11

Out of South Africa: South Africa's Telecommunications Equipment Industry

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Alone among African countries, South Africa has a long-established and diversified telecommunications manufacturing industry, which is undergoing significant changes with the end of apartheid. From an industry almost entirely dependent on the domestic market, it has recently become far more export-oriented—with Africa emerging as a particularly important market. This chapter briefly surveys the history of the South African telecommunications equipment manufacturing industry and its prospects.

11.1 Historical Background

In the mid-1950s, the South African defense establishment was concerned that international hostility to the policies of apartheid might lead to the disruption of supplies of vital communications equipment. With military and strategic considerations predominant, the South African government decided to utilize the monopsonistic power of the postal and telecommunications authority—the South African Posts and Telecommunications (SAPT)—to establish extensive local production of telecommunications equipment.

Following the British example, in 1957 SAPT signed a series of ten-year manufacture and supply agreements with its principal suppliers of telecommunications equipment: Automatic Telephone Electric Company, Siemens (U.K.), and Standard Telephone and Cables. At the time, these companies were supplying similar equipment to the British Post Office. These agreements (known as "the long-term agreements") were extended for another ten years in 1968. Then in 1979, with the advent of digital technology, the agreements were extended for another fifteen years. The latter extension of the long-term agreements expired in 1995.

The long-term agreements stipulate that SAPT will satisfy its requirements for specified equipment over the entire period only from the agreement companies. In

turn, the contracting companies agree to undertake local manufacture and to progressively increase their products' local content. Prices are established according to a complex formula of cost recovery plus an allowance for profit, the latter being dependent mainly on the quantity ordered and the return on capital invested. Profits earned on items supplied under the long-term agreements are shared with Telkom SA, the government-owned company in charge of South Africa's telecommunications (see Kaplan 1990, p. 90).

With the advent of digital technology, political and strategic considerations became critical factors in the choice of equipment suppliers to SAPT. For example, in one case the choice of three local suppliers of digital-switching equipment with two foreign technology sources was politically rather than economically motivated.

For the first two decades into the mid-1970s, South Africa's local telecommunications industry developed rapidly. The manufacture of electromechanical telecommunications equipment had two key features. First, it required considerable direct labor inputs. In South Africa, this was initially provided primarily by white male labor, but the rapid and progressive substitution of lower paid labor (that of women and especially of nonwhite racial groups) allowed local telecommunications companies to reap considerable profits and was a principal reason for the industry's expansion. Second, electromechanical technology was a mature technology, evolving slowly and predictably. Research and development (R&D) expenditures were therefore low, and local telecommunications producers could easily acquire the requisite technology from any one of a number of foreign firms.

In this context, SAPT was able to support local production through guaranteed orders for a small, select number of companies that manufactured telecommunications equipment locally. Output and employment in the telecommunications equipment manufacturing industry expanded rapidly. Moreover, this equipment was generally of high quality, "up to date," and not much more expensive than equipment available on the international market.

In 1977, however, SAPT decided henceforth to enter into new contracts only for digital telecommunications equipment. Digital technology completely revolutionized the production and R&D requirements of telecommunications equipment because the manufacture of digital telecommunications equipment is far more capital—and R&D—intensive.

South Africa's local telecommunications industry did not adjust adequately to these changes. The extent of SAPT support increased but, at the same time, this support proved to be less effective at sustaining the local telecommunications industry, now operating under the new digital dispensation. By the mid-1980s, measured in terms of its local content, its exports, or its technological capability, the telecommunications equipment industry was performing poorly. Moreover, SAPT began to reduce its capital expenditure considerably with the onset of the debt standstill, and this, combined with declining orders from the military (many of South Africa's telecommunications companies also produce electronic equipment for the military), further undermined the industry.

Furthermore, in 1991 the postal and telecommunications operations of SAPT were separated. Telkom SA was assigned responsibility for telecommunications

and registered as a commercial company (with the government as sole shareholder). The pursuit of bottom-line profitability called into question the support and preferences traditionally offered by Telkom to the local manufacturers of telecommunications equipment. As a result, it was expected that the long-term agreements would be substantially modified or even eradicated altogether when they were due for renewal in 1995.

