and snowstorms will shade satellite beams. The carrying capacity and robustness of satellite systems does not match cable but could be high enough to include services up to several HDTV programs. Their refueling is from sunlight. Many high rise buildings or home units still have old cable systems, unsuitable for digital services. These will need to be replaced with quality cable systems in due course.

When a television program is transmitted on an analogue channel the carrier and the program are complimentary, one complimentary channel is used for only one television program. This is also the case with analogue radio. Analogue transmitters and receivers must be complimentary with the carriageway and the program. The total system throughout is complimentary.

With digital deployment of the electromagnetic radio frequency spectrum, this is not the case. The carriers of "products" (programs and services), the transport containers and carriageways, are complimentary. (All roads are complimentary). Any carriageway can be available for the transport of any "product" (program or service). The variety and volume limits of any assortment of "products" are limited only by the load capacity of the carriageway. Like depots are to roads, digital transmitters and digital tuners and modems, (transmitter and receiver) are to electronic containers, complimentary. They are dependent on one and the other. Digital services are discrete and independent throughout the transport system, from the digital transmitter to the digital receiver. (The receiver is a computer programmed for the discrete function and with complimentary tuners and /or modems).

A TV transmission for one analogue TV program can only transmit one program. A transmission system for digital TV can be used to digitally transmit any assortment of discrete digital "products", the electronic goods and services such as data, electronic documents and radio programs and one or more television programs. Any or all options of these digital "products" can be carried via the digital television channel, the carriageway from this transmitter to many receivers or for delivery of one product to just one receiver.

A computer can be a TV, a radio, a fax machine, a telephone, at any time, simply by programming the computer for the discrete function. The digital receiver, (a computer with a channel tuner and modem system) unpacks the containers, reads the labels, the time stamps and follows instruction to sort, assemble and present the function.

The receiver system has stored in its memory, identifiers of the available services, the suppliers of "products". The receivers will automatically tune into the channel that is used to transport the selected service. This is like knowing the time table and flight numbers of airlines. Service or suppliers tables can be down loaded from a transmission or supplied to the manufacturers from the commission to load into the digital home appliance on the production line. The Government agency within the new commission will manage the data tables for all discrete services, not just free to air television programs, as organized by FACTS only for digital free to air TV services operating in the markets, as we experience in Australia today. We have a conflict of interest between Foxtel and FACTS that is destroying telecommunications efficiency in our markets. Telstra supports this!

All the digital identification codes are required in digital systems today and many are used in Australia. This requirement parallels the requirement for physical good movements. The problem is that "self regulations" allow the responsibilities to be left within each of the many industry groups involved. A seamless network requires national standards as do road, rail sea and air. Conflict will arise where two or more independent groups start using conflicting codes for identification and addressing. This is a task for a department of the new commission to manage and regulate.

Tuners (one-way) or modems (two-way) are devices that connect or terminate the carriageways for a specific transport system to the home system, a receiver or computer for example.

Consumer electronic industrialists are continually reducing the costs of digital home appliance with engineered inter operability for one receiver with options of up to three tuners plus modems to connect to satellite, cable, terrestrial and telephone for free and subscription services. The new products are dramatically more flexible, more efficient, and far more dynamic. The media do not promote these technologies while there is an opportunity for their exploitation by proprietary means and can claim it as "their" technology!

A home or office can have the flexibility of using any one or all of tuner / modem options. One tuner connects to the satellite carriageway, the second tuner in the same receiver connects to the terrestrial carriageway, and the third tuner in the same receiver connects to the cable carriageway, and a modem in the same receiver to the telephone. (The receiver is actually a computer with tuners and modems).

A second complete independent home system must be available to connect to the second independent network (one for Telstra cable and one for Optus cable – the same problem with mobile phones). A consumer is unlikely to spend double the money and then for such an inconvenient setup, two complete independent systems throughout the home. The economists who proposed parallel networks to increase competition never investigated this severe constraint. The irrational proposal was never technically studied or evaluated. Monopolists used the Hilmer report to exploit this gap in knowledge and public understanding. The media has never attempted to explain this extreme conflicts and costs even when they had, many times over, all the information to do so.

Australia should never have committed the capital-intensive investments for independent networks in parallel and to expect all containers of products to be duplicated and dispatched to independent receivers. This is totally irrational. Yet this is exactly the $Billions of unbelievable waste, inefficiencies and ugliness we have in Australia with Foxtel and Optus cables in parallel for PayTV.

Research engineers have never established a need in society for such grossly expensive and inconvenient arrangements for commercial and consumer markets. New technologies provide far more economic and far more efficient solutions. Governments in Australia have not provided Australians with institutions for students and the public to learn, to experience and to understand these technologies. We waste $Billions trying to implement extremely illogical concepts and $millions in trying to convince the public that these are best for their future.

With less cost than half this waste, and without media interference, Australia could have had by now the first full digital transition program almost completed. The media cartel partners have ensured that this will not be and have used Telstra and Optus cable to achieve their objective.

Government policy is for “deregulation”, “self regulation” and “market forces”. Politically more powerful monopolists use these policies that have become, in Australia, the gaps in consumer market protection, to build proprietary systems into public service infrastructures without disclosing to Governments and consumers or regulators why and how they do this. These proprietary devices are to vertically control and to thereby monopolize their market. [xxviii]

The proprietary systems are roadblocks to market entry by their competitors. Entry can only be established following agreements that satisfy the proprietary owner. This is in direct opposition to the reason and purpose for

international standards, as developed by an international consortium of electronic industrialists, as do the motor industrialists, to guarantee open and multi competitive efficient horizontal consumer markets.

Some suppliers give way, at considerable risk to the manufacturer, producing a product for only one customer. They have bypassed industry intellectual property and patent rights and supply the monopolists with built-in proprietary systems for their one monopolist customer in Australia, otherwise, a manufacturer has no business. In most countries where many thousands of private cable operators have built their own local analogue PayTV networks, this is not such a problem. All still require a complete analogue TV receiver after the private cable-owner's proprietary box. (Most private and public cables in other parts of the world were installed long before Australia's program and are not suitable for digital TV or telephony without upgrades.)

So for digital communications, there is a clear distinction between what are the carriageways and what are the "products" to be transported on the carriageways. Satellite, cable and terrestrial systems have standardized carriageways divided within bands into channels. "Products" in their electronic formats could be free, pay for one, or subscription services.

A telephone copper wire pair infrastructure equates to a physical carriageway that is suitable only for pedestrians and cyclists. People use footpaths to interface with one another or shop for goods. From footpaths, people can board taxis, buses and trains, ships and planes, to move over longer distances. Footpaths equate with the plain old telephone, or mobile phones suitable only for telephone calls, e-mails and slow data and web services (electronic equivalent to the Australian Post).

The copper wires used for telephones can be used as a digital carriageway for light traffic. It is the only system, and the one and only system that so far connect, interactively, to almost any home or office locally, nationally and internationally. It is open to all. Telstra is the only plain old phone operator in Australia. Mobile phones are progressively duplicating or replacing plain old phones but do not connect long distances without an entry into the Telstra wire pair, a cable or satellite or by arrangement with another cell operator. The major constraint is that, like footpaths, the plain old phone is useful only for "very light" electronic services.

We make little use of footpaths today. Individuals have far bigger loads to carry home, far heavier than can be carried home by pedestrians. This is the problem with wire pair telephones. Copper wire pairs for telephony are now redundant, as they cannot compete with an optical cable infrastructure to homes and offices. Mobile phones do carry heavier loads than plain old telephones but even with the best, no where near the vast potential of cable. Homes now without cable are constrained or excluded from the new services. The wired phones have not been replaced by cable, even for the near four million connected for PayTV or broadband via optical cable to the curb. The Telecom Australia plan was aborted.

Because of Foxtel demands, the planned underground cable system is mostly above ground, and hardly respected as telecommunications cables, so most people accept these ugly builds above ground as Foxtel PayTV cables. [xxix] The new cable system to the home, the original Telecom Australia's engineering plan, with these built-in roadblocks removed, will permit all services from personal calls up to HDTV programs and interactive multi media from anyone to anyone who has access to cable, terrestrial or satellite carriageways.

Relative to recoveries, Telephone wires can now be economically replaced with optical cable and will readily provide extremely high volume[xxx] and wide variety of services and flexible options to the home and office. Money should not be spent on trying to improve plain old telephones.

Further negative consequences on capital intensive markets and efficiency of markets from these trends will be explained later in this document.

9 Why a revolutionary system:

The simple reason is that Australia cannot afford to be a technology island, isolated from the world's most expanding economy. With Telstra sold, Australia has no possibility of keeping pace with the world. Australia, a nation with huge independent infrastructures in parallel, a mix of proprietary and standard systems across networks expected to service the public, has no possibility of participating in efficient markets with internationally advanced open standard technologies for seamless and automated services. Australia is sliding backwards into a telecommunications country of conflict and confusion, that is allowing consumers to be bullied by a media cartel, utter chaos!

By starting the change process now, we can be world leaders and a major participant in international telecommunications technologies. Technologies are the fastest growth sector of the world economy.

The evolution of the telephone has proved that it works most efficiently as one public integrated network with open access to all. The new digital technologies for telecommunications, television and multimedia public services are very sophisticated, very flexible, seamless and a most efficient extension of the plain old telephone network which it should soon replace. It is one complete package.

A few of the Telstra market abuses include "all or nothing" bundling[xxxi] of services. Consumers have no alternatives for subscription TV. Government permits the operators to lock in all suppliers as exclusive supply agreements. The customer's flexible options for home equipment is aborted. He or she must rent and pay under contract for the box or phone provided. Severe constraints are placed on flexible options throughout the home.

Market players are rarely in business for the good of humanity. Operators of proprietary digital platforms can exert considerable control over their

competitors, suppliers and customers. Their competitors also wish to supply the markets. Regulators seem remarkably lethargic and slow to act even with the strong evidence of abuse of a dominant player. Post-digital transition, rules and regulations can be aligned for fairness and equality across all physical and electronic markets.

Content providers want their content to be viewed by as many consumers as possible. Electronic industrialists want to offer their specific attributes, range, flexible combinations and price options. Retailers want open standards and inter operability so that they have access to all mass markets. Consumers want to be able to receive programs and services of choice from their selected suppliers and service providers, in any room of the home. Consumers want simplification of ergonomics and connections, cables and remote controls.

But perhaps the most frightening and serious issue of all is that Australians are strictly regulated to provide 9 percent of their wages or salaries to "Super Funds" while the private monopolists use their deregulated "market forces" and "self regulations" to exploit these funds.[xxxii]

Many $Billions that has been lost in investment funds due to deregulation of telecommunications infrastructures proves the unsoundness and defectiveness of the Hilmer report policies. These trends are strong signals for further danger ahead if left uncorrected.

