



Customer	Projects	Scope of Work
Telenor Pakistan BTS Rollout Project	GSM BTS Rollout in Central I, II & North Regions	1: End to End media Clearance 2: Installation 3: Commissioning & Integration 4: Reporting, PAT & FAT
Nokia Siemens TRX Expansion Project	TRX Expansion in CII Region	1: End to End Media Clearance 2: TRX Expansion installation 3: Commissioning & Integration 4: Reporting, PAT & FAT
Telenor Pakistan Turnkey In- Building Coverage Solutions (IBS)	Turnkey IBC Solutions	1: Survey & Design with Optimization 2: Equipment & Material Supply 3: Telecom Implementation 4: Media Clearance, Commissioning, Integration 5: Reporting, PAT & FAT
Huawei E-Cell Estimated Value: \$ 62,500	Indoor Building Coverage	1: Survey & Design (Technical Proposal) 2: Telecom Implementation. 3: BTS testing and commissioning.
Huawei Pakistan Duration: 2 years Estimated Value: \$ 514,188	PTCL OFAN Network	Splicing, jointing and testing of fiber optic access network. O&M support for on-going activities was also provided for 1 year.
	CDMA WLL and Warid GSM Site Acquisition Services	1-Acquisition of 40 BTS sites for the PTCL WLL and Warid GSM Project 2- Huawei DVCOM Acquisition Services
	CDMA WLL (Phase 1 &2) & GSM Implementation	1- Project Plan, Survey and Survey Reports preparation 2- MSC and BSC installation 3- BTS installation, testing and commissioning
Motorola Duration: 1 year	CDMA WLL Project	Site Surveys of 60 Sites including the BOQ preparation of civil works

Estimated Value: \$ 229,000		Civil works including grounding system and power provisioning for the 32 BTS sites. Installation, commissioning and integration of the sites performed by Motorola.
Mobilink Duration: 1 year Estimated Value: \$600,000	In-Building Coverage Solutions	<ol style="list-style-type: none"> 1- Site Acquisition 2- Technical Proposal 3- Supply and installation of DAS for in-building coverage solutions. 4- BTS Testing & Commissioning 5- BTS acceptance testing
Alcatel Pakistan Duration: 6 months Estimated Value: \$ 45,148	Mobilink Swap Project	Site Survey & Audit Reports and Feeder Sweeps of over 125 sites. The Site Survey and Feeder Sweeps were performed to prepare the sites for the swap and commercial cut over of Motorola BTS's to Alcatel.
Nokia¹ Duration: 1 year Estimated Value: \$ 202,188	Telenor GSM Project	<ol style="list-style-type: none"> 1. Site Acquisition of 23 sites in Sialkot Site Acquisition of 7 sites in Taxila and Wah
		<ol style="list-style-type: none"> 2. Civil Works including Tower foundation, erection, grounding and electrical works of 6 BTS Sites.
		<ol style="list-style-type: none"> 3. Telecom Implementation of the BTS sites including installation, commissioning, integration testing and acceptance testing.
Ericsson Pakistan Duration: 3 years Estimated Value: \$ 710,000	GSM Network Deployment	<ol style="list-style-type: none"> 1- Acquisition of 70 sites including SIR, SLA and government NOC's 2- Installation, Commissioning and Integration of more than 700 sites including expansion works. 3- Installation of Islamabad MSC & BSC