Over the last few years, however, there have been some signs that the industry has begun to respond more positively to the new dispensation. In particular, the exposure of the industry to international markets has recently increased markedly. This has been accompanied, in a number of cases, by enhanced technological capability. In addition, the industry has undergone considerable rationalization internally and has attracted important additional sources of foreign investment. The professed intent of all the major telecommunications equipment producers in South Africa in the mid-1990s was to progressively detach themselves from reliance on the domestic market, and more particularly reliance on orders from Telkom, and to continue to expand the proportion of their turnover that is exported.

11.2 Size and Composition of the Telecommunications Market and Industry

The South African telecommunications market has traditionally mirrored the structure evident in a wide range of developed countries, namely, a single dominant purchaser and, on the supply side, a small number of exclusive suppliers. While both sides of the market were undergoing change in the mid-1990s, this structure had so far been modified rather than transformed.

11.2.1 Market Size and Composition

The South African market for telecommunications equipment is quite large by international standards. South Africa was assessed to be the fifteenth largest market in the world—somewhat smaller than India and Australia and somewhat larger than Brazil.

The market for telecommunications equipment actually shrank in real terms between 1988 and 1992. Telkom's capital expenditure for 1993—a fair proxy for the size of the overall market—was only some 7 percent higher in nominal terms than for 1992, which means a 5 percent reduction in real terms (*Cape Times* [Cape Town], May 17, 1993, p. 12).

The principal reason for the falloff in the market is the cutbacks in Telkom expenditures. In 1994, Telkom purchases accounted for less than one-half of the total telecommunications market. This was down from about 70 percent in 1990 (Kaplan 1990, p. 85).

However, there are indications that the situation is changing. The new government was determined to accelerate the provision of telephony to disadvantaged communities. The number of working lines is expected to rise from 3.9 million in

1995 to 5.3 million by the year 2000. Telkom accordingly expected to increase its annual ordering level from the previous 200,000 exchange user ports to 330,000 exchange user ports per annum.

In order to meet the goals set for increasing telephony access, the South African government privatized Telkom in 1997. A joint venture between the Texas-based Bell company SBC and Telkom Malaysia purchased a 30 percent stake in Telkom SA.

In addition, the introduction of cellular telephony in 1994 has been a major shot in the arm for the South African market. By 1995, there were about 400,000 subscribers. Outside of Europe, South Africa was the largest user of the GSM (Global Standards for Mobile Systems) network.

Purchases will also increase for VSAT (very small aperture satellite terminals) equipment as satellite-based services become an attractive solution to provide telephony in rural areas that are not easily serviced by terrestrial lines.

11.2.2 Telecommunications Equipment Producers

On the supply side, the industry is dominated by five large companies. These are the exclusive suppliers to Telkom of a range of telecommunications equipment, particularly "the big-ticket items" of switching, transmission, and receiving equipment. Table 11.1 details the ownership structure of the five principal telecommunications equipment producers. The first four companies have had long-term supply agreements with Telkom. Together, the five companies constitute more than 85 percent of the industry.

The ownership structures of all the South African telecommunications equipment companies have undergone major changes. Changes in share ownership have been accompanied by a rationalization of production. Larger and more focused South African companies are now better able to compete in more open markets.

Two significant features of the new ownership structure should be noted:

- The local telecommunications companies are all integrally linked to one of the major conglomerates that dominate the South African economy. Anglo-American has a minority shareholding (20 percent) in Altron, the holding company of Altech; Sanlam (16 percent) and Gencor (16 percent) have minority holdings in Siemens SA and therefore an interest in Telephone Manufacturers of South Africa; and Plessey is a wholly owned subsidiary of Sankorp, a subsidiary of Sanlam. Reunert was part of Barlow Rand, which then "unbundled," but Old Mutual remains its principal shareholder.
- Siemens and Alcatel CIT have emerged as the key foreign firms with a strong presence in the local telecommunications equipment industry. The European orientation of the local industry is pronounced.

