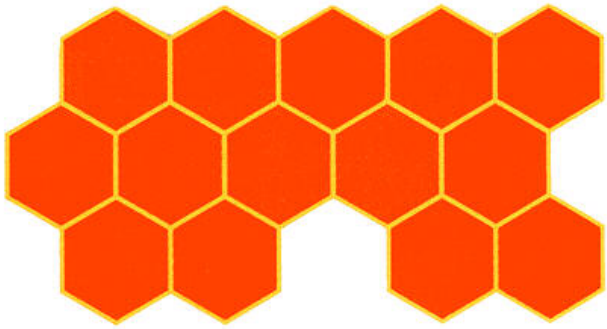

WESTERN CAPE INFORMATION AND COMMUNICATION TECHNOLOGY SECTOR SCAN 2001

March 2002

Produced by the Cape Information Technology Initiative (CITI)

Supported by:

THE PROVINCIAL GOVERNMENT OF THE WESTERN CAPE

BRANCH: KNOWLEDGE ECONOMY AND E-GOVERNMENT

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PGWC – CITI Western Cape ICT Sector Scan 2001

March 2002

We are very pleased to bring you this second sector scan of the Vibrant Cape Information and Communication Technology sector.

The Provincial Government has identified the ICT industry as a key growth area of the Western Cape Economy. One of the foundations necessary for further economic growth identified by government in the white paper titled "Preparing for the Knowledge Economy pf the 21st Century", is the need for the Western Cape to become "a leading centre for entrepreneurship and innovation". The first layer of this particular foundation has been well set. This year's sector scan confirms that the entrepreneurial spirit that produces innovative products and services drives the ICT industry. The government is in itself a key driver and employer of ICT. It is committed to the full use of information technology in it's delivery of services and information to the people of the Western Cape and investors in the province.

The Provincial Government looks forward to continuing this role as a driver of ICT through ongoing collaborations and specific government initiatives like the Cape Online which is discussed in this report.

Sincerely

Dr Harold Wesso

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1 INTRODUCTION

Wesgro and the Cape Information Technology Initiative (CITI) undertook the first comprehensive study of the Western Cape Information and Communication Technology (ICT) sector in 2000. The findings of the study confirmed that the Western Cape is home to a growing and vibrant ICT industry that services both national and international clients. The study indicated that many ICT companies chose to locate themselves in the Cape Metropolitan Area because of the good skills base, high degree of innovation, sound ICT infrastructure and top quality life style. These reasons, together with the favourable exchange rate, place the Western Cape ICT Sector in a strong position to serve as an international hub for ICT product development and service delivery.

In 2001 CITI, with sponsorship from the Provincial Government of the Western Cape, conducted a follow-up Sector Scan to provide additional, up-to-date information and help plan future activities and support programmes for the sector. The Scan aimed to identify what ICT companies are based in the Western Cape, what goods and services they provide, their market penetration, growth areas and future investment opportunities, and trends in the local sector.

The findings of the 2001 Sector Scan, presented in this report provide an important base from which to promote the development of the sector by:

- Fostering networking;
- Lobbying government for changes in ICT policies and regulations;
- Advocating for ICT funding and investment; and
- Connecting the Western Cape ICT sector to funding and foreign markets.

In order to understand the broader context in which the ICT sector is developing, an outline of national, provincial and local ICT policies and initiatives is provided as well as an overview of the general business environment in the Western Cape. Detailed findings on the structure of the Western Cape ICT sector are then presented, followed by an overview of the strengths and weaknesses of the sector in the Western Cape, as well as the key issues and challenges local ICT companies, and the sector more broadly, are facing. The report concludes with an outline of the activities CITI will be undertaking in 2002.

It should be noted that this report is based on a survey of the ICT *sector* in the Western Cape, rather than an ICT *cluster*. While there is considerable overlap between these concepts, the notion of a sector is more narrowly defined and more specifically economic that that of a cluster. A “sector” simply consists of establishments engaged in the same or closely related economic activities[1]. “Cluster”, on the other hand, refers to a group of businesses that not only produce similar goods and services, but

1 City of Cape Town Economic Trend Analysis, 2001

also share a common geographical location, infrastructure and labour markets, face similar threats and opportunities and use common networks and channels of communication.

1.1 Research Process

The research presented in this report, while focussed on the sector, also explores a range of softer issues that would be appropriate to a cluster study. This hybrid style of research allows for the inclusion of important industry feedback and identification of major development issues.

The research was conducted by way of a web-based questionnaire designed in consultation with CITI stakeholders, industry players, local government, government agencies and other ICT organisations. A mailing list of 2,539 companies and individuals was compiled using various database sources, and a series of appeal mails was sent to companies on the list asking them to complete the questionnaire.

The response was excellent, with a total of 138 completed web questionnaires yielding 124 usable responses after removal of duplicates, corrupt data and companies not in the Western Cape or in the ICT sector. Most respondents occupied senior positions in their companies: the highest proportion (43) described themselves as directors; following this were 19 managers, 11 CEOs and 11 MDs.

It should be noted that the study was not designed to be a quantitative statistical analysis, but rather to present qualitative and anecdotal information that can be used to support or challenge current notions about the ICT Sector of the Western Cape.

For further details of the research process see Appendix One; the questionnaire is included as Appendix Three and the appeal mails as Appendix Three.

2 ICT POLICIES AND INITIATIVES

This section provides an overview of the national, provincial and local policies and initiatives that have affected the Western Cape ICT Sector, and outlines the opportunities that may be created for regional businesses.

2.1 National Policies and Initiatives

2.1.1 SAITIS ICT Sector Development Framework

The South African Information Technology Industry Strategy (SAITIS – http://www.saitis.co.za) is the most extensive national initiative to grow the ICT sector to date. The project was initiated by the Department of Trade and Industry and largely funded by the Canadian International Development Agency (CIDA). The project has reached the end of its third funding cycle, with one of the major outputs being the ICT Sector Development Framework launched in November 2000. The framework identifies four areas for specific goal and objective setting and further projects:

1. The ICT Sector itself;
2. ICT Usage in other economic sectors;
3. ICT Innovation; and
4. ICT Human Resources.

The following are important SAITIS initiatives that affect the Western Cape ICT sector:

- ***ICT Sector Portal***: A portal site comprising Internet-based information, services and applications to assist ICT companies and grow the ICT sector is being developed. This project is being carried out in collaboration with Information Industry South Africa (IISA), the new umbrella body for the sector.

- ***Analysis of Western Cape, Gauteng and Kwazulu-Natal ICT Cluster Developments:*** The primary purpose of this study was to perform a gap analysis and produce a cluster development plan for each of the above-mentioned clusters. The clusters were analysed in terms of the following eight dimensions:
  1. Regional Strengths
  2. Champions
  3. Entrepreneurship
  4. Financing
  5. Information Networks
  6. Educational and R & D institutions
  7. Staying Power

8. Recognition of Potential

The 48 Western Cape respondents were asked first to rate the importance of each dimension to cluster growth, and then to assess the cluster's actual performance on each dimension. The perceived gap between importance and performance on each dimension was then analysed, and the relative size of the gap was used to identify those areas of the cluster that should form the focus of support programs (see Table 1 below). The findings of this preliminary gap analysis formed the basis of a morning workshop in Cape Town to discuss the current status of the Western Cape ICT Cluster and to determine the priorities for future development.

Table 1: Key perceived gaps in the Western Cape ICT Cluster

Dimension	**Gap**
Financing	4.26
Recognition of potential	3.29
Entrepreneurship	3.24
R & D and educational institutions	2.98
Regional strengths	2.87
Champions	2.46
Information networks	2.27
Staying power	1.11

Source: SAITIS Assessment Report

The findings of the study can be summarised as follows:

- Most companies in the Western Cape ICT Cluster are involved in supplying more than one product and/or service. Most respondents had turnovers of less than R10m and were primarily involved in service provision rather than manufacturing or distribution. The most significant products supplied were ICT infrastructure, hardware systems and software, and applications products.
- The Western Cape cluster's main customer base is not limited to the ICT industry itself, but represents the full spectrum of industry at both regional and national levels. This indicates that the cluster is in a process of healthy growth and developing well with good interaction between the participants.

100% of the respondents had plans for expansion and growth, with expansion possibilities including:

- New geographical markets: including expansion not only to the rest of South Africa but also to international markets such as the USA, Australia, Brazil, UK, SADC, Middle East, Commonwealth and the rest of Africa.
- New products: These included communications, project management, systems integration, internet portals, print and publishing platforms, case cartridges and ISP models.

- New end users and new economic sectors: These included engineering, financial services, micro enterprise, SMMEs, corporate planning, the water industry, gas and oil, laboratory services, building & construction and entertainment.
- New aspects of the value chain: Respondents mentioned such activities as moving into distribution, and/or backward integration into manufacturing.

Respondents thought government could support cluster development best through providing incentives, especially to SMMEs and Black Owned Enterprises (BOEs), and by removing structural blockages in the bandwidth accessibility area. In general BOEs indicated that they felt more marginalized and less part of the ICT cluster.

Respondents identified the major challenges facing the cluster as:

- The exchange rate, due to the high percentage of imported parts and licenses;
- Extending marketing and sales to new geographical markets;
- Accessing international distribution channels;
- Making international partnerships work;
- The poor local economy;
- The flight of skills from South Africa;
- The financing of new ventures in the ICT sector; and
- Telkom infrastructure and bandwidth availability.

In general respondents felt that awareness of what is going on in the cluster is inadequate and that the message is not reaching all those it should, especially SMMEs and BOEs. They felt CITI should play not only a communications role, but also a visible integrative role as it was perceived to be a successful initiative that should be expanded.

The cluster's main strengths were identified as:

- Cape Town is an attractive place for ICT professionals to live;
- The educational institutions are seen to be strong;
- CITI is recognised as the regional champion and beginning to become more communicative;
- Good events and marketing of the cluster;
- Wide spectrum of knowledge available in the industry; and
- The number of companies involved in the cluster.

While the findings are currently preliminary, they confirm many of the views expressed in this Sector Scan (see especially section 6, "Key Issues and Challenges"). It is intended that they will inform future national and provincial cluster support programmes.

2.1.2 ISETT SETA

The development of ICT skills has been identified as an important aspect of growing the ICT sector in South Africa. The primary driver of this is the Skills Development Act of 1998, which provides for the establishment of 25 Sector Education and Training Authorities (SETAs). The ISETT SETA (Information Systems, Electronics and Telecommunications Technologies) is tasked with addressing the following three sub-sectors:

- The *IT Sector*, which has been dominated by the private sector, comprising predominantly multinational companies;
- The *Electronics Industry Sector*; and
- The *Telecommunications Sector*, which has been heavily government controlled.

