

The allocation of 3G spectrum by the Department of Telecommunications on September 1, 2010 was a milestone for the telecom industry. 3G licences were won by six players – Bharti airtel, Reliance Communications (RCOM), Vodafone Essar, Tata Teleservices Limited (TTSL), Airtel and S Tel – in the May 2010 auctions. All licence winners, except S Tel, were busy readying their networks and infrastructure for 3G service rollout. S Tel, which won 3G licences for three circles – Bihar, Orissa and Himachal Pradesh – is not planning to launch 3G services in the near future.

The launch of 3G services by the other five operators has stepped up the need for infrastructure and managed services substantially. The existing wireless infrastructure in India was designed to support only 2G technologies (for more voice-centric services) but with 3G, the networks needed a complete overhaul. Thus, the latter half of 2010 witnessed a series of contracts being given out to vendors to make the operators' networks 3G-ready and expedite rollout.

tele.net takes a look at the key infrastructure contracts awarded by operators for 3G services...

Bharti airtel

Bharti airtel, which obtained 3G licences in 13 circles including the lucrative Delhi and Mumbai circles for Rs 122.95 billion, has set up the requisite infrastructure for its 3G services and launched services in January 2011.

It chose Ericsson, Nokia Siemens Networks (NSN) and Huawei Technologies as network partners to launch its 3G services in the country.

A major part of airtel's contract was outsourced to Ericsson, which was awarded a Rs 1.3 billion contract to manage seven circles of the incumbent operator. As part of the contract, Ericsson had to supply its portfolio of energy efficient base stations, circuit and packet core, microwave transmission and intelligent network, which would improve voice quality and allow faster data access. These network enhancements enabled airtel to reduce its time-to-market and

accelerated the operator's service rollout. The expansion plan also included the introduction of some of the latest wireless technologies, which would help ensure better quality voice to end-users, support more subscribers in using one base station and enhance data rates through evolved EDGE technology.

NSN, which has been Bharti airtel's infrastructure partner for a long period of time, was selected by the operator to manage its 3G network in three circles in India. In early 2010, Bharti also awarded a \$700 million contract to NSN for the expansion and upgradation of its 2.5G network across eight telecom circles.

Huawei Technologies has been selected as the third partner for offering 3G services in the remaining three telecom circles where the operator has won 3G licences.

RCOM

RCOM, which bagged 3G licences in 13 circles for Rs 85.9 billion, became the second telecom operator to launch 3G services in the country. In December 2010, RCOM rolled out 3G services in the Delhi, Mumbai, Kolkata and Chandigarh circles. In early 2011, the operator increased its footprint to four more circles to include Jammu & Kashmir, Himachal Pradesh, Rajasthan and Punjab. The company plans to cover all the 13 circles by end-2011.

In 2010, the operator had selected Chinese equipment vendors ZTE and Huawei to upgrade its mobile network for 3G services as its GSM network is fairly new. The two vendors are supplying GSM network equipment to RCOM.

While Huawei reportedly won the 3G equipment contract for RCOM's operations in Delhi and Mumbai, ZTE clinched a \$200 million contract from the company to supply a mix of 3G and 2G equipment in eight circles. Under the terms of contract signed with ZTE, the network would be deployed based on the vendor's standard software-defined radio platform. This platform allows a single base station to work in different modes, including 2G and 3G, and can also evolve smoothly into next-generation networks such as long term evolution (LTE). As part of the transaction, the Chinese telecom equipment vendor also had to build and supply 2G and 3G equipment for eight of RCOM's 3G circles.

So far, ZTE has delivered 15,000 base stations in the West Bengal, Kolkata, Orissa, Bihar, Assam, Northeast, Madhya Pradesh and Himachal Pradesh circles. The equipment provider had to commission close to 10,000 2G-compliant base transceiver stations (BTS), while the remaining 5,000 BTSs were to be 3G-compliant.

RCOM has already invested \$750 million for procuring equipment and services from Huawei and ZTE. In December 2010, the company also entered into a pact with China Development Bank Corporation for a loan of \$1.93 billion to refinance the 3G spectrum fee and purchase telecom equipment. The operator intends to finance up to \$600 million of the total loan to pay for 85 per cent of the equipment and services it plans to procure from ZTE and Huawei.