Production of different telecommunications items in South Africa tends to be highly concentrated, frequently with a single local producer. Alcatel Altech leads in transmission; Telephone Manufacturers in telephone sets, card phones, and public telephones; Siemens in telex and teletex terminals; and Plessey in test

Table 11.1. Profile of the Principal Telecommunications Equipment Companies

Company	Principal Local Shareholder	Principal Foreign Shareholder
Alcatel Altech Telecomms (Pty) Ltd.	Altron (50%) S.A.(50%)	Alcatel CIT
Siemens Telecommunications (SITEL)	Siemens SA (51%) Reunert (27.5%)	GEC Plc (21.5%)
Plessey Tellumat	Sankorp (100%)	—
Telephone Manufacturers of South Africa	Siemens SA (26%) Reunert (40.6%)	GEC Plc (33.33%)
SA Philips Pty (Ltd.)	Unspecified (25%)	Philips BV Eindhoven (75%)

Source: Company annual reports.

equipment and as sole supplier of small business telephone systems to Telkom. Siemens and Alcatel Altech produce digital exchanges—with Siemens having two-thirds of the market. Philips, Siemens, and Plessey produce mobile telephones. Only in the unregulated PABX (private automatic branch exchange) market is there fierce competition between a much larger number of local suppliers. Moreover, the larger companies (particularly Alcatel Altech) tend also to be significant players in the importation of components and in component production.

With the end of apartheid, there were two new significant entrants into the industry in 1994—AT&T and Ericsson. AT&T joined forces with Telkom to provide services such as a managed telecommunications network for multinational companies and explored a partnership with Afritel Systems, South Africa's only black-owned telecommunications company, possibly in the cellular market. Ericsson Radio Systems formed a joint venture with Plessey Tellumat SA to supply and install new cellular equipment.

11.3 The State of the Industry

High levels of market power make profitability a poor guide to the efficiency and competitive international position of the South African telecommunications equipment industry. This is particularly true given that, in South Africa, the principal customer determines the price paid and the telecommunications equipment companies are backwardly integrated (for example, into the manufacture and importation of components). Two more significant (and interrelated) indicators of the industry's efficiency and competitive international position are the technological capability of the industry and the industry's export performance.

11.3.1 Technological Capabilities

One index of well-being and viability is the extent to which the industry is capable of designing and developing new products, or at least of making significant

adaptations to imported designs. Telecommunications is, of course, a technologically dynamic industry, and the development of technological capability is therefore likely to be indispensable to future success in internationally competitive markets. Technological capability is both an index and a symptom of well-being.

With some exceptions, for example in small PABXs, the South African telecommunications equipment industry derives its products and production processes from foreign companies—often with only minor modifications. Technology is generally secured via license agreements. An analysis of the license agreements operative in 1990 by one of the largest telecommunications equipment producers revealed the following features:[1]

1. Licenses are of long duration—a median period of ten years—and are very often extended for a further period. Long duration in a license agreement indicates that the local company is not making any real headway in genuinely learning or assimilating the licenser's technology. Local companies must therefore continue to rely on the extension of the license agreement. This nonassimilation of or inability to learn the licenser's technology is further evidenced by the fact that the license agreements very rarely stipulate any training of local personnel in the licensers' technology. In sum, the import of technology from abroad is often a substitute for local technological capabilities and not, as it has been elsewhere in some of the newly industrialized countries, for example, a facilitator of the development of local technological capability.
2. License agreements contain significant restrictive clauses. For example, the license agreements often stipulate the use of imported inputs (frequently from the licenser or an affiliate). Such "tied" purchasing clauses severely limit backward linkages and hence local content. But, most critical (and most common) are clauses in the license agreements that restrict the export activity of local companies. Out of eight license agreements surveyed, seven expressly limited exports to the immediate southern African region and in some cases only to Namibia or to Botswana, Lesotho, and Swaziland.
3. Royalty payments are high. Typically, they are 4.5 percent of ex-factory price, but, in addition, they often entail a front-end charge. These charges are heavy—the front-end charge in one case exceeded R1.7 million. Overall, a royalty of 7 percent per year is not uncommon. The sums paid by local companies in license fees are large by comparison with expenditures on R&D.[2] Indeed, for most of the large telecommunications companies, payments to import product technology exceed payments to develop local product technology by a large margin.

The long-term agreements expressly attempted to encourage Telkom's contractors to design and develop new products by ensuring that Telkom would pay for any expenditures (plus an allowance for profit) that the contractors incurred in this regard. But despite the very clear objective of the long-term supply agreements to encourage R&D on the part of the suppliers, the evidence is clear that they did not have the desired effect.

