

## Canadian microwave route in Rwanda

Recent completions of major international telecommunications projects under the supervision of Canadian companies speak well for Canada's capabilities in the global technology community.

A case-in-point is a five-station microwave radio network now providing modern telephone service for the tiny central African nation of Rwanda for the first time in that country's history.

The event bears considerably more importance than the simple inauguration of a new system — it goes a long way to demonstrating the expertise of Canadian telecommunications suppliers in the international marketplace.

In this case, the players were Microtel Limited and Cantel Engineering Associates, both of Vancouver, British Columbia. Cantel provided systems-design services in conjunction with Microtel which manufactured and supplied the equipment out of its Burnaby-based factory.

### Nothing went wrong

The project is distinguished largely by what did not happen — nothing major went wrong. Generally, work in Third World countries is fraught with difficulties and setbacks, not to mention an extremely high risk factor.

"We are impressed by how smoothly this job went," explained Colin Billowes, telecommunications specialist with the Canadian International Development Agency (CIDA) which financed the Rwanda project. We expected things to go wrong and they didn't. The system was delivered on time and within budget. We consider that an achievement."

Other vagaries which can befall a company working in such relatively untried conditions are government upheavals, lack of skilled manpower and proper equipment for moving heavy machinery, lack of adequate supplies, terrorism, and a rainy season that makes major work virtually impossible for a substantial part of each year.

"I think the key to our success was primarily in the planning. We have a lot of overseas experience so we are able to pinpoint most potential problems before they arise. We also know that, no matter what, we have to 'expect the unexpected'," explained Microtel's John Arnold, who was project manager on the Rwanda job.

And the unexpected did arise. Landing in Mombasa, Kenya, with most of the major equipment and pre-fabricated microwave

towers, Microtel found the country's gas reserves had been completely destroyed either by fire or sabotage. Moreover, the Kenyan government could not afford to replace those reserves for several weeks.

Still other events conspired to play havoc with the crew's production schedule.

### Tied up for months

The equipment was tied up for several more months while Microtel waited for a truck convoy to travel through Uganda. The latter country remains highly unstable and highway piracy is a real and constant threat. Traveling in guarded convoys is the only solution to the problem, but the convoys are dispatched irregularly and only with government approval.

"Once we arrived in Rwanda we had a new set of problems, but these were more predictable and we were prepared for them," explained Arnold.

"Because there is such a scarcity of heavy equipment in the country, we had to rely on local manual labour to do much of the work. By Western standards, what they did was amazing."

Hundreds of local labourers were hired. They dug 11.5 kilometres of cable trench with picks and shovels, moving large boulders with ropes, felling giant trees with handsaws and filling in those trenches with thousands of cubic metres of concrete mixed in small single-drum mixers.

"At another point we had to truck one of our relay stations to an elevation of 1 000 metres. It took us 90 minutes to drive 17 kilometres," described Arnold. "Then we had to unload the equipment using the crane-arm on the truck, which was something of a balancing act. At another point, the brakes failed on a crane we were using and we had a runaway down a fairly steep slope. Fortunately, no one was injured."

Despite these and other problems, Microtel delivered the system in 17 months, one month ahead of an already-tight schedule.

### Completely integrated

The network is completely integrated and provides 300 channels between the capital city of Kigali and each of the other major Rwandan centres of Tumba, Gisenyi and Cyangugu. Two mountain-top repeaters are located at Montjary and Karongi.

The system includes Microtel's 878F3 radio microwave, its 46A3-C radio multiplex and a System 51 supervisory control unit which monitors the entire network for problem isolation and diagnosis.

Through a service contract with CIDA, three Microtel technicians will remain in the country for at least one year and possibly two. They will be training seven Rwandan technicians to maintain the system once Microtel is gone.

*(Article from Canada Commerce.)*

## Canada featured at Lisbon International Fair



Canada was one of 17 countries participating in the twenty-fifth Lisbon International Fair (FIL 84) held May 9-13. The five-day event attracted over 35 000 visitors. The President of Portugal, General Antonio Ramalho Eanes, attended the show May 12. He visited the Canadian stand (above) where he is being greeted by J.A. Quarrington, deputy director, Trade Fairs and Missions Western Europe, Trade Development Division, Department of External Affairs. M. Lima, commercial officer, and J.A. Feir, first secretary (Commercial) at the Canadian Embassy, look on.