The ISETT SETA aims to generate, facilitate and accelerate the process of skills development for all workers at all levels in the sector. The Act allows SETAs to collect a 1% monthly payroll levy through the South African Revenue Services from registered employers. Employers are able to claim back a portion of the levy from their sector SETA by:

- **Submitting** a workplace skills plan that outlines the company training plan, beneficiaries of training and the method of training; and
- **Implementing** the workplace skills plan. The training specified in the plan must be undertaken through a South African Qualifications Authority (SAQA) accredited organisation.

Of respondents to this year's Sector Scan survey, 57% were aware of the ISETT SETA but only 6% had submitted a workplace skills plan. Of the remainder, 69% had not submitted a plan and 25% were not sure whether they had or not.

2.1.3 E-Government

The importance of ICTs in public service delivery is being realised through a variety of e-government Initiatives. E-government entails using ICTs to achieve optimal government-to-government, government-to-business and government-to-citizen interaction. Given the current low level of ICT use in government and the lack of integration between departmental systems, the transformation process is a mammoth undertaking and one that will take many years to complete. The government is currently South Africa's biggest procurer of ICT goods and services and the move towards e-government significantly increases the opportunities available to the private sector. While many vendors have in the past contracted directly with government, the formation of the State Information Technology Agency (Sita – www.sita.co.za) has meant that government business will increasingly be directed through Sita. This agency's aims include ensuring that black economic empowerment companies are given preference for all government

work. This national initiative has direct implications for local ICT services providers: see the Cape Online and Smart City initiatives, discussed below.

2.1.4 Telecommunications Policy

The Telecommunications Act of 1996 granted a five-year exclusivity period, which expires in May 2002, to Telkom for the provision of public switched telecommunications services. A second national operator (SNO) was to have been licensed to start operating as a competitor to Telkom by this date, but delays in the policy-making process have meant that the SNO is only likely to be in place several months later, perhaps as late as the end of 2002. A third competitor should also be licensed by the end of 2005.

A 30% stake in the SNO has been set aside for state-owned companies ESI-TEL (the operator of the Eskom private telecommunications network) and Transtel (the operator of Transnet's private telecommunications network). The SNO must also include a 19% black economic empowerment shareholding, and an Invitation to Apply has already been issued to prospective empowerment partners. Once the empowerment partner has been identified, the government will issue a final Invitation to Apply for the operating licence, allowing foreign investors to take a stake of up to 51%. It is expected that the SNO will invest some R4 billion to R6 billion in infrastructure, boosting local telecommunications equipment and associated telecom infrastructure industries.

The introduction of the third cellular network provider, Cell C, in November 2001 has increased the opportunities for service providers in the mobile market. The company is expected to capture 15-20% of the South African mobile user base in six to seven years, when it anticipates a total market of 16-17 million users (the current market size is estimated at around eight million). Cell C plans to have an infrastructure of over 1,800 base stations up and running by 4th quarter 2002, covering all the major urban areas. The company has a R1 billion economic development obligation over the next 10 years as a condition of its license.

2.2 Provincial Policies and Initiatives

2.2.1 Cape IT Initiative

The Cape IT Initiative (CITI – www.citi.org.za) is widely recognized as an important champion of the ICT sector in the Western Cape. CITI's work focuses on the following four key areas:

1. Marketing and Networking;
2. New IT Business development;
3. IT Skills Development; and
4. Influencing IT Policy.

A notable success for CITI in 2001 was the development of the Bandwidth Barn in conjunction with UUNET SA. The Barn is an incubator for small and medium IT businesses and at present houses over 30 businesses. The success of the Barn has lead to the potential development of Bandwidth Barn 2 in Cape Town and Bandwidth Barn 3 in Johannesburg's Gallo Manor.

2.2.2 White Paper on the Knowledge Economy

In May 2001 the Western Cape Provincial Government published a White Paper, "Preparing the Western Cape for the Knowledge Economy of the 21st Century". The paper argues that the ability to maximise the use of knowledge is now considered the single most important factor in determining the competitiveness of countries. Through the white paper the role of ICT in information and knowledge dissemination and the positive effects this can have on an economy have been raised to the provincial policy level. Among the projects that have been developed as a result is the Cape Online project:

2.2.3 Cape Online

The Cape Online programme was launched in 2001 to realise the vision of a province that provides an innovative environment for the development of a knowledge-based economy that promotes growth and enhances quality of life. The programme will enable the provincial government to harness the capabilities of the Internet, grow the appropriate use of ICTs, increase its efficiency and improve service delivery. The programme includes a number of projects to enable citizens and businesses in the province to access services and information online, via a telephone or over the Internet, or at a single walk-in shop. This removes the need to call or visit in person various government offices that may be inappropriate or difficult to access. The programme is intended to improve the overall efficiency of the Western Cape economy, as well as government's own internal efficiency, and also to expose an ever-broader range of communities to the knowledge economy.

Developments under the auspices of this project are likely to provide opportunities for local ICT service providers and could act as a catalyst for increased partnering of local ICT firms with black-owned enterprises.

2.2.4 Calling the Cape

The 2000 ICT Sector Scan identified call centres as a major opportunity for the Western Cape. In response to this the Calling the Cape initiative was established to develop and promote Cape Town as South Africa's primary world-class location for the establishment of international and national call centres. Benchmarking reports confirm that South Africa compares extremely favourably with the rest of the world and is considered a desirable location for international players to establish call centre hubs. The call centre market in the province is growing, with growth attributed to the availability of relatively cheap skilled labour with good English language skills and low staff turnover rates. There are currently 21 national call centres in the Western

Cape, primarily serving customers in the financial services, oil and telecommunications industries. Two new call centres – for 20Twenty and Cell C – have been opened in the past 12 months. In addition there is one dedicated international call centre, for Lufthansa, and a number of outsourced service bureaux that provide both national and international services on a project basis. One of these, Tellcis, has been awarded the contract for the 2003 Cricket World Cup.

2.3 Local Policies and Initiatives

2.3.1 Smart City

The City of Cape Town's Smart City strategy aims to harness the power of ICTS not only to implement e-government initiatives, but also to develop the city, improve democracy and begin to close the digital divide. The city's IT department is driving the project; with the long-term goal of transforming the way government, business and citizens interact with each other. During 2002 the project plans to award 10 to 20 tenders worth between R100 million and R300 million in total (ICT in Government Handbook 2001, BMI TechKnowledge). Tenders will be awarded according to the following criteria:

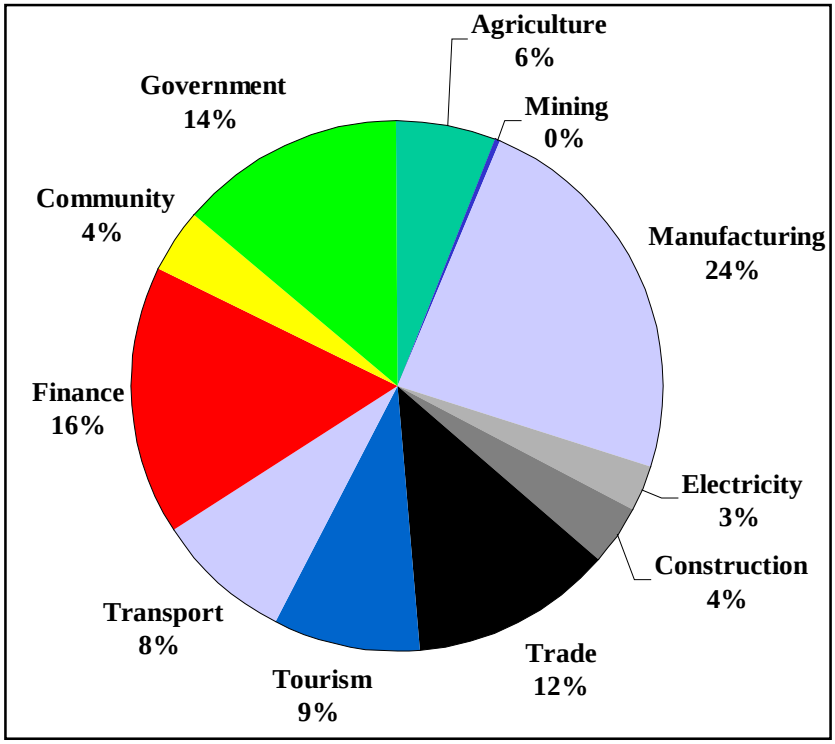
- Competence;
- Price;
- Affirmable Business Entity status;
- Local development impact; and
- Equitable treatment of women.

The private sector can get involved by way of tenders, through public private partnerships with the City of Cape Town, by serving on the advisory board to the Smart City initiative, or by becoming part of the social programs in the metropolitan area. The City currently does not make use of Sita and will only do so once the organization has proven that it can deliver value.

3 THE WESTERN CAPE BUSINESS ENVIRONMENT

The Western Cape is one of South Africa's fastest growing and richest provinces, and a leader in terms of technology, business and infrastructure development[2]. Cape Town is the capital of the province and the legislative capital of the country. The Western Cape has a diversified economy with recent years' growth attributed mainly to tourism, financial services and agriculture as shown in Figure 1 below. The region also has a strong manufacturing industry, which is the largest component of output. In the last five to ten years the province has experienced a growth in the media and communications sector, with Naspers and Independent Newspapers blending traditional print media with Internet capabilities. The Western Cape is home to more than 50 call centres providing support to industries such as airlines (Lufthansa, SAA), cellular service providers (Vodacom), software (Corel) and financial services (Old Mutual, Sanlam)[3].

Figure 1: Industry distribution in the Western Cape



Source: Provincial Government of the Western Cape, 2001

South Africa's three major IP network providers, SAIX (Telkom), UUNET and Internet Solutions, each have a presence in the Western Cape. The largest consumer-orientated ISP, M-Web, is headquartered in the Western Cape. The largest mobile content provider, iTouch, is also based in the city.