The average costs of infrastructures servicing one area is the costs for each independent infrastructure multiplied by the number of independent infrastructure built in parallel. The average cost recovery for one independent infrastructure is the cost recoveries of all infrastructures built in parallel divided by the number of infrastructures in parallel. It is a false conclusion then to suggest "infrastructures" can be built in parallel to increase competition!

In Willoughby, Sydney where already four independent mobile phone towers are built side by side, the community has been informed that the Minister plans two more auctioned spectrum parts and two more towers to be erected. The money invested in these capital-intensive infrastructures could have been used for additional five areas without services. One infrastructure could have been shared between as many operators as per the interests to enter and share the one infrastructure. This is possible with "packet switching" and digital carriers but not possible with "circuit switching".

Private monopolists are gaining large fortunes with in a few years, not from profitable businesses but from market capitalization of their privileged monopolies. Already, we see these earlier owners of auctioned public spectrum,[xxxiii] now among the highest of salary earners, becoming multi millionaires by the sale of their monopoly of auctioned spectrum to the next generation of private monopolists they and Governments established only a few years ago.

The best of the skilled technology contributors and leaders of missions, during the Second World War, were barely out of their teens. We see the same magnificent teamwork from the sixteen nations contributing to the space program. Government spends money to develop young talent for Olympic medals, a program that assists television owners to capture market audiences. [xxxiv]Young talent in Australia could be trained in similarly intensive programs to run missions as allocated by the new commission for telecommunications.

The reform of telecommunications is the only way to re gain the lost ground in the associated progressive digital technologies. The solution should be thoroughly studied and developed into a program of action. Two steps will work in parallel. Parliament nominates a commission that reports to the Parliament, not to the Minister. This should be a commission that is primarily focussed on international telecommunications engineering. The mission must be clear, Government mandates international standards and controls its implementation for digital transition with top priority, open standards on the Telstra cable.

10 Telstra and other essential public foundations for a new start

Telstra under Government control via the commission is the essential foundation for a new start. Australia will have a means for the diversification of media and reduce the media market power that has been driving Australia away from the future and into completely wasteful parallel builds and monopolized markets.

The chart on page 9 displays the telecommunications infrastructure following the digital transition from the current state. The completed transition will then be the electronic equivalent of the physical infrastructure for roadways, railways, seaways and airways. Logistics and administration can be managed as it applies to trade and commerce of physical goods and services, except it will be electronic and completely automated.

[xxxv]The Governments of nations, who have behind them, the educational resources that have researched and evaluated, that have provided public, technical and commercial understanding and learning for trade and commerce, will avoid the legislative errors, accidents and abusive practices, that, because of this neglect, has been so damaging to Australia. Commitments without understanding so easily and effectively cripples progressive technologies and their long-term expensively developed and capital-intensive markets as experienced in the UK and now again in Australia.

For the important public understanding of technologies for markets, internationally, industrialists involve University Research centres of competence for local market leadership and guidance, where conformance testing and certification laboratories are established under Government supervision. These ensure that open and fair markets and industrial and commercial intellectual property is protected. These institutions are the

catalysts to build into our society the knowledge, skills and experiences from developing technologies for the new and expanding markets.

The development of young talent, essential for the efficient economical growth in future markets takes near five, ten, fifteen or twenty years of carefully coordinated and planned education and trade training for the citizens and relevant businesses within the developing markets.

This is the real investment from our current societies for our young people, for the young to have an efficient economic and fascinating future. This is the most essential part of being an adult, being in Government, contributing where we can to long-term plans and their successful implementation. It is inconsiderate for this generation to allow private monopolists to manipulate technology for their proprietary systems and exploit the wealth in our societies. These monopolists ignore the essential foundations that are critical to the welfare of future societies.

Long-term Government supported programs were essential for the new steam train industry, for the new electrical supply industry, for the new motor industry, for the new television industry, for the new aircraft industry, for the space program. The economy of any nation is entirely dependent on the digital revolutionary technologies that are essential to support and contribute to greater economic value for all industry and commerce and consumer efficiency improvements than any earlier developments.[xxxvi] Yet the Australian Government accepted the media proposal that research, engineering and developments for digital telecommunications infrastructures were not necessary. As Governments have made no independent study assessment for public appraisal of Telstra, Government while making commitments is flying blind and taking consumers also on this blind flight.

It is not too late for Australia to apply a new mission, to develop a new long term plan, to gain a new market position in the world's most expanding economy. Telstra is not yet sold. From the deployment of digital multi media technologies by a solid institution with a sound foundation, Australian engineers, software developers, program producers, service providers, all businesses and enterprises will develop new systems, applications and products.

For many this will open new opportunities in global markets. Government policies should stimulate the growth of Australian entrepreneurs and investors to profit from global markets for Australians, not for global or private monopolistic predators.

The human rights of individuals for fair trade particularly where "communications" are concerned should be upheld and honoured by Governments. The alternatives are undemocratic. Without Parliamentary understanding of the need for a sound institution to manage the change, of the urgent need for legislated common standards and corrective actions in consumer markets, it is not likely that any remedial actions to preserve democratic principles will be available to the uninformed Australians.

11 Economic and social rationalization of multi media

1 Communications is a process that passes meaningful information from a source to one or more destinations.

2 Digital telecommunications include the sciences, technologies and applications for existing and future expectations re digital electronics for telephony, television and interactive multi media that also include electronic data, magazines, newspapers, learning systems, e-mail, the web, navigation, and industrial and commercial control systems etc. The EEC now includes all the media, plus educational and training as essential for Governments' focus within a telecommunications infrastructure with open access for all, regulated to protect the rights of individuals access to information and learning. These are the areas of technologies and applications covered in the ITU announcement.

3 Meaningful information can be private, public, personal or proprietary.

4 The source and destination can be sounds, images, symbols or gestures. As sounds - voices music etc as audio. As images – still or moving as a video. As symbols - such as text page or music score. As gestures - the pop up menus as one. As touch for the blind. As radio or TV program, or all together as an interactive multi media educational program, or maps in vehicles or boats at sea, or pedestrians in a forest, - at any time, and as programmed options – controlling, filing and reporting etc.

5 Meaningful information is of special value when it is used to progressively advance the intelligence of individuals and groups in our society. This is essential if we are to improve efficiencies in consumer and commercial markets, in the health and welfare of societies. It should also stimulate socially acceptable pleasures and relaxation for individuals or groups.

6 Markets that have contrived means to limit or constrain access, or to filter information, or by way of repetitive statements without reference to source or authority, can influence attitudes and beliefs, stifle economical developments and democratic objectives. It has to be of concern that a television station that relies on advertising is the number one source of news for Australians. [xxxvii]

It is well researched and recognised that such media influences change market attitudes and beliefs. Some Australians still remember how Hitler controlled the newspapers and radio broadcasting in Germany and later across Europe for his (undemocratic) objectives. From the start of Television, when the technology was too capital intensive for private enterprise, Governments were the first operators. As markets developed, private companies complained of the Government monopoly on information to the public. Today the reverse applies, the public complains of insufficient meaningful and insufficient pluralism of information from the mass media to the public. Governments are exposed to the cut and paste media manipulative practices.

7 The limits on spectrum constrained the entry of new competition and therefore diversification of television program providers. Because of this, television broadcasters with their superficial but politically powerful communication systems have had virtual monopolies, that is, no possibility of further competition, until digital. The new Multi media technologies provide Government with an ideal means to reform broadcasting and communications. Telstra under Government control provides a major opportunity for diversification of media. Telstra sold is the cementing of even a far greater monopoly on communications by a media cartel. The media cartel, astute business managers, naturally wants Telstra sold so that it remains in their control for their objectives.

8 It is clear that the more democratic Governments of the world clearly understand that any impediments to the openness and access for all to information, applications and services in multi competitive markets is an action against human rights. [xxxviii]The EEC recommends to its members, strict regulations for maximum diversification and independent ownership, not cross ownership, of media and open access and optimum realization of digital multi media systems for the consumer markets. [xxxix]

9 Markets will then have electronic carriageways or physical carriageways as competitive options for all goods and services for trade and commerce, for public and private transport of goods and services. Customers and suppliers will have the option that goods and services be dispatched in their physical format or electronic format, as multi competitive market options and choice for all Australians. The regulations can parallel those that protect physical goods and services markets and open access to roads, rail, sea and air routes to do so.

10 Because it impacts on all involved in trade and commerce, in public and private affairs, a telecommunication infrastructure should be the responsibility of the Federal Government as a whole, as in USA and as recommended by the EEC. It is no longer a system for only broadcasters or phone operators. It has far more value than for these industries alone. It is an essential infrastructure, institution and a foundation for all. It is central to the economic developments of Australia.

11 It is far too complex for any one private company to manage and to develop for the future. It requires a coordinated long-term program well promoted public program, involving the best of the relevant skills and talents within our nation, to develop and build a firm foundation for the future Australians. This was once understood. A Government should not expect a lawyer in overall charge of engineering of this foundation to achieve these long-term objectives of digital transition for Australia. The Government and political focus on “economic rationalization” put this program completely out of focus.

12 The digital communications systems also include automation of remote machine controls, security, Government, business and private

administration, instructions and operations as a few of the many expanding possibilities.

13 The digital processes for the total telecommunications package for telecommunications, television and interactive multi media, when using common standards are completely automatic. Perhaps one day it will include a public system to also support automation of other natural Government controlled monopolies such as physical public transport schemes, public water distribution and conservation management, and public energy distribution and conservation management. There are infrastructures in Australia that are becoming alarmingly inefficient, such as for water, that will also be dependent on an efficient public digital telecommunications infrastructure being in place.

12 Digital transition, corrupted by a set top box

To introduce the digital transition program to Australia, during the 90's, local and intentional electronic industrialist organized teams of up to twenty engineers at a time to visit Australia. The team members were the more specialist engineers from different companies of the international electronic industrial consortium, from France, Belgium, Italy, the Netherlands, UK and USA. They generously united, world wide, to come as, a coordinated team, to demonstrate digital systems to Government, to Broadcasters and to Retailers.

Moving all the equipment and setting up in Sydney at Darling Harbour and then to Canberra. These several visits cost many millions of dollars, to bring complete digital broadcasting systems from different countries, through customs, with transmission equipment linked to telecommunications, and with HDTV cameras. Live demonstrations were made of all the technical issues, free and subscription, inter operability, backward compatibility, telephony, that were researched, invented, developed and put into production.

Systems are engineered from studio to receiver by the consortium of 250 international companies. The demonstrations were on air, via Terrestrial channels, via the new Telstra cable, from Sydney to Melbourne, via Optus cable from Sydney to Adelaide, and on satellite, and in mobile vans crossing the Sydney Harbour Bridge.

Optus gave free satellite time for days on end, normally $30,000 dollars an hour. Demonstrations included both free and subscription, for standard and HDTV and how these digital technologies interface with digital telecommunications. For hours on end links connected the systems to Europe and USA to show compatibility and inter operability with these circuits, mainly for broadcasters.