Siemens Pakistan Duration: 1 year Estimated Value: \$ 200,000	Energization of BTS and Switching Sites	Site survey, preparation and submission of demand note, getting the NOC from WAPDA and supply installation of power including energization of site.
Consistel Duration: 2 year Estimated Value: \$1,000,000	In-Building Coverage Solutions	Supply and installation of DAS for in-building coverage solutions. The project was first of its kind in Pakistan. The Scope of work includes 18 months O&M support after the commercial operation of sites.
Ericsson S.Arabia Duration: 1 year Estimated Value: \$ 300,000	Technical Training for STC	Setting up of training Exchange including collocated HLR, MSC, BSC and 3 BTS's. The project included design, development and delivery of GSM courses for 220 Saudi Students
Huawei Augere Estimated Value: \$ 36,800.	WiMAX Solutions	<ol style="list-style-type: none"> 1- Installation of WiMAX BTS. 2- Rectifier installation and auxiliary equipment. 3- Software commissioning and testing. 4- Microwave RTN installation and commissioning.
Huawei PTCL Swap Estimated Value \$ 34,188	CDMA Swap Project	<ol style="list-style-type: none"> 1- Complete indoor installation. 2- Dismantling of existing equipment. 3- Commissioning and testing of BTS equipment.
Huawei Duration: 1 Year Estimated Value: \$330,000	Wireless Network Frame Agreement	BTS indoor & outdoor Installation of more than 200 sites. <ol style="list-style-type: none"> 1. BTS Testing & Commissioning 2. BTS acceptance testing
Telenor Duration: 6 Month Estimated Value: \$100,000	Telenor GSM Project	Telecom Implementation of the BTS sites including installation, Media Clearance, Commissioning, integration testing and acceptance testing.



<p>Telenor Duration: 6 Month Estimated Value: \$1,050,000</p>	In-Building Coverage Solutions	<ol style="list-style-type: none"> 1- Technical Proposal 2- Supply and installation of DAS for in-building coverage solutions. 3- Repeater Installation and Commissioning 4- BTS Testing & Commissioning 5- BTS acceptance testing 6- Installation of Active Equipment and testing
<p>S.C.O Duration: 1 year Estimated Value: \$ 25,000</p>	GSM Project Consultancy	<ol style="list-style-type: none"> 1. RFP analysis including technical and commercial aspects 2. Selection of vendor and contract negotiations 3. Supervision during implementation phase 4. Acceptance of system
<p>Warid Telecom Duration: 4 months Estimated Value: \$ 20,000</p>	LDI	<ol style="list-style-type: none"> 1- Initial Network Design 2- RFP Preparation 3- Commercial Evaluation 4- Vendor Evaluation 5- Project Implementation
<p>WorldCALL Duration: 2 months Estimated Value: \$ 10,000</p>	LDI	<ol style="list-style-type: none"> 1. Network Design 2. RFP Preparation 3. Vendor Evaluation
<p>WiseComm (France) Duration: 3 months Estimated Value:</p>	LDI	<ol style="list-style-type: none"> 1. Feasibility Study 2. Technical Plan 3. Business Plan 4. Project Implementation
<p>WiseComm (France) Duration: 3 months</p>	<p>LL Duration: 3 months Estimated Value:</p>	<ol style="list-style-type: none"> 1. Feasibility Study 2. Technical Plan



Estimated Value: \$ 15,000		3. Business Plan
Defense Housing Authority Lahore Duration: 3 months Estimated Value: \$ 80,000	LL Duration: 1 years Estimated Value:	1. Feasibility Study 2. Technical Plan 3. Business Plan
Ericsson China Duration: 3 years Estimated Value: \$ 800,000	GSM System support	1 st line and 2 nd line support. CSR handling and emergency support
	GSM Network testing, integration and verification	Testing and integration of HLR's, MSC's, BSC's and BTS's. UMTS/GPRS system verification. More than 100 nodes were tested and integrated
	GSM Course development and delivery	Design, development and delivery of courses on GSM O&M, CCITT7 signaling. Compilation and verification of Upgrade Procedures
	Application System Replacements	China R 9.1 system upgrade and verification
Ericsson Nigeria Duration: 3 years Estimated Value: \$ 600,000	Expansion of TACS Cellular Network Nitel	Expansion of Group Switch and Trunk lines
	Capacity Upgrades TACS Cellular Network Nitel	Upgrade of Processors in Live Switches
	Expansion of Radio Network Nitel	Installation, testing and integration of ETACS Base Stations including Microwave Links. Installation, testing and integration of more than 60 BTS's including Microwave links
	Launch of Nitel GSM Network	Installation, testing and commercial cut-over of Nitel GSM Network for 60,000 Subscribers
Ericsson Nigeria Duration: 3 years Estimated Value: \$ 200,000	Technical Support	Providing first and second line support for the TACS and GSM networks in Nigeria.
	Project Management Nitel	Roll-out of 1 HLR, 3 MSC's, 3 BSC's, BGW, 100 BTS's, SMSC and VM systems