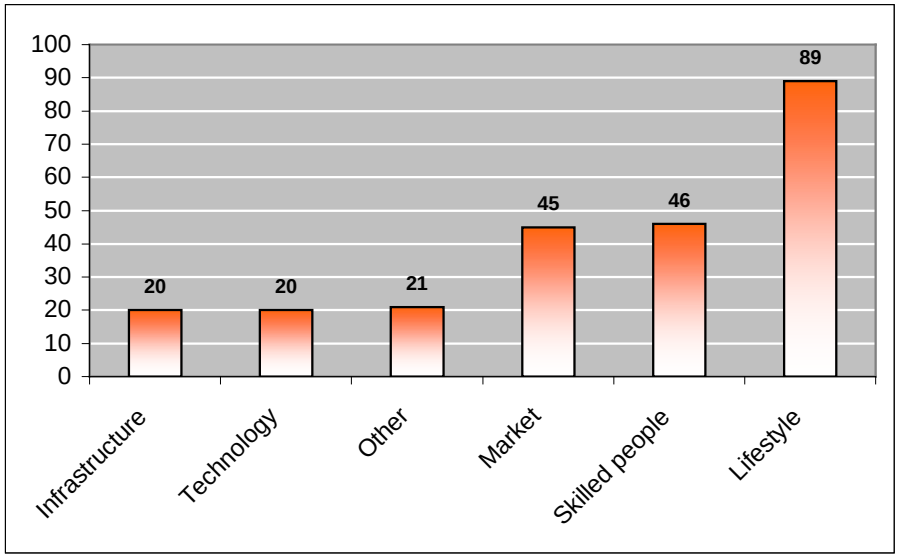
[2] African Business Direct – South African Business Guide Book 2001, pg 40.

[3] Wesgro, 2001

About 95% of the province's population is functionally urbanised and, as a result, the province has one of SA's best skilled workforces and the lowest rate of unemployment in the country. The business environment is supported by excellent educational institutions: a successful high school system with the highest (80%) matric pass rate in South Africa and five prominent tertiary institutions including three universities (Cape Town, Stellenbosch and Western Cape) and two technikons (Peninsula Technikon and Cape Technikon). In 2001 these five institutions collectively had 6,600 undergraduate and 720 postgraduate ICT students[4]. They are working collaboratively through the Adamastor Trust to strengthen the ICT research and training capabilities of the Western Cape. This is an important move as collectively these institutions have a wealth of knowledge that can be harnessed through private sector involvement to enhance the overall development of the ICT sector. The Universities of Cape Town and Stellenbosch have independent graduate business schools, which include centres for entrepreneurial studies and innovation. In addition, the Western Cape is well serviced by a number of private training institutions such as Boston College, Academy of Learning, City Varsity and Stratagem, as well as institutions that specialize in ICT training (e.g. WS&L, CS Holdings, Advtech, New Horizons).

Two thirds of respondents in the 2001 Sector Scan agreed or strongly agreed that the quality of ICT skills in the Western Cape is internationally competitive, supporting last year's finding that a large majority of respondents believed local skills were nationally or internationally competitive. The cost of skill in the Western Cape is also internationally competitive, positioning the local sector favourably in the global ICT goods and services market.

Figure 2: Reasons for location in the Western Cape, count of respondent choice.



Source: CITI 2001 ICT Sector Scan

[4] Strategic Audit of the Higher Education Institutes of the Western Cape in Information and Communication Technology – Adamastor Trust 2001

Other factors favourable to ICT investment in the Western Cape include:

- Cape Town has well-developed digital infrastructure and is the termination point for two of South Africa's three international broadband communication links (see Appendix Five);
- An attractive environment that offers a high standard of living;
- A favourable exchange rate for foreign customers;
- Good physical infrastructure including a harbour, international airport and communications networks (see 2000 Sector Scan);
- The Western Cape is in the same time zone as Western Europe, facilitating communication between local firms and their European customers and suppliers.

Several of these factors were highlighted in both the 2000 and 2001 Sector Scans, with respondents in both years indicating lifestyle as a primary reason for locating in the Western Cape (see Figure 2).

4 WESTERN CAPE ICT INDUSTRY

This section provides a general overview of the ICT sector and discusses the main market for ICT goods and services.

4.1 Sector Profile

In April 2001 the City of Cape Town's Economic and Tourism Development Department published the "Background Report: City of Cape Town Economic Trend Analysis". The report identified ICT as one of 14 significant sectors in the City of Cape Town and found that it comprised approximately 860 companies employing in the region of 15,000 people with an annual turnover of R7.5 billion (See Table 2).

Table 2: Composition of the ICT Industry in the City of Cape Town, 2000

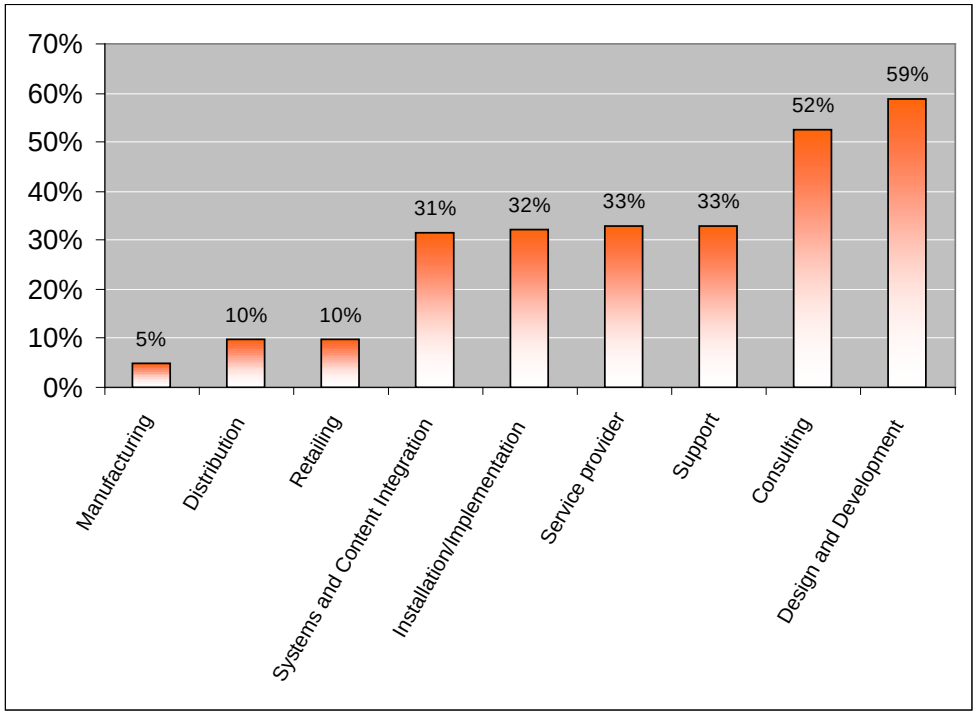
Standard Industrial Classification *(SIC)* Category (Core ICT Industries)	**Total employment**	**%**	**Total turnover**	**%**
Manufacture of industrial process control equipment	4	0.0	2,031,833	0.0
Software reproduction	14	0.1	3,748,909	0.1
Renting of office machinery and equipment including computers	22	0.1	5,146,494	0.1
Data processing	26	0.2	6,796,424	0.1
Pre-recorded CD (except software), tape and record reproduction	17	0.1	14,398,932	0.2
Manufacture of electronic valves and other electrical components		1.0	29,933,462	0.4
Manufacture of instruments and appliances for measuring, checking, testing etc	290	1.9	42,701,109	0.6
Maintenance and repair of office, accounting, and computing machinery	349	2.3	75,052,073	1.0
Manufacture of television and radio receivers, sound or video recording etc	109	0.7	76,496,493	1.0
Data base activities	123	0.8	84,562,365	1.1
Manufacture of office, accounting, and computer machinery	101	0.7	118,141,364	1.6
Other computer related activities	1,083	7.2	228,645,378	3.1
Telecommunications	556	3.7	275,103,879	3.7
Manufacture of television and radio transmitters and apparatus for line telephony	1,400	9.3	511,877,230	6.8
Hardware consultancy	933	6.2	789,185,087	10.5
Software consultancy and supply	5,811	38.6	2,322,197,847	31.0
Wholesale trade in machinery, equipment, and supplies	3,946	26.2	3,141,078,636	42.0
Total	**15,056**	**100.0**	**7,485,481,271**	**100.0**

Source: City of Cape Town: RSC Levy Database and 1999/ 2000 Survey of RSC Levy Payers.

Most companies in the ICT sector were wholesale equipment suppliers and software consultancies. The 2001 Sector Scan confirms these findings, with more than 50% of the respondents describing the primary nature of their business as either Software Design and Development and/or Consulting (Note: Companies could choose more than one descriptor of primary nature of business – See Figure 3 below). Other primary areas of business identified by respondents included:

- Education and training;
- Web and portal development;
- Software solutions provider; and
- Media and publishing.

Figure 3: Primary Nature of Business



Source: CITI 2001 ICT Sector Scan

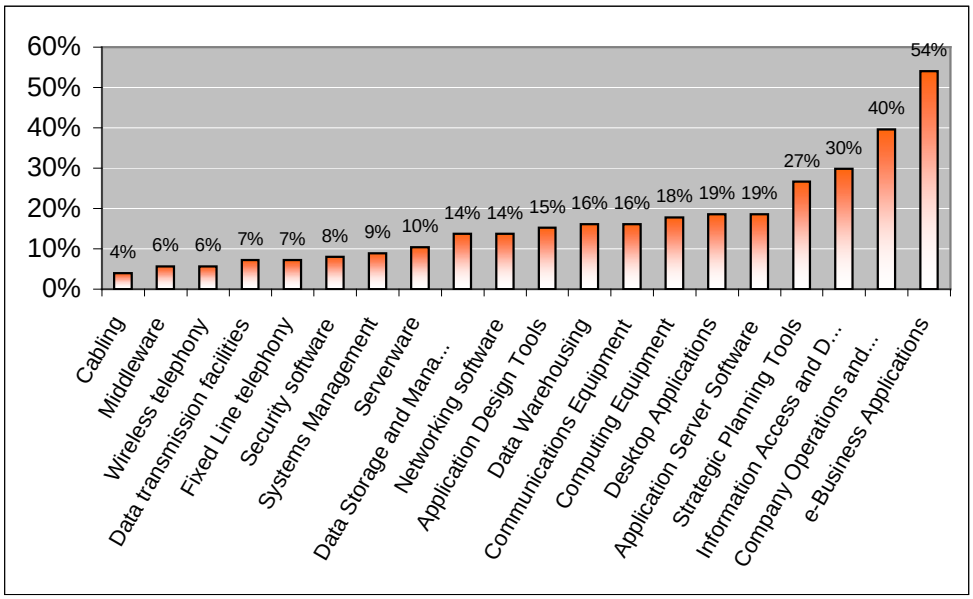
Focussing on the primary goods and services supplied, most Sector Scan respondents indicated that they were involved in the provision of more than one product and or service. More than 50% of respondents identified E-Business Applications as a primary ICT good and/or service, with Strategic Planning Tools, Company Operations and Controls, and Information Access and Delivery also featuring as primary offerings. The main offerings may be grouped into two areas: Application Products and Development Software and Tools. Figure 4 opposite gives a rough outline of the percentage of respondents supplying the listed ICT goods and/or services.

