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## SKILLS NEEDED TO UNDERPIN TELECOMS GROWTH

Telecommunications Sector Survey reveals informative findings.

**The telecoms industry is far ahead of the all-industry average in regard to black employment equity at senior executive levels, lags considerably when it comes to gender equity, and has an erratic skills development and training record. Overall, the sector must implement proactive skills planning if it is to meet the resourcing challenges of its fast-paced growth trajectory. These are the findings of the 2009 Telecommunications Sector Survey.**

There is an inadequate trickle of suitably qualified candidates entering the sector. As a result, industry players rely to a high degree on in-company training so as to develop the required skills.

In an increasingly competitive global environment, with new technologies appearing at an ever-faster rate, technology has emerged as the single biggest driver of skills shortages globally. This is exacerbated in the telecommunications and information technology sectors – which are seen as a spur to economic growth. At the same time, convergence of voice, data and video, combined with global liberalisation measures, have produced 15 years of unprecedented growth in mobile and data communications.

In South Africa, the telecoms sector is estimated to be worth R99-billion and is growing at 14% a year. It contributes some 7% to gross domestic product – the same as the mining industry.

### Employment equity and gender equity

The Landelahni Telecommunications Sector Survey shows that the telecoms industry employs significantly more black candidates at executive and senior management level than the average across all industries. Some 44% of top management is black, compared to the all-industry average of 24.2%. In senior management, 37.3% are black, compared to the 32.4% all-industry average. When it comes to the mid-management / professional level, telecoms has a profile similar to other industries, while the sector lags in regard to skilled technical staff.

In regard to employment equity at top management levels, the public sector (Telkom included) at 70% is doing substantially better than the private sector at 38%. However the position is reversed when it comes to skilled technical staff, with the private sector at 70.4% and the public sector at only 48.2%.

In regard to gender equity, telecoms lags the all-industry average, particularly when it comes to skilled technical levels, with women making up some 32.7% versus other industries at 39.3%.

There are significantly fewer women in technical and engineering positions across all disciplines and industries, not just telecommunications, largely because of the small number of technically qualified staff available. Private sector telecoms is doing substantially better than government telecoms when it comes to gender equity at all levels, and particularly at skilled technical level, with women making up 42.5% of staff, against the public sector's 24%.

Gender equity rather than employment equity is clearly the area that requires focus. In addition, more work is required at the professional and skilled levels to create a pipeline for sustainable business growth in the future.

### Skills development

Skills development takes place across all staffing levels, and there is a great deal of cross-pollination between the information technology (IT) and telecoms sectors as a result of the convergence of technology. Qualifications are varied and are not limited to degrees or diplomas, with a great deal of emphasis being placed on vendor training for new technologies.

According to the 2008 ITWeb/JSCE skills survey, there is an extremely high emphasis on on-the-job training and mentorship, and a focus on short courses

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together with vendor certification. This shows just how fast technology is moving and the critical nature of constant up-skilling in the sector – perhaps more so than any other industry.

#### Graduates – degrees and diplomas

Over the period 1996-2007, university enrolments in computer science and data processing degrees totalled 56 292, of whom only 17 707 (31.4%) graduated. However, over the past three years, the graduation rate dropped to a low 11%, compared to the international average of 25%.

National diplomas in ICT-related disciplines show a steady rate of growth between 1996 and 2004. However computer science, electrical and electronic engineering degrees and diplomas show only a marginal increase in graduates over the past three years. This is a serious concern in view of the growth in the sector.

Black ICT graduates show the highest growth – almost 400% since 1997, while women ICT graduates have doubled. Taken over 10 years, this represents marginal growth. It may partly account for the low number of women in the telecoms sector. Overall the rate of graduates does not in any way reflect the significant growth of the ICT sector globally or locally.

#### Learnerships and internships

Under the auspices of the Information Systems, Electronics and Telecommunication Technologies (Isett) Seta, 2 312 candidates completed learnerships in 2007 and 2008 (at an 80% pass rate), but with a placement rate of only 30%. Some 1 539 candidates (at a 60% pass rate) completed internships in the same period, at a placement rate of 32%.

Since Isett is unable to provide details of the specific learnerships related to telecoms, it is difficult to comment on whether the low placement ratio of learners is due to the quality of training or whether inappropriate skills were trained. Either way, it is clear that Isett is not providing any significant input to the IT and telecoms sectors in respect of entry level skills.

Information on employment in telecoms is hard to come by, since it is not tracked separately in the official statistics, and the Landelahn survey has of necessity been compiled from the available data.

Given the economic importance of IT and telecoms, it is hard to believe that, as a country, we are unable to determine employment numbers in the sector. How are we to determine the skills and education requirements that will to allow us to be competitive as a nation, if we are unable to measure the growth in skilled and professional employment in these key areas?

#### In-company training

The telecoms sector far outstrips the all-industry average when it comes to in-company training, with 72.9% of top management trained in 2008, against 24.5% across all industries. A similar pattern emerges across other levels, with the exception of professional/mid-management levels which approximates the industry average.

The proportion of black staff trained in the telecoms sector at top management level is 43.1% compared to the all-industry average of 33.3%, while at other levels, telecoms lags slightly behind other industries. However, female staff trained lags behind the industry average at all levels, with the biggest gap at professional/mid-management level where telecoms rates at 18.3% against the industry average of 37.9%

Overall, the telecoms sector has responded to the skills challenge and is training substantially more people than the all-industry average – probably out of necessity.

#### Future challenges and solutions

Telecoms companies have shown such dynamic growth in the past 15 years that career acceleration has been faster than in any other industry. The telecoms sector has mastered the benefits of competence versus years of experience, but in an almost haphazard fashion.

The skills challenge in the telecoms sector is exacerbated by technology convergence and sharing the pipeline across the broad IT sector, as well as the skills requirements of other industries – since technology is the platform which underpins all businesses.

The lack of formal career-pathing, limited bursary programmes in IT and telecoms engineering degrees and the increasing mobility of ICT skills around the globe, adds to the problem. Now is the time to start creating future pipelines and implementing formal career progression and investment programmes to secure business continuity in the future.

The telecoms sector is ideally positioned to accelerate skills development on projects across the globe. International exposure and skills exchanges should be part of a broader exposure and retention strategy for managers and skilled professionals.

The skills challenge is not over and will continue to be a challenge for the next 10 years, at least – since many South African and other African telecoms infrastructure projects will need to be rolled out, maintained or upgraded.

Telecoms companies have been highly innovative about recruiting and training to meet short-term needs. However a more planned approach is needed to meet future skills demands. Internal skills need to be identified and assessed to determine competency levels and potential for investment in further development. Formal investment by way of bursaries is an economic imperative for a sustainable telecoms sector.

While we will continue to see an increase of retired and offshore contractors and foreign nationals to run key projects, and hopefully act as coaches and mentors to new recruits, a more planned approach will assist in guarding against short-term delivery at the expense of skills investment.

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