Many brilliant young engineers work in worldwide consorted teams. These engineers work towards an international common inter operable and

seamless digital package for all people, for free, pay and subscription, not for media cartels to then monopolize (the digital divide).

In mid 90's, the international consortium of electronic industrialists, with the financial support of the EEC and with council members visited the Australian Government and invited the Australian Government to become a member of the international consortium. Their prime mission is for one world inter-operable seamless package of digital standards for telecommunications, television and interactive multi media to realize outstanding efficiency gains in all markets. Government members listened to their lectures and attended conferences. But this was not an objective for media companies. FACTS persuaded the Minister, and Standards Australia that membership was not necessary.

When the Telstra cable was near ready for commercial applications, News Ltd engineers from London modified the Telstra public cable to install News Ltd proprietary system. After the Government had ignored industry advice to the contrary, the consortium of international electronic industrialists has agreed not to spend any more money for the Australian program. Australia's policies are now in direct conflict with the "one package, world wide digital technologies for telecommunications, television and inter active multi media" in all consumer markets.

As a means to protect their "monopoly", the purchased auctioned spectrum, private operators will not use exactly the same "identifier" that are used by competitors. They still must use digital identifiers but they use minor modifications that then become their private or proprietary system (and sometimes as private applications) to vertically control the market and ensure competitors cannot encroach on their markets without conditional commercial arrangements. They each have their own private monopoly.

The consequences of policy flaws, leaving the responsibility of standards to "Market Forces" and "Self Regulations", of the Australian Governments that permit these private monopolies to develop, are well understood by the FCC. USA inherited the problems from birth, and from negative experiences, strictly regulate for these and associated problems. It is well understood in those countries that have public research and Universities with the knowledge and experiences of the standards and software engineering, but not in Australia. Europe and especially China pay particular attention to these issues with the new digital technologies. Australia was once a pioneer, way ahead of China two decades ago, actually supplying China, but these engineering activities have been aborted since News Ltd partnership with Telstra in Foxtel.

The media cartel partners understand the policy flaws and has taken advantage of the regulatory control gaps in Australia to exploit Telstra by installing proprietary systems on the Telstra network. This abusive anti fair trade and vertical market controls on the public owned Telstra cable, on suppliers, distributors, consumers and electronic industrialists intellectual property, for their monopoly on PayTV markets, is one example.

Foxtel uses a proprietary system incorporated on the Telstra cable, as per News Ltd instructions, to ensure that cable TV will not work with the same home receiver as used for "Terrestrial TV". This is the digital divide in operation. The Australian Government by not supporting international standards is a world supporter of the digital divide, the contrived use of digital technologies to vertically control markets and provide private monopolists a very special legal, technical and financial subsidized privilege. This is antisocial. This would be corruption if permitted in the physical markets.

The method of controlling the renting of a private cable belongs to the private cable owner. A private cable owner should be able to control their investment. The owner has the right to set the control system for the payment of cable rent. Private cable owners as the owner's of their proprietary switch (set top box) in front of an analogue TV have done this. The set top box analogue "cable switch" is their control of the cable rent and it does not interfere with the programs delivered to the analogue TVs. These, are in a sense, switching devices to switch off the cable to those people who did not pay the cable rent. The cable owner would never even consider letting a customer set the standards of his switching device in front of an analogue TV. That would be irrational management on his part. Each private cable company has the right to switch off services if the cable rent was not paid.

The set top box-switching device never interfered with analogue TV markets or the television receiver. All switching devices still required the analogue TV after them. However, the "set top box" cable switching later became a channel switch as well as a cable switch and started the trends towards anti trade and anti competitive abuse. A private cable owner now, not only controls the cable but also control the channels. This became abusive when cable owners started to restrict, constrain and filter channels, and then using bundling that constrained consumer program and value choice. Industrialist recognised these anti fair trade practices and social constraints developing as for instance when News Ltd started these practices in the UK.

Industry never developed a universal technology for analogue subscription TV. Analogue transmissions and programs were complimentary, so there was no simple engineering solution that would satisfy commercial objectives without strict Government controls. This was not achieved because the media owners of television entering the PayTV business had more influence on the drafting of PayTV legislation than consumers had.

The boxes are now extremely abusive as they are used to control consumer access to programs, via cable satellite and terrestrial electronic carriageways, not for the public or private owners of the carriageways but for the proprietor of the box. International consortiums of electronic industrialists do not support this abusive behaviour and monopolistic control on supplies and deliveries to consumer markets.

Subscription TV and subscription multi media is not about the cable rent or use, its about buying programs from suppliers and selling them to customers.

The FCC and the EEC understands that we are not talking about a switch in front of the standard analogue TV when we talk about digital television and inter active multimedia. The FCC and the EEC have their own engineering group to study these issues. This possibility was removed from Australia by FACTS. Digital offers a most flexible fair-trade opportunity that, with Government understanding and support removes all trade barriers, hence the FCC announcement for mandated standards re free and subscription TV.

Digital television has a system that analogue television never had. Digital transmission channels are analogue (RF, Radio Frequency) channels and therefore complimentary with the channel tuner. The programs, or better described as the products, are digitally modulated on the transmission as discrete products. The digital channel can be transmitting several discrete products at the same time. Some can be free, some can be "one off payment" and some can be subscription, any or all options for the delivery and payment of discrete electronic products via the one satellite, cable or terrestrial channel, together or one at a time.

This flexibility is a special attribute of the digital system for every one to use, customers and suppliers. The digital subscription system does not control the channel or the cable. It controls the products. It controls each discrete product. This is not the renting of cable or channels being managed. It's about giving or selling a program, a commercial product, from a supplier of choice. If a private cable owner is renting his cable to a household, he is entitled to switch off the use of the cable if the rent was not paid. Telstra should be renting the public cable for delivery and payment of TV products to any wishful user in the same way as telephones are rented.

Telstra rents the telephone, with few exceptions, to all consumers and enterprises. Some people use the Internet to buy for instance from e-bay auctions. Telstra has no right to control where and how a telephone line user can buy goods. Telstra has no right to control the distribution channels of e-bay. But Telstra does have the right to switch off phone services if the electronic carriageway rental, the phone line, is not paid.

However Telstra has let Foxtel control all telecommunications carriageways for products greater than can be delivered by the more restricted carriageways of BigPond broadband or Optus broadband. They control what customers are allowed to buy or get as free products, who is allowed to sell or dispatch as free products, and who is allowed to use the Telstra or Singtel cable for television or interactive multi media products too large to be transported by BigPond.

The public is denied access to the telecommunications cable networks for anything that may appear to be in competition with the media cartel objectives, that includes any products as large as Foxtel sell.

Foxtel has claimed the control of the Telstra and Singtel cables, control on who can supply products, control on what customers are offered to buy and control on what the total bundled price is going to be. This is not for each

product, (the value of each product is not disclosed), but in “no choice” bundles of 30 or so different products or nothing.

This is most abusive for family choice and values, particularly for the less well off households who are denied any privileges from the new technologies, a totally antisocial system. The public and suppliers are denied access to any alternative supply source unless by special arrangement not from Telstra, the cable owner, but from Foxtel as controlled by the media cartel.

This is not an international standard that Telstra maintains throughout its cable system. This is a proprietary system so each abused customer must connect the Foxtel proprietary box and connection cables to the home television and a proprietary remote control. Little option is now available for consumers who rent from Foxtel or OptusVision (which is by way of a contact to duplicate most Foxtel programs) at home without extreme complexity. Telstra has replaced the digital transition program and installed this abusive monopoly.

Post digital transition, digital technologies will provide the complete system for each supplier of products in their electronic form to be delivered directly or via a distributor of choice to any one, many, or all, as any option, free, pay, or subscription.

The supplier manages the payment systems directly with customers just as they do in the physical world of goods and services. All suppliers want the same potential to use the electronic carriageways to deliver their large electronic loads to customers the same way they use physical carriageways to deliver large loads, too large for footpaths, delivered from their manufacturers and delivered to their customers.

The people of Australia have paid for this infrastructure decades ago, to make electronic carriageways available for the public for all digital electronic products, small, medium and large, the very reason the optical cable infrastructure upgrade was built in the first place, the world’s first. Now it has been claimed by the media cartel as for their privilege only. Telstra should be prohibited from these devious practices that interfere with open markets and fair trade. This is most abusive mismanagement of public finance, property and assets by the Telstra board. This is trade practice that could not be more anticompetitive, anti social and anti democratic.

All suppliers in all markets expect to have carriageways from their producers of choice and carriageways to any one or all of their customers who are willing to purchase their products. Each customer buys products directly from the supplier of choice. This is the system in our physical world of goods and services in a multi competitive market. This is engineered to be the digital system in the electronic world.

Any broadcaster can deliver free or subscription or sell programs as per individual order. The University could do the same. It is irrational to allow Telstra to control markets, products, choice and options. Telstra should be

providing and maximizing the efficiencies of electronic carriageways. This is the concern of Singtel. This is what Optus expected when it asked Government to share Telstra cable and was told to deal directly with Telstra, and then to be blocked by "market forces", News Ltd and now the media cartel. The private discussions and processes as how this was achieved can be read from Hansard. The FCC places such processes on their website and promotes to the public these issues for the public to examine as do the EEC.

Telstra was built as a utility to provide open electronic carriageways for the citizens of Australia. Now it's an antitrust system to provide the media cartel with the most abusive marketing and social control of the public that anyone could contrive.

Government should understand that if democracy is to prevail, it has no option than to revert Telstra to full control of Government and re establish Telstra as a public foundation to provide open electronic carriageways for all, for digital telecommunications, television and interactive multi media services. Telstra should align, not compete, with Singtel for maximizing the efficiency of telecommunications.

The FCC has mandated that no one will do business in USA the News Ltd way. The UK realizes the problem after experiencing how abusive PayTV has become, so financed the BBC for about 30 free channels to compete with News Ltd's monopoly that had to be tolerated for near a decade.

Government has given the media cartel the use of the Telstra and Singtel carriageways, the control on all suppliers, control on who or what the public can view, as the media cartel's exclusive private right for subscription services. Every Member of Parliament should know about this most abusive anti competitive, anti social, control on markets while the Government at "bull in a china shop" haste, is committing the future of Australians to this already private control, permanently!

This is the most deceitfulness misinformation that is coming from the very top of Telstra, the board and management of Telstra, to the very top of Government, supported by the media cartel, supported by the ACCC and kept completely secret from the consumer. This information has been supplied to Government, to the ACCC, and to Fairfax repeatedly from the electronic industrialists re digital technologies, over two decades.

Government, the Telstra board and the Telstra management have all consolidated to permit Foxtel to lock in the exclusive use of the national public, not private, not Foxtel's but the people of Australia's telecommunications network, now completely controlled by one media cartel. It is not available to any of the media cartel's competitors.