IT hardware manufacturing is a very small component of the sector, both in South Africa as a whole and in the Western Cape. Although all the major international telecommunications equipment players, including Siemens, Lucent, Alcatel and Motorola, are present in the Western Cape, most are positioned as distributors and/or integrators of internationally manufactured technologies. A notable

exception is Tellumat, the largest and most successful of the local telecommunications equipment manufacturers, which develops products for both the national and international markets. Other Western Cape manufacturers include Psitech, Avitronics, Prism and Trax Interconnect. In other electronic equipment industries only a few niche players remain, most having being eliminated by strong price competition from the Far East.

ICT services such as consulting, outsourcing and recruiting are well developed in the Western Cape and are represented by both local and international firms. One frequently mentioned problem facing these service companies is the relatively small Western Cape market and the distance to the largest SA market, Gauteng (see Sections Five and Six for further discussion of this issue). This has led to some companies diversifying into areas such as hardware and software distribution. Developing the small and medium enterprises (SMME) market represents a significant opportunity for the ICT service providers.

Figure 4: Primary ICT Good and/or Service



Source: CITI 2001 ICT Sector Scan

The 2000 City of Cape Town report indicated that the ICT cluster consisted mostly of small firms, with the average firm employing approximately 17 permanent staff with a R9 million turnover. The 2001 Sector Scan on the whole concurs with these findings, with 68% of respondents indicating their annual turnover was less than R10 million and their average staff complement around 10 (See Table 3 below).

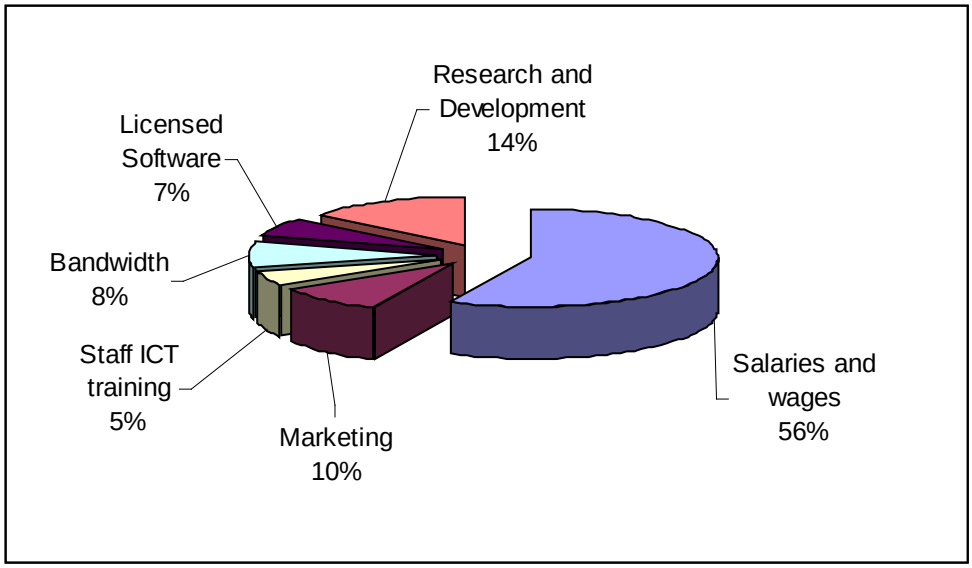
Table 3: Firm size by turnover, number of employees and % of staff with a Diploma or Degree

Turnover	Average # of Employees	% of Staff that have a Dip or Deg	Count	%
Less than 1 Million	4	55%	44	35%
1 to 10 Million	12	44%	41	33%
10 to 50 Million	37	47%	22	18%
50 to 200 Million	49	47%	6	5%
200 to 500 Million	465	25%	4	3%
Greater than 500 Million	919	37%	7	6%

Source: CITI 2001 ICT Sector Scan

On average, 48% of employees in the companies surveyed had an ICT related university degree or Technikon diploma. This is high by international standards: in Denmark, Norway and Sweden only 17%, 22% and 18% of ICT manufacturing employees hold university degrees and 20%, 18% and 17% of ICT services employees hold university degrees[5]. These high education levels are reflected in salary bills, with salaries and wages accounting for 56% of annual expenditure among survey respondents (see Figure 5). Research and development spending accounts for a respectable 14%, and staff ICT training for 5%, well above the 1% of payroll levied by the state to fund training. This tends to support the finding that the Western Cape's skills base is one of its strengths as far as the ICT sector is concerned (see Section Five for more discussion of this issue).

Figure 5: Breakdown of annual expenditure



Source: CITI 2001 ICT Sector Scan

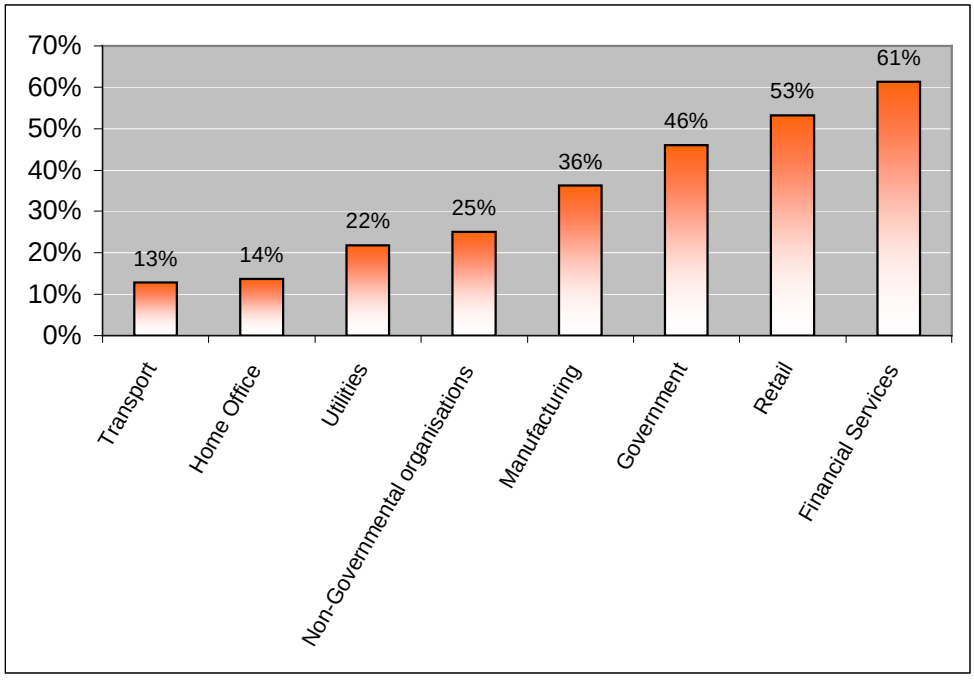
[5] Unpublished UCT Graduate School of Business Masters Degree – K Prince, A Smith 2001.

4.2 Main Market

The Western Cape houses many South African head offices in key sectors including oil (Caltex, Total, Shell, BP and Engen), financial services (Old Mutual, Sanlam, Metropolitan Life, Coronation) and retail (Pick 'n' Pay, Wooltru, The Foschini Group, Shoprite Checkers and Seven Eleven)[6]. ICT companies in the province are thus ideally situated to service these industries, and indeed the survey indicates that oil, financial services and retail companies are key clients for many respondents. A total of 76 respondents (61%) cited financial services companies as being among their major clients outside the ICT industry and 66 respondents (53%) included retail. In addition, 57 respondents (46%) indicated government as their main customer, supporting the idea that the Cape Online and Smart City projects will present significant additional opportunities for local ICT vendors (see Figure 6).

In addition to the eight major client categories named in the questionnaire, respondents also listed a further 48 categories of major clients. This suggests that survey respondents service a wide range of industries, in line with the idea that ICT is a service industry that is increasingly serving a range of companies across all economic sectors. It also indicates a high level of ICT diffusion in all economic sectors in the Western Cape. It is likely that this diffusion process is providing e-business development opportunities for local ICT vendors, underlined by the finding that 54% of respondents indicated that their primary ICT offering was E-Business Development.

Figure 6: Customers outside the ICT Industry as % of respondent base



Source: 2001 CITI ICT Sector Scan

[6] Wesgro, 2001.

A few local software development companies that have specialised in the financial services sector have successfully expanded into the international arena: they include Smacsoft, Dimension Data I-commerce Software and Emerald Technology.

Most respondents, 105 out 124, indicated that they expected to service new markets in the future. The major new markets indicated in order of frequency were:

- International markets (Europe, USA, UK);
- South African Government;
- Other African Governments;
- International finance markets;
- Manufacturing; and
- Mobile market.

Many companies mentioned low cost as an important factor for competitive advantage in the international market. In addition additional markets were perceived to be emerging in the SMME, Finance, Water, Gas and Oil, Medical and Entertainment industries.

The Sector Scan confirms that the global spread of the ICT industry is forcing many companies to understand their competitors from a distance. 72% of survey respondents said more than half their competitors were outside of the Western Cape and 41% indicated more than 75% of competitors outside the Western Cape. Furthermore, 26% of respondents said more than half of their competitors were international. This is particularly relevant for software production houses, which must compete with the North American market. Many firms indicated that lack of knowledge regarding foreign competitors and markets hampered their international growth.

5 STRENGTHS AND WEAKNESSES OF THE ICT SECTOR IN THE WESTERN CAPE

The 2000 Sector Scan identified a range of strengths including some common to all sectors in the Western Cape and some specific to the ICT sector. The former included lifestyle, skills and factors affecting the ease of international operations such as a favourable exchange rate, a large number of English speakers, being in the same time zones as Europe and sharing a common culture with both Europe and the USA. ICT-specific advantages included education and skills, good infrastructure and communications networks, innovation, the presence of global players, good growth and development of foreign client bases and the presence of CITI.

The 2001 Scan again asked respondents to identify what they believed the sector's biggest strengths were, as well as its biggest weaknesses. Although the questions were open-ended, there was a strong pattern to the responses that confirmed many of last year's findings (see Tables 4 and 5 below).

On strengths the largest category of comments, 29% of the total, named skills and/or talent as the single biggest strength, with a few respondents noting that Western Cape skills were relatively cheap. Lifestyle was again noted by several respondents (13% of comments), especially because of the link between lifestyle and the ability to attract and retain good people. 10% of comments noted the favourable exchange rate and 8% related to what might be called the "small town effect": geographic proximity and tight, communicative networks (although this can be a double-edged sword: a subset of these responses, just under 3%, noted exactly the same factors as weaknesses).