The reasons for this are complex.[3] The long-term agreements exclude the entry

of new smaller companies that might be highly innovative. Furthermore, the agreements provide alternative and often less risky routes to achieving high levels of profitability. For example, contractors have often found it to be more profitable to establish a monopoly on the production or importation of certain inputs and to utilize this monopoly position to raise the price at which it supplies those inputs to the telecommunications industry. (The profits of component suppliers, unlike those of the telecommunications equipment producers, are not subject to the same profit-sharing arrangements with Telkom.) Profits earned through such a form of monopoly pricing would be akin to a rent. Finally, the agreements allow for any license fees paid abroad to be recouped as a cost item by the contractors.

Local telecommunications producers therefore have an incentive to simply adapt designs (especially where these have been acquired from a parent company) sufficiently so as to meet Telkom specifications. Moreover, where Telkom sets very high "specs" (and this was and is characteristic of SAPT/Telkom), the effect may also be to discourage local product design. Cost-plus pricing under the long-term agreements makes it advantageous for Telkom's contractors to focus on expanding the breadth of their product range as opposed to the depth of product design and development. Not only are Telkom's contractors therefore devoting fewer resources to R&D, but these resources also tend to be spread over a very wide range of products. Finally, the requirement that Telkom approve new product development prior to a project's being undertaken imposes substantial delays in the design cycle. Because Telkom is required to pay the full costs of such development up front, it may also be more cautious than the contractors with respect to new product development. As a user of telecommunications equipment, Telkom has little appreciation for the potential advantages and pitfalls on the manufacturing side. Development efforts will be slanted toward products needed by Telkom, and this may well have contributed to the past poor export performance of Telkom's contractors.

The expansion of exporting, a very recent phenomenon (see next section) holds much more promise for the enhancement of technological capabilities in the South African telecommunications equipment industry. While precise data are lacking, there does seem to be a link between expenditure on R&D and success in export markets. According to information supplied by Business and Marketing Intelligence (BMI), which monitors the industry, "There is a definite correlation between the export successes of companies (in telecommunications) . . . as well as in the broader context of the local electronics industry, to their R&D activity. . . . Own technology in product design has proven to be a winning factor in several sectors of the local industry, and communications products are but one example" (BMI 1991, p. 4).

While precise data are not available, quantitative investigations into R&D activity by local companies in the electronics and telecommunications sectors over the last three years has shown that "own design is essential to company export hopes in a global market" (BMI 1991, p. 5).

Not only is the local telecommunications industry becoming significantly more export-oriented, it seems quite possible that the South African subsidiaries of large multinational telecommunications equipment producers may undertake product

development for the entire region. In particular, there are indications that both Siemens and Alcatel see their South African operations as a launching pad into Africa and their South African companies as undertaking product design and development so as to provide products appropriate for the entire African market.[4] Similarly, AT&T has stated that it sees its South African operations "as a springboard into Africa."

Additionally, a number of smaller suppliers focused on exports and services throughout the rest of Africa. Companies such as Aerial Empire, Dimension Data, and Protea Technology Ltd. marketed equipment and installation services throughout the continent.

11.3.2 Export Performance

Under apartheid, South African telecommunications equipment producers have been almost exclusively focused on the domestic market and have performed very poorly in export markets. The Board of Trade and Industry reported that in 1984 the industry exported only 1.5 percent of its product, equivalent to only 3 percent of telecommunications equipment imports.[5]

Exports grew very slowly until 1988. Thereafter, there has been a pronounced growth in exports. Measured in constant Rands, exports almost quadrupled between 1988 and 1993.

Moreover, exports have risen much more rapidly than imports so that the import/export ratio has declined from 24 in 1988 to 6 in 1993.

In 1994, with the introduction of cellular telephony, there was a massive increase in the importation of telecommunications products (imports rose from R1.4 billion in 1993 to R2.6 billion in 1994). Moreover, exports declined as local companies sought to meet burgeoning domestic needs, even as foreign markets opened to South Africa. Nevertheless, in 1994, exports were still more than three times larger than in 1988.

The major companies like Altech and Plessey substantially increased their exposure to international markets and were seeking to further increase the proportion of their product marketed abroad.

South Africa's export expansion after 1988 coincided with a significant decline in Telkom orders and a general contraction of the domestic market. Exports increased significantly only when it was clear that the domestic market was contracting and that this contraction was likely to continue.

Unfortunately, the trade data do not indicate the destination of telecommunications equipment exports. There are reports of significant export sales to a wide range of markets as far afield as Belgium and Indonesia. However, two markets seem to be particularly important—Eastern Europe and Africa.