Government "Competition" policies are completely upside down. Government allows private monopolists to privately control public financed infrastructures. Now in control of the infrastructure the private monopolists use these infrastructures to build in systems that place major constraints and

controls on their competitors marketing of "products", thus their monopoly in the market of PayTV and Government policies.

Societies have several ways to influence public intellect, interests and attitudes. They include schools and universities, businesses and clubs, newspapers, magazines, libraries, books, radio and television. By far the most influential is television.

Television operators do not want Governments interfering with their powerful tools and technologies used by the privileged television monopolists. One interference source for them is an institution experienced with the technologies. Therefore when Government closed the facilities that educate the community and keep Government informed, one major source of interference was removed.

The research laboratories involved in digital engineering for Telstra and digital television were dismantled. (One was in the Government laboratories in Canberra and one within Telecom Australia in Melbourne). Australia no longer has an education institution as an avenue for learning, experiencing and advising Governments on the Telstra schemes and future potential for digital telecommunications, television and multi media technologies, software management, systems and applications.

Television is the most powerful influence on public attitudes. It is a one way system of communications. It is superficial, especially when advertising is the source to finance programs. Attitudes are easily reinforced by repetition of one idea or repetition of a person's image at the exclusion of all other ideas or people images, a few of the many methods used by a one way communication system such as television and newspapers,[xl] that specialize in advertising. The media employ major electronic memory banks. Citizens have relatively short memories compared to Media storage. These are problems in many world societies.

Frequently and repetitively the media criticize Bill Gates for having a monopoly on the market (as they did with Telecom Australia). Bill Gates, an entrepreneur, does not have a monopoly on the PC markets, he invented an "engine" for home computers, and something IBM could not get right. The market has not been able to find a better engine to replace this "component". Bill Gates does not vertically control PC markets. Even Bill Gates has not the market power of the media to counter these media attacks on his credibility.

Every PC manufacturer has direct control on his supply and distribution channels. Every software developer can inter connect to the Bill Gates "engine" if the intent is there and if it does not upset the "engines" efficiency. PC markets are open, efficient and multi competitive.

The EEC, where the council prepares the legislative recommendation for each member country to adopt, especially criticize Italy as an extreme anti democratic problem re television. Australia media concentration and cross media ownership is way beyond the limits under the EEC recommendations.

The media concentration and cross media alignment in Australia, with subject matter and opinions, is clearly experienced every day, across newspapers, radio magazines and television. The source agencies of news are even more concentrated.

The UK television broadcasters and program producers, in the late 80's were severely constrained because of News Ltd proprietary system, permitted by the UK Government, for one company to monopolize subscription TV. ("Market forces" at work). The Australian experience is far worse. With this experience the same astute company has not only monopolized PayTV but also controls the Australian telecommunications investments to do so.

Telstra's telecommunications cable, financed by and built for the people, is a public service network, like roads. Government would never be able to allow one private company to make the "self regulations" and "market forces" rationalization for one private heavy transport company to have legal and financial privileges for the exclusive use of Australian highways for this company's, and no other company, heavy transport fleet operation. The public can see traffic on the physical carriageways. The public cannot see the traffic on electronic carriageways.

This preferential and most generous privilege to one Telstra partner in Foxtel, could only come about when the board and the management of Telstra have no understanding whatsoever of the telecommunications technologies and the industry objectives, the objectives of the institution for which they are responsible. Alternatively it could be a board and management where the media cartel have become more influential than Government for the appointments that will be subservient to News Ltd and the cartel partners objectives.

The Hilmer report omitted to explain the two "market forces" in society. One is from those who contribute to expand the intellect, health and wealth in societies for mutual or shared gain. The other is from those that have a prime objective of accumulating power and wealth at any cost to others. These are the private monopolists in our societies.

Arguing the economic rational concepts of "self regulation" and "market forces" is the continual response from Government when electronic industrialists and Telstra competitors lodge complaints of these serious constraints and abusive trade practices on the public telecommunications network. This is not an efficient capitalistic multi competitive market. This is a monopolist market, a process that gives capitalism a bad name. The consequences are completely economically and socially irrational and remain uncorrected.

Deregulation means that Government permit "market forces" to decide the outcome. The more powerful "market forces" demand, contrive or influence political policies and attitudes towards more privileges (self-regulation and self-written codes of practice that exclude consumers) at the expense of the less powerful. This is the area of weakness in Australian Legislation. Australia, like the UK, needs to revise the regulations towards the strengths

of those for USA and as recommended by the EEC. Australia could participate in the world forums working towards even better methods to correct this imbalance in the care of fair trade and human rights for all.

It would be near impossible to do more damage to access, investment waste, fair trade, social values and ugly environments re telecommunications than we have achieved in less than two decades in Australia. The differential of services between rural and urban societies is wider than ever. This should not be in Australia, our country claiming about world's best economy.

However we have a Government that with study and understanding, would recognise an opportunity for a revolutionary program, and to be responsible and sincere in the interest of future of Australians as not to commit our young people to be permanently under the control and influence of private "market forces".

The reform of Telecommunications infrastructures and democratic Government policies will give Government the means to repossess this lost control of technologies for Australian markets. It will open to the public new TV competition, far more avenues to intelligent ideas and issues, so essential for the emerging concerns such as energy, water, clean air and Australia's management in Australia for Australians to profit from emerging Global markets.

The Financial Review exposes the irrational and superficial simple-minded political and undemocratic attitudes and influences in Canberra re greed, money and power with shameful disrespect for the values of a telecommunication foundation and for the concerns of Australian citizens.

"Push, shove and schmooze…
Frantic jostling for the Telstra tart" (Jan 22 – 23, 2006, Page 18).

13 History of events that destroyed digital transition

It was as long ago as 1982 that a consortium of international electronic industrialists committed to a long term investment to provide, to the world, a revolutionary concept that would dramatically improve the efficiencies for all industries and commerce.

It was the beginning of a revolutionary approach to digital electronics. The industrialists agreed to share the research costs by allocating special parts of the plan to different industrialists. Each worked on his allocated part, which also involved, internationally, public university research centres of competence. All members agreed on a long-term plan to phase out analogue and incompatible digital programs to be replaced by the new digital plan. It was agreed that the planning would be under committees that controlled the steps from research, prototype trials, technical evaluation, commercial evaluation and release to markets. This was the beginning of an open market digital concept that now includes all Multimedia.

It was well understood by their consortium that the technical and commercial evaluations would have to include Governments, internationally. By 1992 the first of products were in the market place for digital applications on international satellite systems. This program originally included digital audio, digital video and digital television. Their program is now converging telephony and interactive television, the Internet and the web. All members of this group agreed to standardize with one common platform and share in a pool for patents and intellectual property.

Over 250 international electronic industrialists and universities are members of this consortium (including Governments), that support this program. An invitation to the Australian Government to participate was declined. Some members join to interfere. FACTS claimed at the time that they and Telstra would represent Australia.

The Australian private industry laboratories included a small group of Australian engineers who invented and engineered the automatic electronic tuning system used today in every analogue and digital television and VCR in the world. These engineers assisted Telecom Australia in the planning and engineering of the world largest and most modern cable system.

Government was persuaded to close the public research resources and conformance testing. New members were appointed to the board and management of Telstra. The cable was under its first trials of digital television to the home when Government announced that Telstra would partner with News Ltd in Foxtel for exclusive television use of this huge build.

Within six months, engineers from News Ltd, UK were instructing Telstra how to modify the Telstra cable for News Ltd proprietary system. From this point on, the engineering responsibilities to Telstra for the well-advanced cable was under the direction of News Ltd engineers, not Telstra. The supporting engineering laboratories in Australia, working on the digital program, closed down to move to other international markets including China.

As can be read and study from Hansard, the News Ltd pressure, via Foxtel, on Telstra was the catalyst of several most damaging influences on Australia and the Australian economy.

1 Optus was not granted permission following their request to Government who redirected their request to Telstra to share the Telstra underground telecommunications cable. Optus, to participate in the Australian markets had no option than to build its cable in parallel. Government policy as recommended by the Hilmer report was to privatize infrastructures and create competition by forcing Optus to build a separate cable.

2 To achieve the market underground reach already achieved by Telstra, Optus negotiated with energy supply companies to suspend their cable on poles, similar to the ugly system in USA and Taiwan. (USA inherited

private ownership and monopolies of telecommunications, but they FCC constrain the parallel build in the same markets. The compromise for mobile phones monopolies in USA generally, is that one licence group services private communities, one services the commercial sectors and the third, long distance. The FCC objective is not to duplicate infrastructures in the same market.)

3 It appears from [xli]Hansard, that the board of Telsta committed Telstra to a contract with News Ltd via Foxtel, with penalty clauses, to have channels in operation to two million homes with in a stated time period. Telstra then requested that the cable housings from the contracted supplier be modified for above ground build to ensure pace was maintained ahead of Optus. That was the end of the planned underground system.

4 Consumers and householders continued complaining to their local councils, State Government and Federal Governments, re the ugliness being built on their frontage. They were ignored. Government could not stop the progressive ugliness in front of millions of homes, streets and shopping centres. Future generations will have to pay the costs to rebuild these as underground systems, hopefully integrated with the underground energy supply systems. (The underground build requirement is in the legislation)[xlii].

5 "Self regulation" and market forces" prevailed over social concerns and democratic principles. Our sound public foundation was already crumbling under the weight of media pressures. This demonstrated that the consumers of Australia have no way of democratically correcting abusive damage to their environment and to their social values. This abusive undemocratic behaviour continues in electronic consumer markets today.

6 Optus, discovering that the Telstra cable was also a telecommunications cable, had to re modify their cable build to match the Telstra cable telecommunications potential. This was costly to Optus.[xliii]

7 By this time, with News Ltd proprietary system and exclusive use of the telecommunications cable, earlier investors in PayTV had no hope of survival. The Government ignored the many submissions from electronic industrialists, Ch 7 and others that the Government was committing the Australian markets to these consequences. Let "market forces" decide, was their response. [xliv]Many $Billions of investor's funds were lost.

Australia is the only country in the world that has a publicly financed national optical fibre underground (but now above ground) cable system to pass about six million homes and prepared for digital telecommunications, television and inter active multimedia. Most countries that had PayTV long before Australia are committed to thousands of independent private coaxial cable systems. It will be many years before these countries could match Australia's opportunities with a national cable system that passes most homes (except for the ugliness).

Well recognised by international technical journals, and in international technical forums, Telecom Australia was one of the world's most respected telecommunications institutions. It was most profitable and efficient for all Australians. It planned a revolutionary program for Australia.