Table 4: Biggest Strengths of the Western Cape ICT Sector

Strengths	**No. of comments**	**%**
Competition	2	1.68
Small town / Proximity	10	8.40
Exchange rate	12	10.08
Lifestyle	16	13.45
Other incl Unsure / None / Don't know	20	16.81
Dynamism / Attitude	24	20.17
Skills	35	29.41
Total	**119**	**100.00**

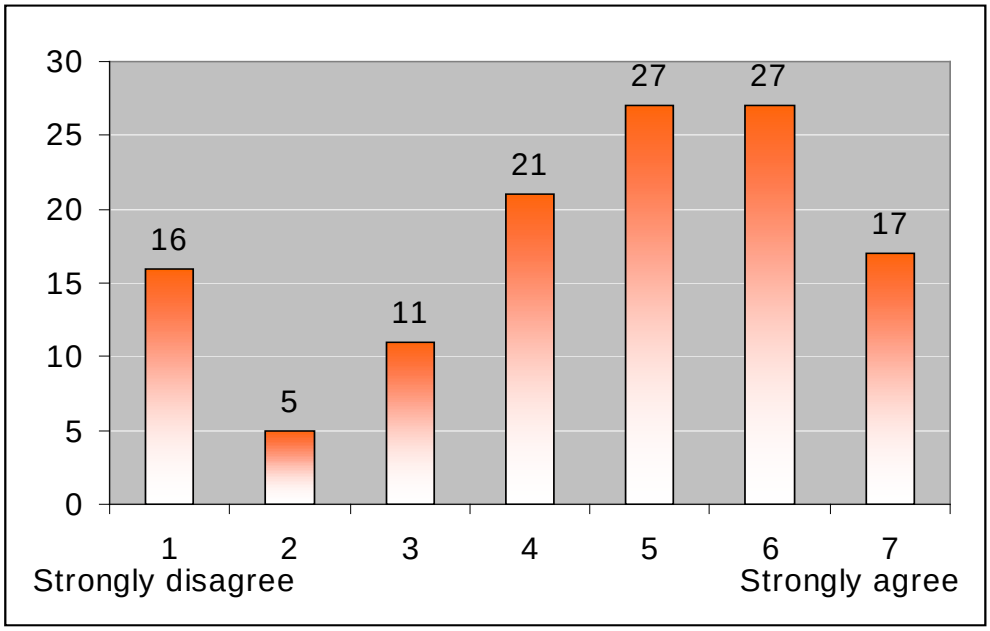
Source: CITI 2001 ICT Sector Scan

One particularly interesting group of "strength" comments, and also the second-largest (20% of the total), related to what might broadly be termed attitude: words like entrepreneurial, innovative, creative, dynamic, open to ideas and enthusiastic occurred several times. On the other hand, 20% of comments also pointed to attitudinal issues as a major *weakness*, with key concepts including service, delivery,

work ethic, professionalism and lack of collaboration. This suggests that while the youth, enthusiasm and creativity of the cluster are valuable, the professionalism and managerial competence required to transform these into successful, growing businesses may be lacking. The SAITIS cluster study (see Section 2.2.1 above) found similarly that lack of business skill was regarded as a weakness. This points both to an important question for future research and to an area of possible intervention by CITI.

A more important weakness, mentioned in 24% of responses, was the Western Cape's distance from major markets, especially Gauteng: one respondent noted that "we are out of the mainstream business flow", which captures the gist of many other comments. This would presumably be less of a constraint if the local market were vibrant enough, but 15% of responses said the small local market was the province's biggest weakness. These two categories are especially significant when considered together with answers to Question 13, which asked whether respondents believed their businesses would be more successful if based in Gauteng. Fully 60% of all respondents agreed to some extent (see Figure 7).

Figure 7: "Would your business be more successful it if were based in Gauteng?"



(Number of respondents)

Source: CITI 2001 ICT Sector Scan

One further area of weakness that should be noted, although mentioned by only a few respondents, is in the area of skills: while the *quality* of skills and talent available was regarded as a strong point, some people saw the *quantity* as a problem. Several respondents cited low pay (the flipside of the cheap skills mentioned above), especially because it tends to exacerbate the "brain drain" from the province both to Gauteng and overseas. This points to another area that should be closely monitored in future.

Table 5: Biggest Weaknesses of the Western Cape ICT Sector

Weaknesses	No. of comments	%
Small town / Proximity	3	2.80
Telecommunications	5	4.67
Skills	13	12.15
Small local market	16	14.95
Attitude	21	19.63
Distance from major markets	23	21.50
Other incl Unsure / None / Don't know	26	24.30
Total	**107**	**100.00**

Source: CITI 2001 ICT Sector Scan

6 KEY ISSUES AND CHALLENGES

6.1 Deepening managerial and business skills

Asked to name the biggest challenges their companies would face over the next 12 months, the largest category of respondents indicated management and business development issues. “Growth” was the single word that occurred most frequently, along with variations on “transformation “ and “change”. Closely related categories of responses included:

- Marketing: Finding new customers and managing relationships with existing ones;
- Expansion to new markets inside or outside South Africa; and
- Managing finances (moving to profit, improving revenue models) or accessing funding.

Together these accounted for over 60% of all responses.

This tends to confirm the findings under Section 5 above (“Strengths and Weaknesses of the ICT sector in the Western Cape”), and also of the recent SAITIS study, that entrepreneurial and business skills are a key area in which local companies perceive themselves and others to be lacking. The problem has no doubt been exacerbated by the difficult economic conditions of the past year: 20% of respondents indicated that they expected managing the downturn to be their biggest challenge during 2002. Issues that particularly affect the sector include the rand/dollar exchange rate (ICT companies tend to be heavily reliant on imports of hardware and software) and reduced demand as customers cut back on their IT spending.

The Western Cape’s small local market and distance from Gauteng, noted as weaknesses of the sector above, will increasingly mean that expansion not only to the rest of South Africa, but ideally to the rest of the world, is a prerequisite for growth and survival of ICT companies in this province. Yet international expansion (the experience of Thawte notwithstanding) requires not only a high level of professional and managerial skill, but also access to international marketing support and sources of finance. Yet, as will be seen below, the extent of government involvement in providing such support is perceived to be minimal.

6.2 Strengthening the role of government and supporting organisations

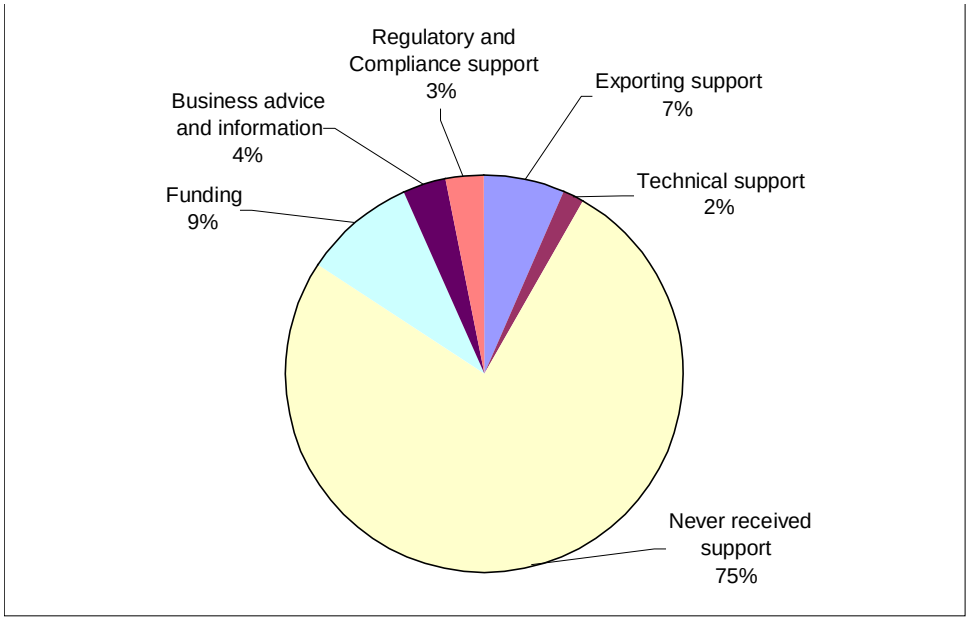
Asked what in what form they had received support, if any, from government, 81% of respondents said they had never received any support at all. Of the remainder, most firms had accessed funding or export support. Fewer than 5% of firms had received business advice, technical support, or regulatory and compliance support from government (see Figure 8 below).

Asked what ICT industry support programmes were critical to enhancing business opportunities, over half of all respondents cited export and global promotions support as most critical (see Figure 9 below) – yet only 7% had accessed government programmes providing such support. The question remains whether this is because of a lack of awareness and promotion of those government programmes that

do exist, because those programmes are inadequate or inappropriate or because of some other reason. In any event this is a clear gap to be addressed by CITI as well as by government bodies.

Figure 8: Forms of government support received

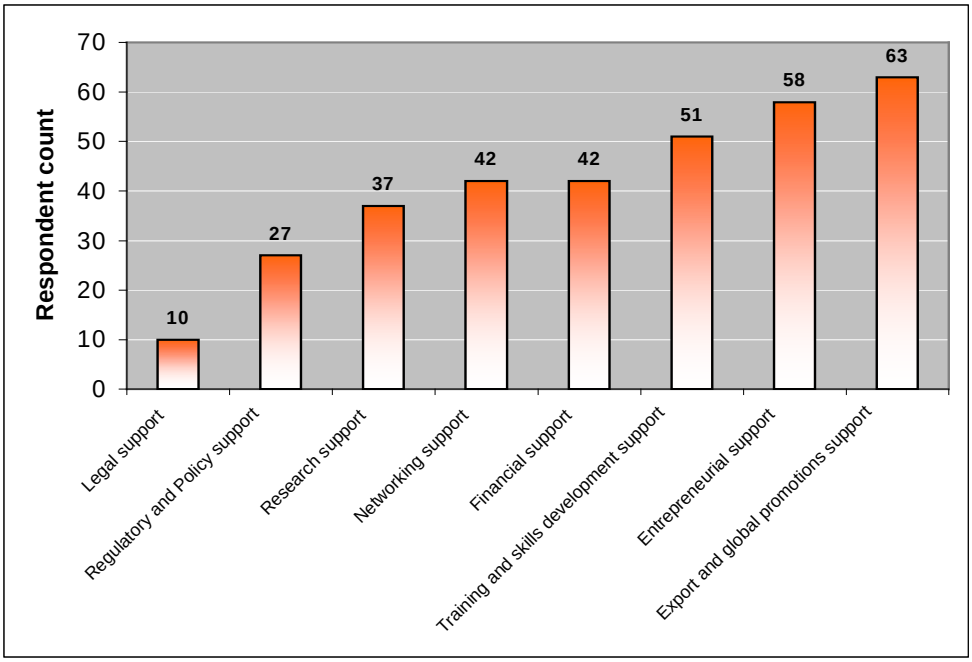
(Note: Responses in more than one category were possible)



Source: CITI 2001 ICT Sector Scan

Figure 9: Forms of industry support regarded as critical to enhancing business opportunities

(Note: Respondents could check up to three categories)



Source: CITI 2001 ICT Sector Scan

6.3 Support for open source software

Despite a recent report from the National Advisory Council on Innovation that recommended the use of open source software because of its lower cost and better security, government support for open source is also perceived to be lacking. Nevertheless, 60% of survey respondents indicated that they used open source software commercially. Reasons for this use included:

- Cheap;
- Reliable and robust;
- Open standards are the way of the future;
- More secure;
- Will be the government standard in the future; and
- Clients are demanding it as it gives them control of their own destiny.