Some major export orders to Eastern Europe were secured on the basis of product-appropriate characteristics developed in-house by South African companies. The most significant example here is that of Telkor (a Reunert company whose public pay phones operation is now part of Telephone Manufacturers of South Africa). Telkor was able to export coin- and card-operated pay phones very successfully, particularly to Eastern Europe, based partly on licensed technology but

also on considerable in-house product development. Exports rose from 5.7 percent of company sales in 1991 to over 40 percent in 1993, and already the company captured more than 12 percent of the pay phone market in Europe (*Financial Mail* [Johannesburg], March 25, 1994, p. 98). In 1994, Telkor designed the world's first GSM cellular pay phone.

Also important in the movement toward exporting has been the impact of the reunification of Germany. With Siemens in Germany producing to full capacity and with the high-level "specs" required of Siemens (SA) by Telkom, Siemens (SA) was selected to become a major supplier of Siemens equipment for the rebuilding of the telecommunications infrastructure in the former East Germany. Siemens (SA) subsystems supplied to Siemens (Germany), have also been marketed throughout Europe.

With respect to Africa, post-apartheid South Africa is exceptionally well positioned for the African market. The African market is expected to grow rapidly. It is unlikely that the major international equipment companies will develop products specifically designed to serve Africa's needs and environment. With Telkom long recognized as demanding high performance levels (Kaplan 1990, pp. 132–33), South African companies can offer not merely telecommunications products developed and adapted for African conditions but also the market support, maintenance, installation, and network configuration skills that are frequently lacking in African countries.

In the early 1990s local telecommunications companies had already begun targeting the African market. This is especially true of Siemens and Altech. Announcing their new joint venture with Altech in 1993, Alcatel's chairman and chief executive officer, Pierre Cuichet, stated that this "will enable Alcatel to spread its wings into the rest of Africa" (*Business Day* [Johannesburg], May 6, 1993). Bill Venter, the executive chairman of Altron (Altech's holding company), stated in 1992 that the group had registered with world aid agencies and had "devoted much effort to penetrating selected markets on the African continent" (*Business Day* [Johannesburg], March 3, 1992). A little later it was reported that Altech had won a R7 million contract that could result in overall orders of R34 million to supply a radio-based rural telecommunications system to Burundi. The World Bank provided the funding (*Business Day* [Johannesburg], September 23, 1992). In his 1992 review, Altech's executive chairman declared, "While we will still take advantage of every opportunity that presents itself in the developed western world for some of our advanced systems, we will also continue to search for opportunities in Eastern Europe. However, our main thrust will be in Africa, providing African solutions to African problems" (Altech Annual Report, 1992, p. 9). In 1993, Altech's chairman reported that the joint venture with Alcatel CIT has meant that ". . . Altech secured access to the technology of the world's foremost telecommunications multinational, which has opened the door to exports, particularly to the southern sub-continent of Africa" (Allied Technologies Ltd. Annual Report, 1993, p. 13). Furthermore, ". . . selected markets in sub-Saharan Africa are being investigated in close cooperation with Alcatel Trade International" (Allied Technologies Ltd. Annual Report, 1993 p. 24).

Similarly, in the early 1990s, Siemens (SA) aggressively marketed the Siemens

D900 digital mobile communications system throughout Africa. Cameroon was its first customer (*Business Day* [Johannesburg], January 21, 1993).

There have also been increased exports in some related products. In telecommunications cable, for example, one of the two major local producers recently reported an annual growth of 15 percent in exports and new export contracts from Hong Kong, Singapore, and Central Europe (*Business Day* [Johannesburg], December 6, 1993).

After Telkom Malaysia and SBC partnered with Telkom SA, Telkom SA was poised to become the major African gateway for communications between the United States and Asia and a continental powerhouse in its own right. As Telkom begins to roll out such international communications networks, exports to these regions may follow.

11.4 Conclusion

The South African telecommunications industry is undergoing a significant transformation. There have been major changes in corporate ownership that have brought about a rationalization of the industry, and the industry has been far more successful in securing export orders. These changes are in part a response to adverse factors—specifically the decline in Telkom orders and the likely curtailment of the long-term agreements—and in part a response to positive factors, in particular the opening up of new possibilities in the export market, especially in Eastern Europe and Africa. There are indications that greater exposure in international markets is beginning to affect the industry's technological capabilities positively and that, in addition, some of the major international telecommunications companies—in particular, Siemens and Alcatel—now intend their South African operations to perform much of the product adaptation and product support for the entire African continent.