Markets are dynamic. It took from 1982 until 1992 for a digital telecommunications optical cable network for Telecom Australia to develop from a laboratory research program involving many international electronic companies, in Australia and around the world, to collectively produce the plans and build program of the cable for Australia. This solid foundation built the worlds first modern national system prepared for the new digital telecommunications and television home services for the next 5 or 6 decades. Within six months after its first advanced phase was completed, this solid foundation fell to the "market forces" of the media especially for one objective, control. The early Telecom Australia admirers from China and elsewhere soon lost interest once they observed that the digital transition plan was aborted.[xlv]

It seems even worse again when this is the consequence following Governments political statement to the public that claimed "diversification" of media ownership and control. Foxtel control on Telstra has been the means for one media cartel in Australia to become the most powerful of almost a duopoly pair in media in Australia, and take from Government all control of telecommunications technical, financial, legal and social policies.[xlvi]

The cartel is too big to regulate, says the ACCC[xlvii]. It continues! The sale of Telstra is a national and natural monopoly for the astute companies, the members of the media cartel, and would mean that any diversification of media following the sale of Telstra would be virtually impossible.

Members of Government have unethically informed the public via Parliament that most nations are privatizing Telecommunications. Of the 25 organizations for Economic Cooperation and Development (OECD) countries, only three have a fully privatized national telecom operator.[xlviii] Non have anywhere near an infrastructure so near ready for digital transition as Australia.

Let me quote a reference by Bruce Page who once was a reporter for a newspaper now owned by News Ltd:

"Freedom only for the supporters of government, only for the members of one party – however numerous they may be – is no freedom at all. Freedom is always and exclusively freedom for the one who thinks differently…. because all that is instructive, wholesome and purifying in political freedom depends on this essential characteristic, and its effectiveness vanishes when "freedom" becomes a special privilege."

14 A digital package but not without blackboard and chalk

Digital multi media is far too important to the future economy and for the development of intelligent societies for it to be left to the uncertainties of "market forces". Its special social values include education and diversification of opportunities and choice. Government policies should stimulate, not destroy these opportunities.

The Government has now a clear opportunity for action. To have speedy and responsive telecommunications that include television and multi media channels to consumers from Governments, Libraries, Schools, Universities, Research Centres, Stock Exchange etc is one way to bypass the media filtering of information, an action several countries already adopt.

A wide variety and diversification of independent newspapers, independent magazines, and independent books, together with paper and pen hand writing tools contribute far more powerfully to the learning / brain development processes for intelligent thinking and entrepreneurial opportunities than could ever be achieved by television. They should not be constrained by cross media ownership or vertical market monopolistic controls. The best ideas for the progress of science and technologies still start from small groups of highly intelligent young people working together in front of a black board with chalk, not from television.

The new digital media options today include the world wide web, enhanced inter active services with digital television, digital radio, home personal digital video recorders, and multimedia delivered on second and third generation digital mobile phones. In the future, broadcasters will use the same public networks infrastructures used by commercial and private users.

Variety, diversification and independence of media are the requirement for pluralism. These lost values and opportunities must be re established. As it is a requirement for efficient physical markets, telecommunications policies should permit open channels to horizontal markets, uninhibited by cross control and cross ownership of businesses, for all contributors, producers and supplies, and for all consumers.

The need for common standards for consumer markets is well understood and recognised as one essential requirement for efficient markets. Establishing and regulating common standards is not without risks and errors. Public involvement with trials and commercial development is essential. Universities are excellent institutions for this.

Many products could be delivered to consumers in their physical format via physical distribution transport systems or in their electronic format via electronic distribution transport systems. Book retailers could distribute a Science Encyclopedia or a book on Art, physically by Australia Post, or electronically via a terrestrial channel, via a cable channel, or via a satellite channel. So physical and electronic carriageways become in the marketing sense, options within the marketing distribution channels. All producers should be permitted their choice of delivery of their products to markets,

using distribution channels and physical or electronic carriageways of choice. No longer is it a requirement or should it be an option that physical goods and service markets must follow strict behaviour laws while media markets are a law of their own.

15 Conclusions

I have explained how The "Hilmer Report" ignored the long-term technology and social dynamics of markets. Due to the wide spread informalities proposed in the Hilmer report, severe constraints have been place on trade liberalization. Government has lost control of the legal, technical, financial and social policies for telecommunications, and lost control of the digital transition and media diversification programs initiated in the early 90's. Telstra is controlled by media power, not by Government.

I have explained the processes that allowed a media cartel to control Telstra and the devastating financial and social damage to Australians from privatisation policies. Government no longer has the power to enforce telecommunications regulations or trade practices to protect consumers from abuse. I have explained that these are dangerous undemocratic trends and are severely inhibiting opportunities for vastly improved efficiencies of telecommunications and consumer choice.

The evolution of the telephone has proved that it works most efficiently as one public integrated network with open access to all. The new digital technologies for telecommunications, television and multimedia public services are very sophisticated, very flexible, seamless and a most efficient extension of the plain old telephone network which it should soon replace. It is one complete package.

With the digital transition program under control and with common standards across all carriageways, Government regulations and commercial administration processes can apply equally to the telecommunications logistics of our nation as it does for the physical logistics of our nation.

New technologies are ready for Australia to provide revolutionary opportunities that will dramatically improve efficiency and stimulate the economy of Australia. Young Australians will have new entrepreneurial opportunities to enter and to compete in international markets. It is not only democratic but legally, technically and economically essential that Government controls Telstra and installs throughout Australia the electronic transport standards, infrastructures and disciplinary controls, as we do with physical transport standards, infrastructures and disciplinary controls.

Telecommunications, television and inter active multi media impacts on all involved in trade and commerce, in public and in private affairs. It is an essential infrastructure for all. It is central to the intellectual, economical and social developments of all Australians. It is a central Australian institution. It is far too complex and far too dependent on advanced sophisticated technologies and has too many conflicts of interests for any

one private company to manage and to develop for the future. Because of the foundation work by Telecom Australia, no other nation has Australia's opportunities.

It requires a coordinated long-term program involving the best of the relevant skills and talents within our nation to develop and rebuild a firm foundation for the future Australians. This was once understood. The Government's political focus on "economic rationalization" put this program completely out of focus. A responsible Government will uphold democracy and will build a sound telecommunications foundation supported by the relevant University research and engineering foundations to service and support industry and commerce, communities and families throughout Australia.

Dramatic efficiency gains will be achieved and social lifestyles improved in all markets and all communities. Telecommunications will be open to all for new opportunities in trade and commerce, in education, arts and culture that are currently blocked by Telstra's imposition with proprietary devices.

A Commission, responsible directly to all in Government, will plan and control the progressive repair and further expansion of a technically advanced and internationally respected digital telecommunications infrastructure. This commission will assist Government so that all in Government and all communities are able to closely study in a transparent way, as with the FCC, the long-term plans and monitor progress.

The commission will integrate objectives within local communities, for their effective supportive roles, education, training and subcontracting and software management systems. This program concept will re establish the Government's new Australian Telecommunications Commission as a world respected Australian Icon.

Technology is the world's fastest growing economy. It is essential that Australian Government via the commission be totally informed of the international technologies, directions and opportunities.

Policies should unite Singtel and Telstra digital transition opportunities and objectives, not divide. Policies should build multi competitive markets, not media monopolies. Policies should be for the people not for cartels.

Australia has an opportunity to become a world leader. It requires Government to nominate the commission, announce the mission, monitor and support progress. Australia has the talent, the infrastructure and the opportunity. There is neither need nor purpose for Government to bring in outsiders. Australians will call for help, internationally, but not for control. Australia is able to start from within Australia and earn its independence for Australians to enter global markets for Australians.

Appendix I

Brief History of Telecommunications in USA

In 1837 Samuel Morse invented the Telegraph. This was a very slow digital system. In 1845, with private money he formulated a company. By 1851 there were 50 telegraph companies servicing railroads, newspapers, banks and Government. In 1856 the Western Union Company was formed. By 1866 Western Union had absorbed all telegraph companies.

In 1876 Alexander Graham Bell patented a "voice" system. With a financier to back Bell and his partner Watson, they formed a company that soon had 600 subscribers connected by wire pairs. Ringing codes were used to identify users. By 1876 the plug and socket switching was invented, using "exchange" operators. Western Union adopted the Bell system and a dispute followed. An out of court settlement resulted in Western Union buying out Bell. Western Union established many Bell franchised regional operators across USA that did not interconnect.

In 1885 AT&T was formed to build and operate long distance lines to interconnect regional Bell franchisers. By 1911, the regional companies were re organized into large companies known as the Bell associated companies using the Bell system headed by AT&T. With electricity available to cities and with progress in switching technologies, major progress was made in efficiency improvements.

(Internationally, Governments were adopting the system as a public utility. The system was recognised as a natural monopoly with the infrastructure builds on public property. The Government owned the telephone monopoly, was accepted as efficient policy, until interrupted by an economist proposal that spectrum was valuable and could be auctioned by Governments.)

By 1947, the transistor contributed to major changes and efficiency improvements.

It was recognised in USA that wide spread general-purpose communications could have significant national benefits if and only if they were developed in a uniform and compatible and inter operable way. The State and Federal Governments considered the concentration of private investments in only the more populated centres was not good enough. What was needed was universality, the ability of a person at any telephone to communicate with a person at any other telephone. It was also recognised that telephone companies should make a fair profit for their investors and for the risks they were taking.

Several Regulatory requirements emerged, interference, spectrum management and standard numbering systems. Common carrier

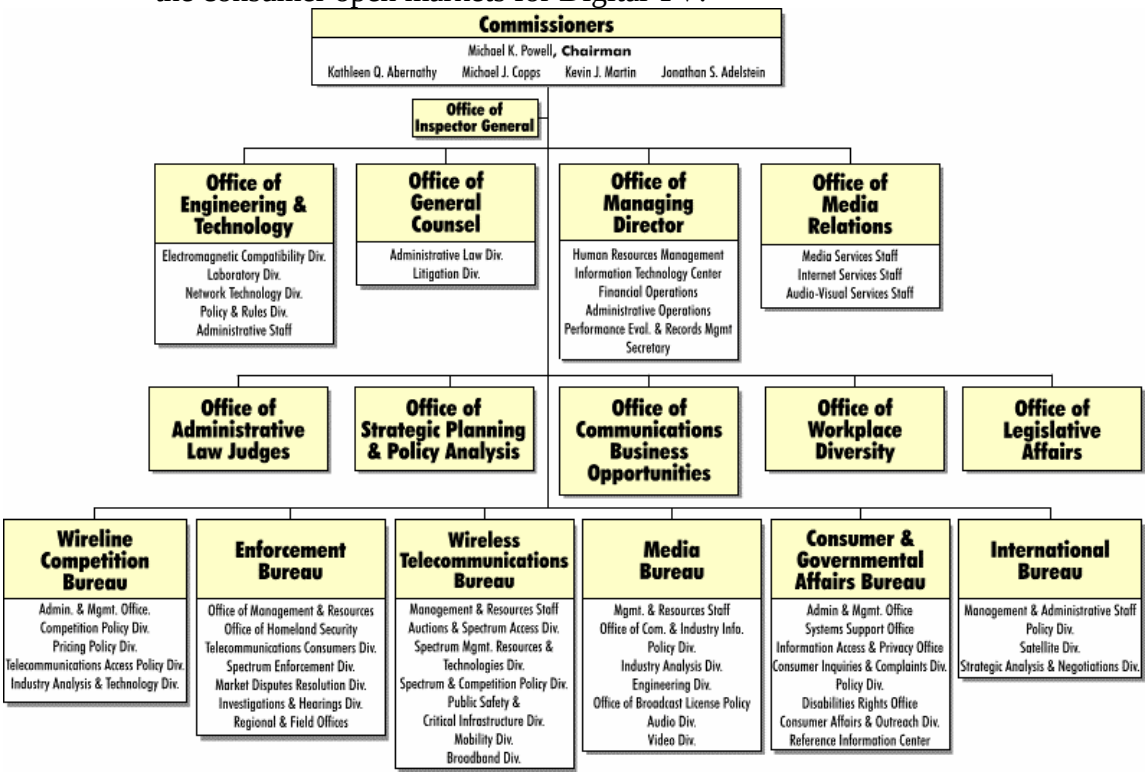
regulations emerged to ensure a limit on the number of companies that provided public services. The idea was to prevent the duplication of services and waste on capital intensive infrastructures. Private companies are regulated in return for which they are permitted to be a monopoly in their territory.