The remaining 40% of respondents made no use of open source software, for reasons including lack of need or knowledge, lack of skills or a perception that it was not yet sufficiently well-developed for use in a professional environment.

6.4 Black Economic Empowerment

Of the companies surveyed, only 19% had more than one-fifth black professional staff and only 11% were black-owned by at least 51% or more (see Figures 10 and 11 below). 18% of the companies indicated that they had some black ownership while the remaining 71% of respondents indicated no black ownership at all.

Figure 10: Percentage of black professional staff

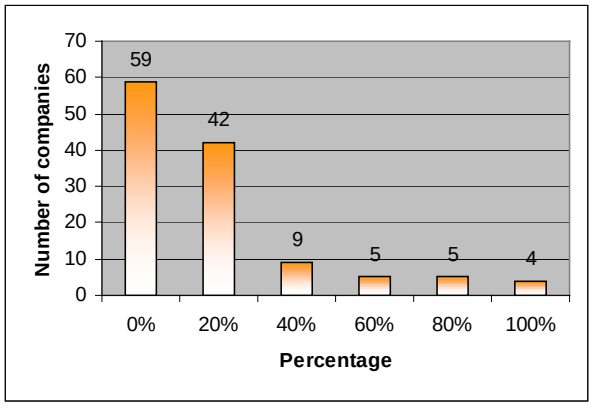
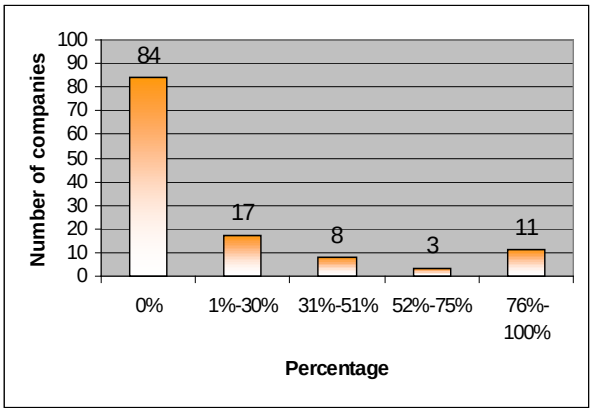


Figure 11: Percentage of black ownership



Source: CITI 2001 ICT Sector Scan

Asked what they felt were the main issues regarding black economic empowerment in the ICT sector of the Western Cape, most respondents cited a lack of skills: 65 out of a total of 106 comments mentioned skills or training as the biggest issue. This skills shortage and consequent high demand were perceived to contribute to high turnover and high cost of black staff. Comments included:

- "Developing businesses is about risk. The reality is this means sacrificing current income in anticipation of future rewards. The whole BE mind-set is about pushing people into higher paid salaried jobs and therefore completely at odds with developing businesses."

- "Shortage of skills through lack of exposure to computers from a young age. General lack of computer usage by the population – eg Internet Cafes, email."
- "There are limited computer professional role models in black society plus there is little effort spent encouraging students to pursue an ICT career."
- "Finding suitable qualified staff to fulfil the requirements of BEE such that quality of development is not compromised. Many of the black students do not get into IT due to the lack of facilities for them to hone their interest and real learning/ training opportunities in commerce. We have a IT internship program which caters for entry level persons but being a small operation we only limited this to one person every 6 months."

Other comments suggested that the perception of a skills shortage might be exaggerated by a lack of information, and social and business networks which remain bounded by historical barriers:

- "As a start up company it was difficult to find people to work with us with low salaries and little security, therefore it drastically reduced the total number of possible employees which makes it exceedingly difficult to even consider race as if the entire pool of candidates is reduced, the number of black candidates becomes smaller. Many of my start up employees were connections and friends and with the geographical issues created by the past government it has been difficult to find connections of the previously disadvantaged groups."
- "Entrenched relationships which are not based on capability and skills."
- "Willingness of big corporates to use smaller, newer service providers. This applies to all small start-up companies, not just BEE. But this is the main issue surrounding BEE as well. Business in the Western Cape is "relationship/network" based."
- "Little recognition in cultivating ICT BEE initiatives in the Western Cape – many educated black ICT professionals are based in the WC. BEE start-ups do not have access to funding and markets due to little changes in corporate management structures."
- "Corporate unwillingness to support BEE; Jobs for Pals- Big white companies will inevitably support smaller white companies; Lack of legislative framework to force corporates to take BEE seriously; E-procurement/Strategic Sourcing inevitably favours bigger white companies; BEE companies haven't yet reached critical mass to force big companies to sit up and take notice."
- "Access to the right information, getting a foot in the door, getting to speak to the decision makers; a body with real power to act and assist black companies given real opportunities."

In general the comments expressed a degree of frustration on all sides, with (presumably) white-owned companies struggling to find suitably qualified black staff and (presumably) black-owned companies struggling to establish themselves in the face of apparently closed and rigid networks. This suggests a possibly valuable role for CITI and/or the provincial government in facilitating better information flows and a more open network.

7 ICT SUCCESS STORIES IN THE WESTERN CAPE

The Western Cape offers many ICT success stories that can serve as inspiration and models of best practice. Most of these companies have leveraged the strengths of the Western Cape ICT Sector to launch into the foreign market.

BulkSMS: www.bulksms.co.za

BulkSMS, a web-based service for sending SMS messages to groups or individuals, serves over 150 GSM networks in 86 countries. The service is aimed at organisations too small to make direct deals with the networks, but too big to be able to use the various free SMS websites; current clients include financial services institutions, clubs and societies, and companies that need to communicate with mobile support staff. Its founders first began using SMS in 1997 to send weather updates to clients in Cape Town, but soon realised the service had broader applications and launched BulkSMS in 2000. Overseas business now accounts for a significant proportion of the company's income, and turnover per month quadrupled over the last six

Rocketseed: www.rocketseed.com

Rocketseed™ allows companies to centrally control the insertion of targeted branding and marketing messages into their outgoing email. This means that the marketing department can unlock the value in its own email communication medium and reduce its overall marketing costs. Rocketseed™ is a joint venture between Global Technology (a listed technology development company – www.glotec.com) and Latitude Blue (a marketing and business development company – www.latitudeblue.com). Rocketseed resulted from focussed technical and business development from these two complementary specialists and grew rapidly to become South Africa's leading provider of Insert Messaging tools. Its clients include Metropolitan Life, BOE, Makro, and Deloitte and Touche as well as a number of advertising agencies. Recently, just six months after its SA launch, Rocketseed went international by opening an EU head office in London, with additional offices in Ireland and France.

Smacsoft: www.smacsoft.co.za

Smacsoft, a leading supplier of portfolio management software and services to the investment management sector in South Africa, was acquired by AFA Systems in late 2001 in a deal reported to be worth approximately R36.6m (£3.3m). Smacsoft's clients included Investec Asset Management, Rand Merchant Bank Asset Management, First National Bank and Coronation Asset Management. Smacsoft was a Cape Town based company with approximately 60 staff, with its acquisition proving the international competitiveness of its product. AFA Systems, formed in 1995 and floated on the London Stock Exchange in 1996, specialises in the development and sale of advanced software solutions for the international financial markets.

Electric Genetics: www.egenetics.com

Electric Genetics is South Africa's first and only genomics company, supplying software tools that help biotech researchers sift through the masses of available genetic data. So far its tools have been used in the discovery of the gene causing retinitis pigmentosa, a new form of ovarian tumour gene and a discoveries that doubled the number of known genes in malaria. Electric Genetics supplies its software to academic institutions free of charge, and has an impressive list of global users including MIT, the Wellcome Trust, Stanford University, Yale, the Max Planck Institute and the Pasteur Institute. Together with prominent California publishers O'Reilly and Associates, it recently hosted the world's first Biohackathon, bringing together bioinformatics programmers from around the world to write new code to solve compatibility problems between existing open-source applications.

UPDATES ON 2000 SUCCESS STORIES

Thawte: www.thawte.co.za

South Africa's biggest ICT success story, Thawte, still operates out of its Durbanville office after its purchase by Verisign, the world's largest supplier of digital certificates, for a reputed $575 million[7]. Today Thawte operates as a Verisign company but has been allowed to maintain its own brand.

Tellumat: www.tellumat.com

Tellumat, a leading electronics and telecommunications manufacturer, has two sites in the Western Cape, where it employs 746 people. Tellumat has a significant export focus, with offices in the UK and Miami, and it has forged relationships with companies such as Dimension Data's Plessey, Denel, Multichoice and other multinationals to distribute, integrate and support their products.

Itouch: www.itouch.co.za

Wireless content provider Itouch floated on the London Stock Exchange in August 2000, raising £48.5 million, and now has offices in six countries (Cape Town, UK, Ireland, Israel, Australia and New Zealand).

Mosaic: www.mosaicsoftware.com

Mosaic Software provides Electronic Funds Transfer (EFT) software for consumer-generated electronic transactions to clients in 28 countries. Over 70% of Mosaic's revenue is generated internationally and its Cape Town head office is supported by offices in the USA, UK and Australia. Their clients include financial institutions, retailers, telecommunications operators, transaction processors, Internet service providers, card issuers, and data processing service providers. It has extensive networks of resellers and distributors in its foreign markets, and the company says its ability to draw on these networks and their expertise was key to their international success.

[7] http://techdeals.biz.findlaw.com/agreements/verisign/exchange.html

8 THE WAY FORWARD – CITI IN 2002

As discussed in Section 6.2 above, respondents to the 2001 Sector Scan indicated that the three most important forms of support that could be offered to their businesses were:

- Export and Global Promotions;
- Entrepreneurial Support; and
- Training and Skills Development.