On the domestic front, the industry is almost certainly likely to experience increased competition, especially with the demise of Telkom's right to provide the first telephone instrument on customers' premises (which are supplied exclusively to Telkom by Telephone Manufacturers of South Africa). This would allow customers to purchase telephone instruments from any supplier (Coopers and Lybrand 1992, pp. 78–79).

While the future of the long-term agreements is currently unknown, they will almost certainly be substantially modified, for example, to cover fewer products with more competitive tendering and to be of much shorter duration. There have been a number of calls for the substantial modification of the system of support for the local telecommunications industry from outside the industry—and even from within.[7]

Despite increasing competition in the telephone equipment market, growth in the equipment market depends on regulations concerning the operation of the underlying telecom services. The Telecom Act passed by the new government in 1996 stated that primary services would continue to be under the Telkom monopoly, which would be phased out gradually over five years. If other companies can

build networks to compete with Telkom (such as Eskom, the national electric company, and Transtel, the national transportation company), equipment suppliers will be able to sell to more than one large purchaser.

In addition, while the South African telecommunications producers will face far more competition in the domestic market than they have hitherto, the new government has increased the rate of growth of the telecommunications infrastructure, particularly to serve the needs of previously disadvantaged communities. A prima facie case can be made, on the grounds of economic growth (i.e., the positive impact of access to telecommunications on output and employment) and on the grounds of equity (i.e., access to telecommunications is severely skewed), that the post-apartheid government should engage in an accelerated development of the telecommunications network (see Kaplan 1992, pp. 96–97).

A more rapid rate of expansion of the domestic network, targeted particularly at the needs of poorly served communities such as those in the rural areas, might provide a further springboard for the export of similar products elsewhere in Africa.[8] The development of a common infrastructure in the southern African region would give a further impetus to the export activity of the South African telecommunications industry. These two developments would moreover significantly enhance the capacities of the South African telecommunications equipment producers to adapt, develop, maintain, and support telecommunications equipment that is appropriate for African conditions and markets. This would enable South African telecommunications producers to be increasingly active and successful in African markets in the future.

Notes

1. All license agreements that entail the payment of royalties abroad are deposited with the Department of Trade and Industry. The license agreements surveyed were those in force in 1990.

2. In 1991, R&D expenditure on the part of the large agreement companies was of the order of 1 percent of turnover (data supplied by Business and Marketing Intelligence).

3. Kaplan 1990, Ch. 7, analyzes in some detail why the long-term agreements were not successful in enhancing technological capabilities in the local telecommunications equipment industry.

4. In a recent talk, a Siemens executive stated that Siemens was utilizing its South African operations to make modifications to its switching and rural telephony products for the entire continental African market. Siemens's local managing director has said that "the company has developed technology geared to deal with specific African conditions" (*Business Day* [Johannesburg], January 21, 1993, p. 9). The chairman of Altech has stated that the company "would become the center for Alcatel's interests in Africa" (*Cape Times* [Cape Town], January 18, 1993, p. 12).

5. This was the lowest of all products of the electronics sector (BTI 1986, p. 11, par. 32 and p. 14, par. 42).

6. Data for exports and imports are from the Industrial Development Corporation trade database. The 1991 and 1992 import and export figures are unaudited. The 1984 ratio is from BTI 1986, p. 14, par. 42.

7. "With Telkom moving into a new commercialized environment, all incentives in supply agreements must be changed to keep up with the changing order," says John Temple,

managing director of Plessey Tellumat. (*Business Day* [Johannesburg], February 4, 1993). Only a small proportion of Plessey's sales are with Telkom under the long-term agreements. The long-term agreements are much more important for the other agreement companies, which understandably tend to favor a retention of the long-term agreements.

8. By way of illustration, at the time of writing, it has been announced that Plessey Tellumat will begin manufacturing rural telecommunications systems in an agreement with NEC. This is designed to meet the forecast needs of government to extend telephones to disadvantaged communities under the Reconstruction and Development Program and simultaneously to generate significant new export earnings (*Cape Times* [Cape Town], March 7, 1995 p. 9).

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