In 1910, the "Interstate Commercial Commission" (ICC) was formed to control standards and prices across States and to ensure remote areas were supported with phone infrastructure builds. Conflicts and confusion developed as rural populations expanded and became part of the urban population. AT&T were forced by the regulators to divest its large monopoly into many regional smaller monopolies of non-overlapping networks.

Political issues included whether ICC was more concerned with transport than telephony and radio. In 1934 the Federal Communications Commission (FCC) was formed to regulate telephony and television, while ICC concentrated on physical transport. More recently the FCC was made responsible to the President for regulating satellite, cable and terrestrial spectrum for telecommunications, television, radio and interactive media including investments from USA in international circuits.

The President appoints the commissioners. Only three of the five can be appointed from the ruling party. None are permitted to hold interests in FFC markets.

As explained above, the FCC is currently providing new initiatives for the consumer open markets for Digital TV.



Appendix II OFCOM in UK

3 OFCOM(General duties carrying functions)

OFCOM, like Australia seem to have in their regulations conflict of interests.

3 (1) (b) states: to further the interests of consumers in relevant markets where appropriate by promoting competition.

And then in (2) (a) the optimal use for wireless telegraphy of the electro-magnetic spectrum. (Telegraphy disappeared early 1900's)

And then in

4 (c) The desirability and promoting and facilitating the development and use of effective forms of self-regulations.

As the UK markets have been stifled by a media monopoly on satellite and private (or council) cables, UK would have few experienced operators to provide input re new seamless packet switching technologies, but certainly News Ltd in UK would have powerful influence on their regulations policies.

However, following a transition to digital and following the directive as put out by the ITU their policies are in direct conflict with digital seamless technologies.

UK have had no market experience yet with these technologies where, as in Australia we actually have had these systems operating, nationally, on the Telstra cable, the first nation in the world to do so, before News Ltd removed them.

The FCC has already announced their open standards directions. UK and Australia have no regulations for the diversification of subscription, the abusive monopoly.

The commitments by Governments in UK and Australia to media would be difficult policies to try to get into the USA and I would say impossible as recommendations from the EEC to its member countries, where the industrialists are so technically advanced.

This is the digital divide. UK and Australia are prominent proponents to the divide. The EEC, WTO and World Bank are extremely critical of these developments, as one of the major causes of inequality of wealth distribution.

Self-regulation permits proprietary use of the industrialist's technologies. This allows monopolies. The customers can only change services by purchasing a new phone or in future (a new multi media hand piece).

The service provider's main occupation then becomes to sell their proprietary upgrades, new phones.

Government is inadvertently supporting private monopolies. Consumers have few options from complex bundled offers that are long-term contracts to sell phones, usually with penalty clauses. This has been claimed by "economic rationalist" as the way to create more competition. It actually creates monopolies and gross inefficiencies.

For example, perhaps Government may be thinking they could allow private monopolists to purchase licenses to buy Government auctioned permission for the road from Chatswood to Hornsby. (Or to build a new one in parallel with the existing road with their auctioned privilege to do so) for the private and "self regulated" self-control of the transport rules on their own road.

One road owner will sell left hand drive Ford cars, the competitors road will sell right hand drive Holden cars. Holden must supply only right hand drive cars to this licenced road owner. However a new licence issued in Melbourne wants Holden but left-hand drive and with diesel engines.
That is the business of auctioning spectrum.

Or

Like roads, one infrastructure services all. Strict regulations for common standards to maximize the efficiency in markets, maximizing the use for many operators whom all compete in a level playing field. All electronic industrialists compete in horizontal multi competitive markets. Government builds the flexible and dynamic "electronic roadways" as one integrated infrastructure. This is shared by all operators, for all trade and commerce needs and consumers' social needs, the most, near ideal system for innovation, efficiency and competition in multi competitive markets, fair trade and flexible choice for consumers and a democratic nation. (Government for the people.)

No such recommendations have come from the board of Telstra, a company that was once the world pioneer of the latter concept.

UK is still under "media shock" from News Ltd's play in vertical integration of subscription TV that vertically monopolized subscription markets and recent powerful Newspaper plays. (This is not diversification of media as promoted by OFCOM's document!)

The UK Government is beginning to recognize the damage from proprietary systems and like Australia, is battling with the concepts between privatisation and regulations for consumer markets. The BBC has been most active re "open market policies for digital TV". As the first corrective action from constraints on media diversification, the UK Government has financed the BBC in a five-year plan to establish

about 30 free to air digital TV services and inter active web services. This is currently outside OFCOM control.

UK citizens are also close to Europe and observe the differences in their market opportunities. (The responsibilities for implementing ECC recommendation are still by each Country Parliament.)

May I suggest a complete new document set out for post transition regulations. This would be unique to Australia as no other nation has an Infrastructure that has progressed to this stage of opportunities for the new technologies. I hope Government may at last understand how advanced telecommunications were in Australia, and still are, even with the present corruption to the system.

The Australian document could be based on a simplification of the FCC documents style and layout (without the damaging concept of spectrum auctions)!

It would require supplements that cover the transition.

This paper and suggestions is based on Telstra remaining as a public service committed to complete the digital transition program. If it does not, the media will be drafting the regulations for Australia.

Spectrum Trading - Definitely not

Appendix III Australian Regulations
- Suggested <u>critical</u> changes to The Act:

6 Objects: To revert to strictly regulated public control by the Commission,

(The tremendous damage to the economy, to opportunities, and to the rights of citizens, must be halted urgently!)

(b) To provide an infrastructure where carriageways for digital telecommunications, television and interactive multi media are available to all

By 2008 for x million connections
By 2012 for y million connections
Thereafter for all applications for connections

(c) To promote diverse innovative carriage services

NB –not content- the infrastructures are roads to service market content providers (industry and commerce) - it has been a most destructive policy to fair trade and should never have been permitted. A Telecom should not compete with "carriageway" users. This is exactly what powerful private monopolists want. This is most dangerous, especially with digital and self-regulation. It could be used to completely promote or destroy any business or any person at any time!

This has already allowed News Ltd to monopolize PayTV and gain control of Telstra and use Telstra public funds to do so. In a digital network any private controller of telecommunication network, can at any time, monitor and analyze the traffic and could do the same with any other business or person of choice if this clause remains. We have already experienced that Government has no power of influence over these events with deregulation policies. The wrong "market forces", the ones that manipulate the principles of democracy are in control. (The digital divide, these serious concerns are highlighted by the EEC and WTO).

(d) If this means parallel operators, definitely no! If this means suppliers and contractors etc, yes.

To promote the effective participation by all sectors of the telecommunications industry in supporting the build and operation of an efficient digital telecommunications infrastructure

7(a) Promote the greatest practical uses, efficiencies security and confidence and trust for industry, commerce and social needs for all Australians from all public digital electronic carriageways

The carrier is the responsibility of the new Commission.

The proposal in my paper would mean some special arrangements re existing licenses and renewals. The FCC will have ample experience of this as a reference. Remove the completely unethical practice of an infrastructure operating in competition with the markets it services! Media cartel's objective!

"NO CARRIAGEWAYS COMPETE IN BUSINESS WITH USERS OR SERVICE OPERATORS OF THE TRAFFIC ACROSS CARRIAGEWAYS!"

Appendix IV

The commission for the reform program

The ACCC has announced that Telstra is too big to regulate. The problem is that Australia is not implementing Government regulations. Australia has lost regulatory control of Telstra. Without engineering standards in place to test conformance and discipline the behaviour of Telstra, Government has lost control of telecommunications technologies. Telstra is out of control of Government, financially, technically and legally.

No private company has the where with all, the means to correct the damage, let alone build a telecommunications infrastructure for the future of Australia.

For the public protection, urgent correction of these irregularities must be top priority.

Immediate Objective: (as a starter)

Government has systems and procedures in operation to ensure conformance to international standards for telecommunications, television and inter active multi media throughout all electronic public carriageways and for relevant consumer products expected to be sold into consumer markets.

Telecommunications conform to standards throughout all public electronic carriageways that permit open access for all to all public networks for telecommunications, television and inter active multi media.

The proposal:

Set up the commission, three members from the Government and two from the opposition:

(Alternatively Australian / Singapore Governments,)

Within the public domain, to be responsible for disciplinary and regulatory control of :

Technologies
Standards
Spectrum
Satellite
Cable
Terrestrial (- mobile phones, radio and television)

And including telephone copper wire pair systems

Objectives: To repair and restart the Government program for digital transition

To mandate the standards to be used for digital telecommunications, television and interactive multi media in Australia. These are all complete and available from international standards organizations.

To inspect Telstra and thereafter, all operations for financial, technical and legal irregularities and report to Government, to inspect for covenants or arrangements that may be used by Telstra that have not been disclosed to the public, to initiate repair actions, (component and software replacements in Telstra for re standardization)

A legal department to define for Government the non-compliance activities in Telstra re finance, commerce and regulations

To draft regulations proposal for a total digital transition

To allocate to Standards Australia committees, work schedules, to quickly adopt the international standards for digital telecommunications, television and interactive multi media to international and inter operable (seamless) standards. They then can be called up in regulations and used if necessary for legal disciplinary actions. There should be no need for local changes at all. These will be the documents as input for Universities to set up compliance testing

To install all necessary testing equipment with training to qualify engineers for the technologies within a University unit, to report to the commission, standards compliance and non-compliance of hardware and software for networks and consumer products

To ensure that all the public networks are under the engineering control and discipline the commission

To ensure that network operations exclude commercial operations that compete in markets (as for roads). (Special cases for Government committed private networks for an interim period, strictly regulated)

To set up a research and engineering group for trials of new public service systems and processes and plan technical and commercial proposals

Plan and implement digital carriageways to service for consumer markets

Modify all electronic public carriageways systems to conform to international standards

To supervise all network engineering

The ABA / ACA and (Singapore equivalent) would report to the commission (further study)

Phase two (options): To evaluate whether Telstra Singtel could be one telecommunications company. (Telstra disposes of all commercial activities.)

