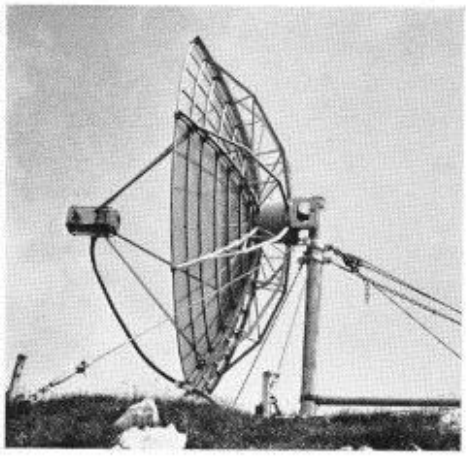
MARCONI'S CAN WIN



A race against time with a mountain to beat, and a job to complete. Another story of our determination to win key contracts in spite of competition from East and West

THE SIGNAL path of SHAPE's new communication's system from Brussels direct to Rome will pass through southern Germany and over the Alps into northern Italy. The hop over the mountains was the most difficult of the chain of links to assess, and a contract was put out to tender for the survey of this section and the measurement of the signal strength.

Marconi's won this contract against stiff opposition, and a tussle with time ensued. It stipulated that we should be on the air within three weeks. In fact, while Communications Division's sales team were still negotiating, survey engineers went over to scan the sites.

'We assembled the convoy at Rivenhall', said Gerald Lipson, leader of the survey, 'a seven-and-a-half ton truck, a two-ton van, and two Land-Rovers. Our equipment was to be ready for departure in a week. But there were hitches; testing was delayed, and finally we got away on Monday. This left less than two weeks to set up the tropospheric scatter stations north and south of the Alps and to get on the air by the day agreed—Thursday week.

'We arrived at Felberg the German site on Wednesday, and by 4 p.m. on Friday we had set up the receiving station. Leaving Vic Thurston and Alf Funge to keep the station in continuous operation we pushed on right away.'

Instead of taking the direct route to Italy, Gerald headed for Berne airport. He had a hunch that a

The Marconi survey team erecting the aerial of the receiving station at Felberg, high up in the Black Forest in Southern Germany, for the tropospheric scatter link with Telegrafo, Lake Garda, Northern Italy. Left to right: Ted Browne, truck driver; Vic Thurston; David Beavis; Gerald Lipson, leader of the survey; and Alf Funge [*John Roach*]

ABOVE: **The station on Mt. Telegrafo, 7,277 ft., in Northern Italy. This shows the aerial, one of the tents, and the survey-style engine house on the right. There was only just room up here to make flats for the tents. The transportable 15 ft. dish aerials for both stations were made at Gateshead Works.** BELOW: **The one-ton jet helicopter which Heliswiss sent to make the final lifts of equipment to site on Telegrafo.**

check-up on the arrangements for the helicopter lift to Monte Telegrafo would be a good thing, as a helicopter was an absolute essential for lifting a radio station to a mountain top. An early, Saturday, visit to Heliswiss revealed that there was no definite assurance that sufficient aviation fuel for the helicopter's return journey had been transported to the Italian base. For this reason no flight plan had been made and helicopters were now fully booked for Monday and Tuesday. At this point in the discussion, a telephone call came from Italy assuring petrol supplies. The flight was now possible. But how soon? Could it be tomorrow? Yes. Sunday was agreed.

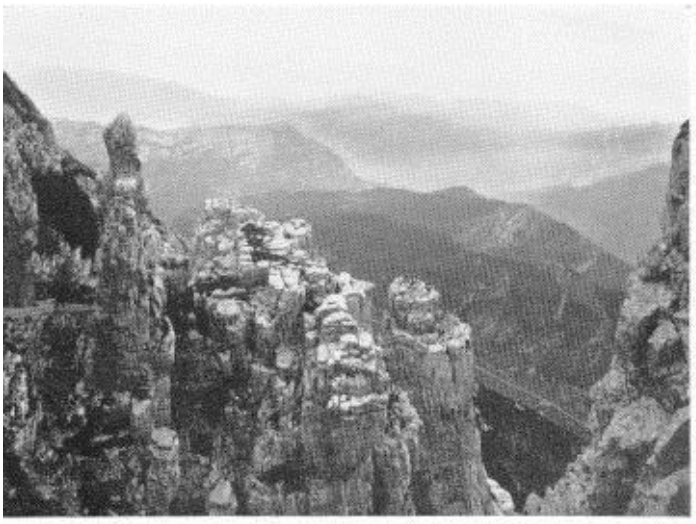
Precious hours had been lost. The outlook was bleak. To gain time crossing the mountains, Gerald put the vehicles on the railway under the Bernese Alps and by tea-time was on the road again, climbing over the Simplon Pass into Italy. In the early hours of Sunday morning the Marconi party drove up to Prada, the jumping-off point for Monte Telegrafo, 900 miles from Chelmsford.

'By noon the helicopter had arrived. We were then in a nightmare situation, for no petrol had been delivered and cloud now obscured the route to the radio site. I asked John to take the Land-Rover and get petrol—but where do you find 120 octane spirit on an Italian Sunday afternoon? Relief came later

In camp on Mt. Telegrafo, Jack Martin, on the right of the tent, drove out from Chelmsford to bring special crystals. The survey team lived on the sites for a month. On Telegrafo, water and food had to be humped up the mountain each day [*G. E. Lipson*]

when the cloud broke enough for the helicopter to lift two loads of aerial equipment, and John returned with petrol. It was now evening and only two more lifts were made before it was time for the helicopter to return to base. Then all hope of ever meeting our contract date faded as the machine disappeared from sight.

Looking down from the mountain track to the main road in the valley 5,000 ft. below [*G. E. Lipson*]



'There was only one thing to do now: to drive our vehicles up the tracks to the highest possible point on the mountain range and carry up some of the lighter gear to save flying time and fuel when we could get another lift.'

By telephone Gerald persuaded Heliswiss to come again on Wednesday. With Marconi's still 'up the creek', the heliman arrived in a one-ton jet machine carrying his own fuel for the operation. By the evening Marconis were up the mountain, and by Thursday morning they were on the air.

'All our troubles were not yet over. The tropo signal was getting through, but the h.f. communication for the engineers' speech link was in difficulty. To overcome this we used V.H.F. walkie-talkie and the telephone for direct relay to Felberg until a third h.f. station was flown out to Marconi Italiana in Genoa. With their help a triangular route was set up, and messages from both sites, covering weather and radio data, were sent back daily to the Propagation Study Group at Baddow.'

Only a few weeks ago SHAPE invited tenders for the supply and installation of equipment for the whole communications system. We have made our offer and at the present time this is being adjudicated. Competition for this contract is international, but Marconi's can win.