The ongoing success of the Western Cape ICT cluster is the primary aim of CITI. The mission will translate into action and initiatives in 2002 including:

- Developing two new Bandwidth Barns, including one in Johannesburg. The expansion into Gauteng will benefit the Cape through greater linkage to the financing and market centre of the South African economy, an area that many Sector Scan respondents indicated as a weakness.
- Formalising the Entrepreneur Support Programme and appointing an ESP Coordinator;
- Developing an ESP Extension programme to ensure that IT business development reaches into the historically disadvantaged communities;
- Growing FutureCITI and its programmes, including a BYTES Technology Education School, encouraging the pursuit of ICT careers by modelling "IT Heroes" amongst historically disadvantaged youth, and others skills development programmes;
- Improving the management and collection of industry data with the appointment of a CITI "Cybrarian";
- Establishing a cluster development tracking and history project;
- Entrenching the identity and branding of the Western Cape ICT cluster for the local and international markets;
- Participating in the national branding of South Africa's ICT capacity; and
- Improving CITI's capacity to network and provide entrepreneurial support.

9 APPENDIX ONE: RESEARCH PROCESS

Survey Design

The questionnaire used in the research was designed in consultation with CITI stakeholders, industry players, local government, government agencies and other ICT organisations. Further assistance was provided by two students from the University of Cape Town's Graduate School of Business and Jonathan Miller of Miller Esselaar and Associates, a leading consultant in ICT research, to ensure that the questionnaire was correctly aligned with end user needs. See Appendix A for a copy. A web survey format was used in order to increase the response rate and automate the data collection process. Andy Rabagliati of Wizzy Computing wrote the web page, which was hosted on the CITI web site.

A mailing list of 2,539 companies and individuals was compiled using the CITI Database, the City of Cape Town Economic and Social Development Business Levies Database and a ICT listing from the Cape Town Chamber of Commerce. The process of compiling this list highlighted the current lack of a definitive and up-to-date ICT service providers listing for the Western Cape (this is discussed in more detail below).

The mailing list was loaded into a mailing list server (Mailman) that was used to manage the bulk mailing. A series of appeal mails (Appendix B) was sent to the list asking recipients to participate and providing a hyperlink to the web questionnaire. Recipients were also asked to forward the mail to appropriate friends and associates. Table 2 below provides response statistics.

Appeal Mail Statistics

Date	Author of Appeal mail	Number of responses
24 October	Jon Duncan & Mary Murphy	64 responses
1 November	Peter Frampton	40 responses
7 November	Dr Harold Wesso	32 responses

Full copies of the appeal mails are provided in Appendix B. The web questionnaire was taken offline on Tuesday 13 November 2001.

Data Capture

The data collected by the web survey was loaded into Microsoft Excel and initial data purification performed which resulted in the removal of duplicate entries, corrupt data and respondents who have no physical presence in the Western Cape. Respondents who were clearly not in the ICT industry were also removed. Where survey questions required closed or fixed responses, counts of the number of each response type were recorded. Where questions provided for open answers, the responses were copied out of Excel and were sorted in Microsoft Word to ensure a clear layout and remove

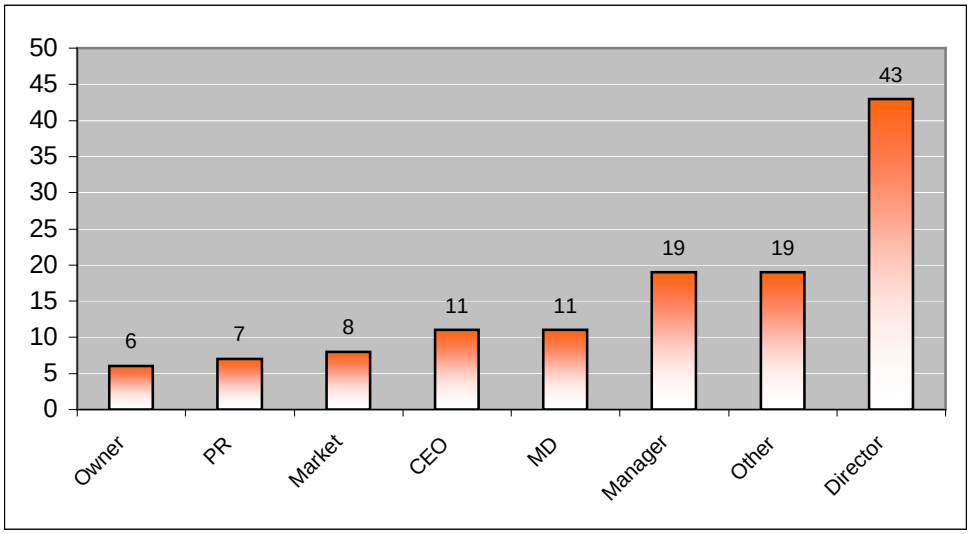
duplicate responses. Open-ended questions were visually scanned for themes and the occurrence of these themes counted.

Data Analysis

A total of 138 responses were received, over twice the number obtained for the 2000 survey. It should be noted that the mailing list contained many out-of-date entries, duplicate email entries (same company, different contact person) and (as discovered through returned mail) approximately 650 invalid email addresses. The poor quality of the original mailing list and the fact that recipients were asked to forward the questionnaire link to colleagues[8] makes it impossible to calculate a response rate.

Of the 138 respondents, three had no physical presence in the Western Cape and were thus excluded from the study. One firm of attorneys submitted a questionnaire and although they might be classified as a support industry, they are not ICT players and were also excluded from the report. Eight responses had duplicate entries, in which case one of each of the duplicates was deleted. One entry was duplicated and contained junk data: in this instance both entries were deleted. This data cleaning process yielded 124 usable responses. Most respondents occupied senior positions in their companies, providing a high degree of confidence in the data set. Of the respondents, the highest proportion (43) described themselves at directors; following this were 19 managers, 11 CEOs and 11 MDs (see Figure 1 below).

Count of respondent position



"Other" includes: New Business Development, Software Architect, and Systems Consultant.

Source: 2001CITI ICT Sector Scan

[8] 35% of the responses came from individuals who were not addressed in the original CITI mailing.

Limitations of the research

It should be noted that the study was not designed to be a quantitative statistical analysis of the ICT Sector, but was intended to present qualitative and anecdotal information that can be used to support or challenge current notions about the ICT Sector of the Western Cape.

10 APPENDIX TWO: SECTOR SCAN QUESTIONNAIRE

Information and Communication Technology Sector Scan 2001

Thank you for agreeing to participate in the 2001 ICT Sector Scan. The questionnaire should not take up more that 8-12 minutes of your time. Before you begin we wish to bring your attention to our definition of the ICT Industry and our confidentiality statement.

Definition of the ICT Industry:

The industries that produce goods and services that support the electronic display, processing, storage and transmission of information.

Confidentiality:

All information supplied will be treated as strictly confidential. No part of the information collected in this survey will be reproduced without prior permission. The emphasis of the study is on aggregating statistical information and as such it will not be possible to link companies to specific information.

1.1 Your Company Name:

1.2 Your Email:

1.3 Your Position in the company:

1.4 Postal Code or your physical address in the Western Cape (optional):

1.5 Do you have a physical office in the Western Cape?

- Yes
- No

2.1 What is the primary nature of your business?

Tick one or more as necessary

Manufacturing	Design and Development
Distribution	Installation/Implementation
Retailing	Service provider
Consulting	Support
Systems and Content Integration	
Other – please specify:	

2.2 What are the primary ICT goods and/or services that you provide?

Tick one or more as necessary

Applications Products

e-Business Applications	Desktop Applications (SOHO products, personal productivity tools)
Data Warehousing	Company Operations and Control (administrative systems, supply chain management, customer relationship management)
Strategic Planning Tools	
Other – please specify:	

Development Software and Tools

Data Storage and Management	Application Design Tools
Information Access and Delivery	Application Server Software
Other – please specify:	

Hardware, Systems Software

Computing Equipment	Middleware
Systems Management	Serverware
Security software	Networking software
Other – please specify:	

ICT Infrastructure

Communications Equipment	Wireless telephony
Data transmission facilities	Cabling
Fixed Line telephony	
Other – please specify:	

2.3 Who are your main customers outside the ICT industry?

Manufacturing	Utilities
Financial Services	Home Office
Retail	Transport
Government	Non-Governmental organisations
Other – please specify:	

2.4 Who are your main customers inside the ICT industry?

Application product	Systems software and tools
ICT Infrastructure	Hardware, Systems software
Other – please specify:	

2.5 Do you expect to serve new markets in the future?

- Yes
- No
- Please specify:

3. What was your company's turnover last year? (million Rand)

- less than 1
- 1 to 10
- 11 to 50
- 50 to 200
- 200 to 500
- Greater than 500

4. In what city is your head office located?

5. In how many South African cities does your firm have offices?

6. In how many countries outside South Africa does your company have offices?

7. Why is your office located in the Western Cape? (check relevant ones)

- Market
- Skilled people
- Infrastructure
- Technology
- Lifestyle
- Other – please specify:

8. What percentage of your turnover is from clients based in:

Must add up to 100%

The Western Cape	
South Africa outside the Western Cape	
Africa outside South Africa	
Europe	
Asia and the Middle East	
North America	
South America	
Australasia	

9. What percentage of clients is in:

Must add up to 100%

The Western Cape	
South Africa outside the Western Cape	
Africa outside South Africa	
Europe	
Asia and the Middle East	
North America	
South America	
Australasia	

10. How many of your direct competitors are based in:

The Western Cape	
South Africa outside the Western Cape	
Africa outside South Africa	
Europe	
Asia and the Middle East	
North America	
South America	
Australasia	

11. What percentage of your annual expenditures is spent on:

Salaries and wages	
Marketing	
Staff ICT training	
Bandwidth	
Licensed Software	
Research and Development	

12. How often have any of your current clients or prospective clients not been able or willing to do business with you because of your physical location in the Western Cape?