[i] ***Telstra Profits and Telstra share trading.***

Telstra is a most profitable technology foundation for Australians. Its book value is about $12 Billion. Its market capitalization is about $60 Billion. Telstra book value, 95cents per share. This is book value per Australian of about $600 each (600 shares at book value, $3000 at market capitalization). Telstra earns for each Australian, about 35 cents and pays about 30 (+ or-) cents dividend, a very high pay out ratio. Each Australian earns $180 per year from Telstra. Why deny the citizens of Australia this financial benefit while allowing Telstra to be controlled by a media cartel, which will still control Telstra if fully privatized? The difference is that that about a million shareholders, powerfully influenced by media cartel will control Telecommunications, technology policies and finances without legal constraints.

News Ltd dividends is about 0.3% of share capitalization. In spite of continued media reports that news Ltd profits are up by 23%, -26%, -24%, the results remain near a pittance, relative to the huge market capitalization. Telstra is about 5.5% share capitalization. Telecom Australia was even better.

Media will have the influence, not Australians, to use these assets for more media objectives, not efficient telecommunications objectives, that is, continuing what they have used their power over Government and markets to achieve already as explained in this document. The media should already be paying its correct rent and use of Telstra and Singtel. Foxtel is by far the largest user of Telsta and Singtel digital networks. The public are already subsidizing analogue and digital PayTV traffic (Foxtel channels) at least about 50:1 perhaps 100:1 - 20 Mbts each channel 24 hours, seven days per week throughout Australia.) This is blind man's bluff. This is the problem with media today. Keep everyone ignorant and they will not know the difference. Education provides enlightenment and understanding. Government with an Engineering Foundation experienced in the telecommunications technologies will have the independent resources of knowledge and the experience of practice to make wise choices and act democratically for Australians. The Minister would not need to travel with Telstra representative to find out if Telstra is up to required standards. But then the Minister is not visiting local or remote homes, trying to connect TV's and PCs and Internet to any or all rooms of choice for a family.

[ii] ***"Market Power, irreversible investments, and politics" page 125*** *"The problem of infrastructure provision has its roots in the potential from market power that results from economies of scale. It rarely makes sense to have two competing roads between two points – or competing electricity grids. Indeed all infrastructure activities were once thought to be "natural" monopolies so that one supplier could serve a particular market. However, the potential abuse of market power in services that effect many consumers creates pressures for Governments to intervene through intensive regulations on private suppliers or through provision by the public sector. Whether provision is public or private, governments tend to tightly control prices that the infrastructure providers charge and are reluctant to allow prices to rise even when costs have."*

The accompanying Chart 6.6 on page 126 is headed "Investments in infrastructure projects with private participation has recently fallen."

- *World Bank – "World development report, 2005.*

[iii] ***Emerging market structures in the communications sector***

– a report from the ACCC to Senator Alston, June 2003, clearly identifies the cartel.

[iv] ***The Management of Infrastructures****: The autobahns of Germany are an excellent example of efficient infrastructure management.*

[v] ***Media Cartel Objectives achieved****:*

"Pay TV …record 60.5 percent of viewing in first week of 2005…17.6 percent of all TV viewing…"

Financial Review, Friday 21st January, 05 P34.

[vi] ***See Telstra website*** *For organization structure, this omits a strong engineering unit. Why?*

[vii] **The Hilmer Report**, *NCA 1992 - 1995*

The FCC announces a common digital platform, Announcement 2004
www.fcc.gov/cqb/emailservice.html

[ix] ***Hansard*** *12th June 1997*
- *Government clearly recognised the waste and overbuild as far back as 1997 (see FCC p47)*

[x] ***ITU announcement****, see also concerns RESOLUTION 2 www.itu.int/osg/spu/resolutions/2002/res2.html*

[xi] ***DVB Organization*** *–International standards*
Consumer Access "The DVB set of IP networking protocols will be network independent…"
www.dvb.org
ETSI – international technical standards www.etsi.org
See also European Broadcasting Union website.

[xii] ***A paper***
was prepared between Philips and Telecom Australia to explain the attributes and expectations of the new program. At the time the Australian leading electronics magazine was taken over by PBL. When the paper was offered to the magazine for publication, the editor's response was "I don't think Mr Packer would want this published." The paper was published in leading technical publications in Europe.

[xiii] ***Pluralism****: Repeatedly, the electronic industrials' responses to the continued Fairfax reporting and promotions, using economists to do, is never published.*

[xiv]***Expensive and inconvenient***
Any evening, to have all market options, to record one program while watching another, the consumer must have three separate cables expensively installed into his house, and around the home for a more enthusiastic user. For choice at any time, the consumer has to buy (or rent) three digital television receivers, one for Foxtel, and one for OptusVision and one HDTV receiver for free to air, each connected to its own exclusive cable. Then, the consumer has to then buy a display for each digital receiver and speakers for each digital receiver, otherwise he has to unplug and re connect these components. But he has to connect his digital VCR, but to which one? (Or three VCR's one for each?) And then he has to connect his DVD recorder/player, some where, some how. Now for the household who demand choice and flexible options for the family, this has to be repeated for each viewing area in the house!!

[xv] **Reg 3, 2, (d)**

[xvi] ***Gregory Tassey, Senior Economist NIST, 2004***
Indicators of long term under investment in technology
Persistent trade deficits

[xvii] ***Governance and Institutions World Trade Report 2004***
"The notion of an institution embodies several elements: formal and informal rules of behaviour, ways and means of enforcing these rules, procedures for mediation of conflict, sanctions in the case of breach of the rules, and organizations supporting market transactions. Institutions are more or less developed depending on how well these different features operate. They can create or destroy incentives for individuals to engage in trade, invest in human and physical capital, and can bring about the incentives to engage in R&D and work effort."

[xviii] ***Singtel Board of Management –***
see Singtel website for organization structure.

[xix] ***Hansard*** *- Thursday 12th June 1997.*
– Government aware of the reasons for underground plans to be built above ground.

[xx] ***Hansard*** *- ECITA 76 2002*

[xxi] ***Engineering Responsibilities***

It seems most unusual that Government allows the most important role in Australian's Telecommunications Institution, engineering, to be managed by a lawyer. Surely Government should not expect a lawyer to be in charge of the sophisticated and complex technical issues of broadband, Foxtel and Digital Media of Telsta and to be experienced with all engineering and technology issues. It is quite unfair to expect a lawyer to have a worldly appreciation of international research and developments, especially while these technologies are evolving in a very sophisticated way. The necessary interfaces are with the Board of Telstra, with Government and with international research and world technology forums, and the most essential and most important interface of all, with Australian Universities.

Government must be able to realize that this grave organizational error would be the prime reason and major cause why Telstra is neither "Fish nor Fowl" as commented by our Prime Minister.

Telecom Australia was one of the few most advanced in the world with the engineering experience for a total national optical fibre and a digital telecommunications system to international standards. It is quite understandable how "Market Forces" from outsiders could influence a lawyer. These have diverted Australia away from international leading technologies. Australia's future in telecommunications depends on the Government to now re establishes Australian engineering to world's best practices, by employing brilliant engineers not lawyers. The start now is for urgent support via Universities.

The Government Ministers responsible for Telstra, an Australian telecommunications foundation, have been continually well informed by the international and local electronic industrialists of these most important issues for Australia.

[xxii] ***Macquarie Communications Infrastructure Group (MCG)***
listed August 2002) see their site for clear explanations of businesses.

[xxiii] ***ABNA*** *The consolidation of Australian Broadcasting Authority and the Australian Communications Commission.*

[xxiv] ***EEC European regulatory Policy*** *– "Media plus 2001- 2005"* http://europa.eu.int/scadplus/
"Television Without Frontiers"
"Community's audiovisual policy in the digital age"
"MEDIA Plus"

[xxv] ***"Higher Bandwidth Incentive Scheme"***

The citizens of Australia are expected to contribute to the costs of subsidizing private companies who collect from the "Higher Bandwidth Incentive Scheme". These are schemes to continue to be interruptions to a transition program. Post privatisation, this process will continue. Australians pay to expand services while shareholders profit.

This is technically and financially irrational and hardly democratic! Government should not be blindly offering incentives. Government should be providing the technical and financial specifications for seamless carriageways, as approved by an experienced engineering group within a University and then after all public input and tendering, select contractors to build the electronic carriageways. Without this, Government has no sound planning for efficient infrastructures. Otherwise, like the sale of Telstra, Australians may be having their money removed by what could be illegitimate means. We have utter chaos.

USA strictly regulates that private telecommunications companies must endeavour, at their costs to provide equality of services in remote areas. For this strict regulatory control, private companies are permitted to be the one monopoly in their service area. See FCC comments re continued legal costs and problems on their website, even with severe penalties and strict legislation. See xxxi below

[xxvi] ***Irrational excuses.*** *To claim that Government (the people) must sell Telstra to pay off debt is irrational when the earnings for Government from Telstra are three or four times book value*

per year. This would permit Telstra asset values to allow Government to borrow substantially more, or more easily pay off debt than without Telstra. To sell Telstra to build new infrastructures seems also conflicting with the Government continued processes of selling off infrastructures. Why would Government sell one of the most strategically critical catalysts for a digital transition program, while now corrupted for our nation, the most important infrastructures in most urgent need of repair to build another? If Telstra cannot raise capital while in Government hands, it must be relate high risk in private hands. (Bond, notes, more share issues, keeping Government the major shareholder are a few. In private hands Telstra is excellent financial and commercial value to the media cartel.