Vodafone Essar

Globally renowned for its innovative 3G offerings, Vodafone Essar – which won licences in nine circles for Rs 116.17 billion – is planning to launch 3G services in India by end-March 2011. Vodafone Essar's 3G network contract was won by NSN and Ericsson with the deal size estimated at about \$500 million.

The operator selected NSN to supply, implement and manage its 3G network in six of the nine telecom circles – Tamil Nadu, Gujarat, Maharashtra, Uttar Pradesh (East), West Bengal and Haryana – where it has secured 3G spectrum.

Under the terms of the contract, NSN had to supply its energy-efficient radio and core network technology to Vodafone Essar. Apart from this, it also had to provide related services including network planning and project management to enable fast, high-quality 3G network implementation. NSN will operate Vodafone's 3G network in India for three years under a managed services contract (starting October 2010) to facilitate simplified operations, improved network efficiency and consistent service delivery. NSN intended to use its own NetAct network management system to monitor and optimise its network performance.

Ericsson was awarded an exclusive 3G hardware, software and related service contract to equip Vodafone's lucrative metropolitan cities - Mumbai, Delhi and Kolkata - with the latest

HSPA mobile broadband network.

Under the two-year agreement, Ericsson has to provide network rollout services and supply its radio access network (RAN) system, network rollout services, tuning, spare parts and training services along with the 3G common core platform and transmission to the incumbent operator. The RAN will include the latest multi-standard radio base station, RBS 6000, and mobile soft-switching technology, which would boost the capacity of the network and evolve it into an IP network. Vodafone has also entered into an exclusive global tie-up with ZTE for 3G-enabled handsets.

TTSL

With 3G licences in nine circles, TTSL's GSM arm DOCOMO became the first operator to launch 3G services in the country. To get a headstart in the 3G domain, TTSL fast-tracked its rollout of 3G services by roping in two vendors – NSN and Huawei.

It awarded a contract to NSN to set up its 3G infrastructure for broadband and better quality voice call services. Though the financial details of the deal were not revealed, as per the contract, NSN had to supply LTE-ready flexi multi-radio base stations. It also had to provide network implementation, managed services as well as its NetAct network management system to monitor, manage and optimise the 3G network and supply other operational support systems.

The operator also signed a contract with Huawei to set up networks for 3G mobile telephony services in five of its nine telecom circles. Huawei has been contracted under the managed services model, which includes the installation of Huawei's industry leading, LTE-ready, SingleRAN fourth-generation multi-standard radios.

Aircel

Aircel, with a pan-Indian mobile footprint and licences to operate 3G services in 13 circles, recently announced its plans to launch 3G services before the World Cup Cricket tournament, starting February 19, 2011. Aircel has roped in three network partners - NSN, ZTE and Ericsson

- for its 3G network rollouts.

The operator selected NSN to supply, deploy and manage its 3G network in the Punjab, Kolkata and West Bengal circles. NSN will operate and manage Aircel's 3G network for four years under a managed services contract. As part of the deal, it also has to provide a future-proof mobile packet backbone network, security solutions, and its multi-vendor network management and optimisation software, NetAct.

ZTE was awarded an \$85 million contract to build and deploy a pan-Indian 3G network. As the long-term partner and supplier of GSM networks for Aircel, ZTE will also be responsible for the upgradation of the operator's 2G network and for implementing the new 3G network, apart from subsequent upgrades. ZTE will provide network implementation, optimisation, network management, operations and maintenance services for Aircel's 3G operations.

The third contract was awarded to Ericsson to roll out its 3G network across the Tamil Nadu, Bihar-Jharkhand, Orissa, Jammu & Kashmir, Northeast and Assam circles. The six circles currently serve more than 100 million subscribers, which has made Ericsson Aircel's largest partner for 3G implementation. Under the two-year-long agreement with Aircel, Ericsson will provide core, radio and transmission network equipment as well as related services such as network rollout, network technology and consulting, radio network optimisation and support services. The mobile broadband network would include the latest multi-standard radio base station, RBS6000 and the MSC Server Blade Cluster to boost the capacity of the network and evolve it into an IP network.

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