Never ☐ ☐ ☐ ☐ ☐ ☐ ☐ Frequently

13. Would your business be more successful if it were based in Gauteng?

Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Strongly agree

14. Does having competitors in close geographical proximity increases your competitiveness?

Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Strongly agree

---

15. How many people does your company employ in the Western Cape (estimate)?

---

16. What percentage of your employees in the Western Cape have an ICT related University or Tecknikon degree/diploma

- 0%
- 20%
- 40%
- 60%
- 80%
- 100%

---

17. The quality of ICT skills in the Western Cape is internationally competitive

Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Strongly agree

18.1 What percentage of your company is Black owned?

- 0%
- 1%-30%
- 31%-51%
- 52%-75%
- 76%-100%

18.2 Approximately what percentage of your professional staff is Black?

- 0%
- 20%
- 40%
- 60%
- 80%
- 100%

18.3 What do you feel are the main issues regarding Black Economic Empowerment in the ICT sector of the Western Cape?

19.1 Are you aware of the Information Systems, Electronics and Telecommunications Technologies Sector Education and Training Authority (ISETT SETA)?

- Yes
- No

19.2 Has your organisation submitted a Work Skills Plan to ISETT SETA?

- Yes
- No
- Unsure

19.3 What ICT skills do think will be in demand in the Western Cape in the next 3 years?

20. How many ICT suppliers do you have in the following categories?

Supplier category (or specify additional below)	*In the Western Cape*	*Outside the Western Cape*
Application Products Providers		
Development Software and Tools Providers		
Hardware, Systems Software Providers		
ICT Infrastructure Providers		
Other 1		
Other 2		
Other 3 (specify)		

21.1 How extensive are your joint ventures (formal and informal) with firms based in the Western Cape

Not at all ☐ ☐ ☐ ☐ ☐ ☐ ☐ Very extensive

21.2 How extensive are your joint ventures (formal and informal) with firms based outside the Western Cape

Not at all ☐ ☐ ☐ ☐ ☐ ☐ ☐ Very extensive

21.3 Acquisition of new technology and/or innovation is mainly from:

- Within Western Cape
- Outside the Western Cape
- Not applicable

22. Western Cape suppliers are more responsive to your needs than suppliers outside the Western Cape?

Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Strongly agree

23. What sets your business apart from competitors?

Unique products	Technology leadership	Understanding of your clients
Low cost	Rapid development time	
Other – please specify:		

24. What are the biggest challenges your company faces in the next 12 months?

25. What do you think are the biggest strengths of the Western Cape ICT sector?

26. What do you think are the biggest weaknesses of the Western Cape ICT sector?

27. What ICT industry support programmes do you feel are critical to enhancing your business opportunities? (Check up to a maximum of three)

Entrepreneurial support	Training and skills development support	Financial support
Legal support	Networking support	Regulatory and Policy support
Export and global promotions support	Research support	
Other – please specify:		

28.1 Do you make use of open source software?

- Yes
- No

28.2 Why / Why not?

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29. Have you received support from government in any of the following forms?

Never received support	Exporting support	Business advice and information
Funding	Technical support	Regulatory and Compliance support

Your contribution to this study is greatly appreciated!!

11 APPENDIX THREE: APPEAL MAILS

11.1 Initial appeal mail

CITI – 2001 Information and Communication Technology Sector Scan

The first comprehensive study of the Western Cape ICT sector took place in 2000. This was a joint venture between Wesgro and the Cape Information Technology Initiative (CITI). This year CITI will continue this important research to provide up-to-date and relevant information reflecting the changes and growth of the ICT Sector.

Your organization has been identified as a key role player in the Western Cape ICT Sector and we would thus value your participation in this year's research. This will involve completing a 15-minute online questionnaire located at http://www.citi.org.za/cgi-bin/scan/index.cgi

The purpose of this year's study is to identify:

1. What ICT companies are based in the Western Cape;
2. The nature of the goods and services they providing;
3. Their market penetration;
4. Identify growth areas;
5. Investment opportunities;
6. Current ICT trends in the Western Cape.

The research will be publicly available at the start of the new year. Result of the study will assist CITI to:

1. Foster networking within the ICT cluster;
2. Lobby government for a changes in ICT policies and regulations;
3. Advocate for ICT funding and investment;
4. Connect the Western Cape CT Sector to Venture Capital and foreign markets;

We invite you to participate in this important study http://www.citi.org.za/cgi-bin/scan/index.cgi and to download last year's research findings. Should you have any queries regarding this survey please contact Jon Duncan – jon.duncan@citi.org.za or 021 409 7000.

Confidentiality
All information supplied will be treated as strictly confidential. No part of the information collected in this survey will be reproduced without prior permission. The emphasis of the study is on aggregating statistical information and as such it will not be possible to link companies to specific information.

In the interests of creating a representative and comprehensive survey we ask you to please forward this mail to your colleagues in the ICT Industry in the Western Cape.

Kind regards
Jon Duncan – CITI Research Associate
Mary Murphy – CITI Research Manager

****
If you do *not* wish to participate in this research, and do not want to receive further mail on this subject, please send mail to sectorscan@lists.citi.org.za with unsubscribe in the subject line
****

11.2 Second appeal mail

Dear Friend of CITI, (more info on CITI in postscript below)

As you know CITI is doing our once-yearly ICT Sector Scan of the Western Cape. This important research will help us to:

1. Foster networking within the cluster and lobby government on your behalf eg on VOIP;
2. Advocate ICT funding, foreign investment and venture capital
3. Create jobs and prosperity though Info and Comm's Technology… CITI's ultimate mission!!

PLEASE help us make this study worthwhile by completing it. It's the only survey we perform, and it's only once per year.

If you can give us just 8-12 minutes (we've timed it!!!) of your time please go to http://www.citi.org.za/cgi-bin/scan/index.cgi

Kind regards :)
Peter Frampton, CITI -Executive Director

PS. In case you don't know, the Cape IT Initiative (www.citi.org.za) is a not -for gain organisation developing the ICT industry in the Western Cape and South Africa.

If you don't wish to participate in this research, and do not want to receive further mail on this subject, please send mail to sectorscan@lists.citi.org.za with unsubscribe in the subject line. If we've inconvenienced you, sorry.

_____

Peter Frampton
Cape IT Initiative,
Unysen Bandwidth Barn... Powered by UUNET
www.citi.org.za peterf@citi.org.za Ph (27 21) 409 7000

_____

11.3 Last appeal mail

Dear members of the Western Cape ICT Community

The Cape IT Initiative (CITI) is once again undertaking their once-yearly scan of the Western Cape ICT Sector. This research is vital for fostering the growth and prosperity of the ICT Sector and I thus urge you to participate in this important study. The research questionnaire will only take 8-12 minutes of your time and can be found at: http://www.citi.org.za/cgi-bin/scan/index.cgi.

In the interests of creating a representative and comprehensive survey please forward this mail to your colleagues in the Western Cape ICT Industry.

Kind regards

Dr Harold M Wesso
Head: Knowledge Economy and E-government
Provincial Government of the Western Cape

The Cape IT Initiative (www.citi.org.za) is a not -for gain organisation developing the ICT industry in the Western Cape and South Africa.

This is the last appeal mail that shall be sent out. Apologies if we've inconvenienced you

Dr HM Wesso
Head: Knowledge Economy and E-Government
Dept. of Economic Affairs, Agriculture and Tourism
Provincial Government Western Cape

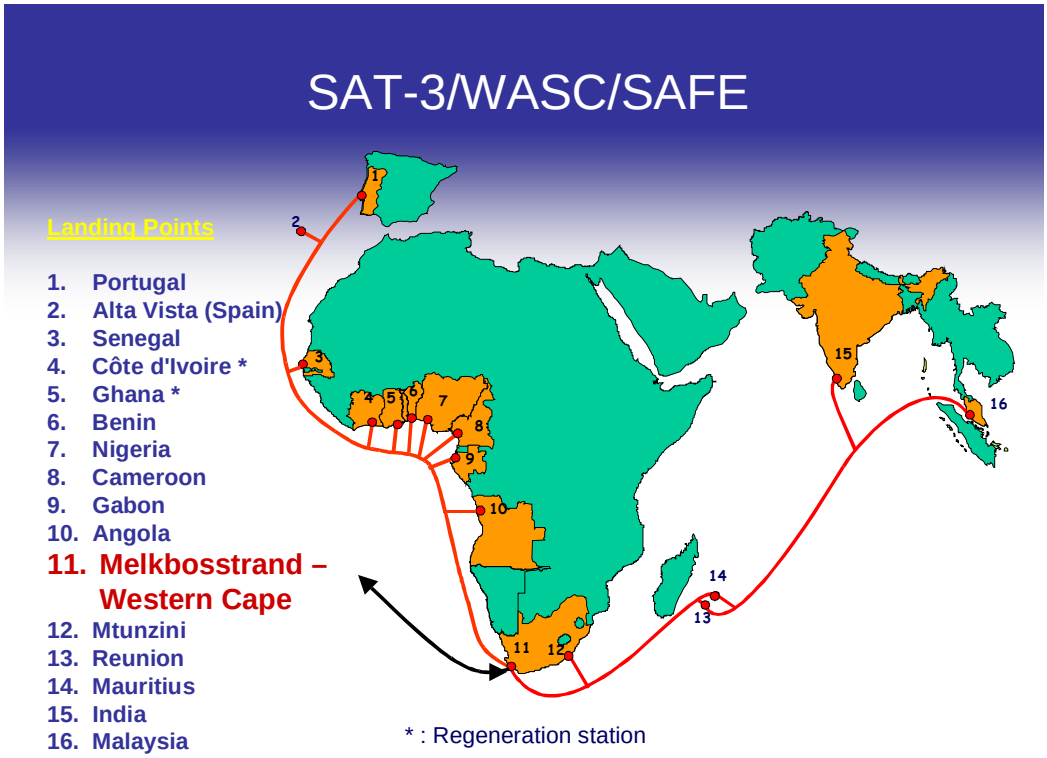
12 APPENDIX FOUR: SUBMARINE CABLES TERMINATING IN CAPE TOWN

In order to service future international telecommunications traffic to and from Africa, Telkom SA and 42 telecommunications operators from 35 countries joined together to fund a new undersea optic fibre cable system known as SAT-3/WASC/SAFE (See Figure 2 below). The project is worth over $600 million and will provide Africa with a direct, high-capacity link to lucrative European and Asian markets. The cable system consists of two segments:

1. SAFE (South Africa-Far East): Links Malaysia and India in the east to South Africa via Mauritius and Reunion. **Capacity: 80Gbits**
2. SAT-3/WASC (South Africa Trans-Atlantic-West Africa Submarine Cable): Continues from South Africa to Portugal and Spain in Europe with landings at a number of west and southern African countries. **Capacity: 120Gbits**

The project will have a total maximum capacity of approximately seven million simultaneous telephone calls or 1.5 million 64 Kbit data channels. The link will be fully operational in the first quarter of 2002 and is expected to cater for Africa's communications needs for up to 25 years.

SAT –3 Sub Sea Broad Band link (http://www.safe-sat3.co.za/)



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