[xxvii] ***More propaganda*** *to advantage monopolists – even "economic rationalists" should understand this as a false claim!*

[xxviii] ***See Stock exchange recent announcements*** *re Fairfax and News Ltd aligned arrangements to swap Media assets in New Zealand to further concentrate each other's media markets. This is in direct opposition to the Hilmer report intention. See Stock Exchange announcements for details (not published. Does this seem hypocritical from the Chairman of the Hilmer report.*

[xxix] ***Hansard*** *– Thursday, 12th June 1997*

[xxx] ***High-speed*** *is the normal term but " speed" of electronic communications is relatively constant for low or high-speed services (volume of "products") without interruptions, one seventh of a second to circumnavigate the earth. The so-called "Low-speed" or slow services occur because of the delays, the waiting time at loading and redistribution points for "products" to be loaded onto and across the different transport systems (buffering). Markets need clear definitions and standards in order to remove the misinformation re network speed capacity and distance. High-speed" services soon become slow speed when networks become overloaded. New technologies provide for the setting of priorities.*

[xxxi] ***Colin Powell, Chairman of FCC***

"In 1996, no one could have guessed that nearly a decade later the FCC would be on its fourth attempt to develop local competition rules that are lawful. We hope to end that here and now, for the market cannot possibly continue another day plagued by an ever-shifting regulatory foundation. We can only hope that the fourth time is the charm." RE: Unbundled Access to Network Elements (WC Docket No. 04-313); Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338) 2004

[xxxii] ***Cross polarization of policies***

To use another example to show that the Hilmer report conflicts are not just with the telecommunications industries:

The same vertical market manipulation occurs in a slightly different way when Governments allow capital intensive build and preferential town planning for major shopping centres schemes and car parks. Government has deregulated the controls that would otherwise protect small businesses in the Westfield shopping centres from the unreasonable demands and abusive trade practices that were illegal prior to shopping centres, but now "self regulations" impose.

The "economic rationalization" concept does not take into account that the now unprotected small independent retailers made a commitment with entrepreneurial risk, courage and effort to establish the original "town centre". They inaugurated the distribution channels for markets to expand industry and enterprises to develop. They no longer have assistance from a Government for the people / community program, to re establish, refinance, re engineer a new shopping centre for and by their local community. In a locally responsible plan, other needs would be included as old established business and buildings that overnight become valueless and will close down, that once was easy shopping for the elderly, the handicapped, and the families without transport. Or the huge storage coolers needed as travel distances are now much longer for many, or no cars to claim fuel discounts. Instead monopolists predators exploit the local economy with their new "self regulation that exceed the consumer" rules.

A Fairfax Newspaper does not expose the market abusive unnoticed small details and fair trade conflicts of "self regulation" practices to the public that have now been imposed in addition to rentals for the retailers forced to use the new major shopping centres. They now are under rather abusive constraints of the self-regulations "shopping centre rules". As the Chairman, Mr Hilmer of Fairfax is also on the board of Westfield with Mr Lowy, it seems unlikely that Fairfax Newspapers would comment on these issues. Another problem with cross board / media representation and market forces policies.

These are similar to the areas of neglect of Telstra's monopolist privatisation program and subscription policies, not capitalism working efficiently, but monopolists working efficiently.

[xxxiii] ***See "Weekend Australian Financial review", Jan 15 –16th 2005***

- " The men who would unwire Australia". This is typical propaganda by media to completely confuse the public. " …Nationwide Unwired owns a slice of radio spectrum it bought from the Australian Government for $108 million in 2000, and it's using that spectrum to turn the tables on traditional internet companies such as Telstra by offering high-speed internet connections over air, with few of the costs normally associated with broadband internet rollout…." And goes on to say "transform Australia into one of the most connected countries in the world in less than a year". Unwired makes losses of over 5 cent per year on 35 cent share assets, not a sound return for a superfund that has confidence in Fairfax reporting.

(See the IEEE site and the international standards for these well-developed technologies and severe technical constraints).

[xxxiv] ***Manufacturing in America US Department of Commerce2004***

"We are in a highly competitive state with other countries that have taken education very seriously for a very long time – from small countries like Denmark which have been at the peak of pushing kids into the education world. China graduated close to 40 percent of engineers as undergraduates last year, our engineering graduated less than 6 percent. Now that should be a frightening thought for us all". – Phyllis Eisen of the National Association of Manufacturers, USA.

[xxxv] ***Australians, Market Capitalization, and True Knowledge***.

News Ltd proprietors have not become members of the world's richest and a global company by re investment of relatively rather meager profits. News Ltd has a special advantage that permits the media to influence where and why people should invest their money. They also have other advantages.

Australian accounting standards in the past have provided market brokers a special privilege in Australian markets to raise cash in ways that would be considered as not legal in most other nations accounting standards.

In the years prior to deregulation of the stock exchange, it was easy for any one to purchase at little cost directly from the Stock Exchange published very detailed reports of any or all companies' financial history. Information as to shares issued at par, part or fully paid, Directors, and their cross interest in other companies, etc. Newspapers had to provide detailed reports re book value, paid value, par value etc. of shares. Since deregulation, this pertinent information to the public is no longer a requirement or is it the case as the regulations made it an option.

Today, investors or potential investors must purchase this information from distributors of the information collected by the stock exchange, which now could be filtered. The more detailed the information the more expensive it becomes so potential investors must sometimes pay a high price to find one small element of critical information. Current annual reports are available on the Internet via a subscription service, but only after extensive time taken to find, and very expensive process to collect and print, way beyond the free time or free cash of an average worker or family.

Today, the par value and paid up value of shares is not a daily Newspaper report, as it once was. The markets must rely on market capitalization value of shares with little explained background of why and how their value relates to risks, in most cases some ones inside knowledge and sometimes kept in confidence information. Knowledge kept in confidence or promoted to inflate market

capitalization is not inside trading. Nor are confidential arrangements across board membership. But both can be extremely manipulative in a far more serious way than inside trading.

The Australian accounting standards permit an Australian Company to raise cash or equity against the Market Capitalization value of the Company, which can be very much higher than book value or even the only value. The more Market Forces a company has to promote its expected future values, the more chance to lift its market capitalization, which can be used by power brokers to raise cash for the company. When this market capitalization is high-risk future expectations, the markets are very dependent on the future values as prophesied by the Chairman or board being realised. Markets rely on independent professional media analysis to verify the long-term risks and rewards, or on the reputation of the history of the directors to have operated most satisfactorily profitable businesses.

Media markets with a wide diversity of independent market power and market penetration will provide the public completely independent evaluations and generally is the only means to protect consumers and retirement funds from exploitation. Australian markets do not have this diversity. Cross media involvement and participation from newspapers, radio, television and magazines and many other private companies, is completely an inbred part of Australian's relatively small society. The Chairman of Fairfax is on the board of Westfield. PBL is with News Ltd as shareholders in Foxtel. Deregulation has permitted this intensive cross proliferation of inside shared knowledge and participation by astute and influential operators.

The WTO and World Banks promote international accounting standards for industry and commerce in all markets for fairness in world trade. Australia media regularly promote reasons why this is "unsatisfactory and unfair" to Australian businesses.

News Ltd with substantial market power and most inventive schemes and astute management has used this Australian opportunity. Equity has been raised against this current revaluation to venture into risky domains as was used to monopolize PayTV in UK, and the raising of equity to buy six TV stations in USA. These are opportunities in Australia's accounting standards of promoting the Chairman's opinion as the future expected value already capitalized in the current balance sheet, where otherwise cash would not be available. Most companies have no means to do this. They are at risk as to what the media opinion is of their company.

Other devices are the re valuation of " brand names" as valued internally by the Board to increase the capitalization (market perceived value) of the company. The are ways to increase cash by the company trading its own shares.

Economists have proposed and promoted that patent and intellectual property should be capitalized. As any industrialist knows, the value of any patent or intellectual property cannot be known until market performance realizes a profit from the patent or intellectual property. However, economists promote that these concepts should permit revaluation as internally valued by the company. These are contrived unrealized risks that economist want to be labeled as <u>current</u> capital. The media regularly promote such supporting economists' points of view. The reasons to the contrary are left to the uninformed investors to find and study alone. With little diversification of media, it is unlikely that the uninformed investor will ever know the risk.

When a company can demonstrate to the market that it does have a patent of value, by competitive analysis, markets can revalue the company shares. When markets have no way of competitive evaluation investors are at risk. Media have this very special privilege. When there is no independent competitive evaluation of their stated market objectives and expectations without exposing markets risks, markets are at risk. Media companies tend to exploit their own aligned promotion (media swap between News Ltd and Fairfax Ltd) but be severely critical or not even mention attributes of other investment opportunities, unless of course some one is alerted to a take over bid.

Another example as used by OneTel is to issue 1.4 Billion 20-cent shares at par, not paid, but by using their privileged market forces raised these shares to very substantial market value. OneTel traded these shares to raise cash, which later allowed a buy back of $8.50 for one unpaid share and then a 1 for 9 share consolidations. The $2 par shares were trading at millions per day up to

a peak of about $13. (See OneTel "Huntleys' Shareholder" 19th edition, and the following trading history, and cash return to founding shareholders and trading pattern following from June1997 – June 2001.) This is quite legal. Cross representation on Boards and as for instance a board member of the Reserve Bank, involved also in Board membership of the Stock Exchange and private companies must create conflicts of interest. When markets are not aware of or how the cross relationship of board members, investors could be making ill-informed decisions. We no longer have a media input to the public that expands these very relevant issues to the public, who are legislated to pay 9% of their income into this very risky market.

The Government can assist by adding into the super fund regulations that the stock exchange publish and supply directly all market information to the public. This would stop media filtering and media exploitation of market information. Consumers will have choice.

News Ltd inventiveness is already involved with Telstra via Foxtel.

Charles Dickens provided the correct advice about responsible accounting for profit and loss in "Pickwick Papers".

[xxxvi] ***NIES Charts and references*** *"National Science Board, Indicators 2004, Chapter 6"see spectacular economic trends for economies supporting technology.*

[xxxvii] ***Cross Control of media*** *Attitude influences become powerful when the controlling influences extend across Foxtel 40 or 50 channels, a leading commercial TV station, leading daily and weekend newspapers and most leading magazines. This consequence is in stark contrast to a commitment to diversify the media.*

[xxxviii] ***EEC Media Regulations****:* http://www.irmo.hr/culture/conf/medconf()02/Medi_Diversity.pdf

[xxxix] ***EEC New Directions re Multimedia*** *"Programme to encourage the development, distribution and promotion of European works (Media Plus), Ist. Jan 2001- 2005"*

[xl] ***Pluralism*** *When media, re letters to the editor, filter for publication.*

[xli] ***Hansard 27th June 2001****, is another of the many references that could be compiled of awareness of serious problems in Australia. Most using the concept of "Market Forces" for the continued tolerance of these adverse trends.*

[xlii] ***The Act*** *Part 3 Objects, (2) ,(i)*

[xliii] ***Excerpt from Court Summary Telstra v Seven FCA1160 18th of Aug 2000****.*
"…Declaration of the subscription television service enables service providers to reach end users in order to deliver a wider range of services than currently available, and reduces the need for full duplication of communications networks…" Seven lost!

[xliv] ***The World Bank warns*** *of the near irreversible damage to consumer markets by the privatisation of public infrastructures, once under the control of market power. (World Bank Development Report, 2005)*

[xlv] ***World Bank, World Development Report 2005*** *– Many Governments have not yet taken advantages the opportunities of technology change. Page 130.*

[xlvi] ***Communications Update****:*
December 2003, Issue 165 - A later version was not available in time for this input Reference to Media ownership report.

[xlvii] ***Financial review*** *– 1st October, 2004*

[xlviii] **Paul Budde** News Letter, 12th October, 2004