Millicom Tanzania Duration: 3 months Estimated Value: \$ 60,000	Expansion of GSM Radio Network	Installation, Testing and Integration of 6 GSM BTS's. Training delivered on installation and commissioning of Microwave equipment.
Ericsson UK, Sweden, Ireland, South Africa & Malaysia Duration: 2 years Estimated Value: \$ 120,000	Technical Training	Development and delivery of technical courses on GSM fundamentals, MSC O&M, BSC O&M, HLR O&M, Hardware and SW fault finding and Emergency Handling
Tele2 Russia Duration: 1month Estimated Value: \$ 20,000	Site Audit	Conducted an Audit of an existing switch to bring it in-service after 2 years. A complete Audit report was submitted and the switch was brought in service by providing remote support
Eircom Ireland Duration: 1 month Estimated Value: \$ 18,000	O&M Support	Provided O&M support for the Millennium cut-over. Procedures for the clock roll over was provided for all the nodes in GSM network including OSS, HLR, MSC, BSC and BTS's
ITS Italy Duration: 1 month Estimated Value: \$ 35,000	VoIP Implementation	Migration of Voice Traffic from Circuit Switched technology to Packet Switched technology with QoS parameters and cost budgets.
NTC Pakistan Duration: 2 month Estimated Value: \$ 10,000	VOIP Network Design	Provided consultancy on the design and implementation of VoIP network for NTC
PTA Pakistan	QoS Standards	Research and Development of Quality of Service



Duration: 2 month Value: \$ 10,000		Standards for the telecom operators in Pakistan
Huawei Pakistan Duration: 2 month Estimated Value: \$ 150,000	Supply of Tools	Supply of Fiber Accessories & Tools to Huawei Technologies for DWDM with the Pakistan Telecom Corp Ltd (PTCL)
Ministry of IT² Duration: 5 month Estimated Value: \$ 150,000	Policy framework for implementation and management of Universal Service Fund 'USF'	Feasibility and establishment of USF policy framework. The work required extensive data collection and analysis to provide rural coverage estimates and associated budgets.
Ministry of IT² Duration: 8 month Estimated Value: \$ 550,000	Policy framework to introduce new Mobile cellular operators	Design and implementation of the policy for the new mobile cellular license operators. The scope involved complete review of regulatory and legal framework, business planning, drafting of license, IM, bidding procedures and policy.

Note 1: The project is done under a joint venture between KomKonsult & Global Infrastructure

Note 2: The projects were done under a joint venture with ICC UK being the lead consultant



Customer	Projects	Scope of Work
<p>Telenor NgHLR Project Estimated Value \$ 50,000</p>	<p>Telenor Huawei NgHLR Managed Services Project Central, South & North Regions</p>	<ol style="list-style-type: none"> 1. Preventive Maintenance. 2. Corrective Maintenance 3. On Site Support Services 4. Day to Day Operation activities 5. Migration of Subscribers 6. Expansion Activities
<p>Ufone O&M of BTS Sites Estimated Value \$ 200,000</p>	<p>In-Building coverage Solutions</p>	<ol style="list-style-type: none"> 1. Site Acquisition 2. Technical Proposal 3. Supply and Installation of DAS for In-Building Coverage Solutions 4. BTS Testing & Commissioning 5. BTS Acceptance Testing
<p>Telenor BTS Rollout Project Estimated Value \$ 150,000</p>	<p>GSM BTS Rollout in Central I, II & North Regions</p>	<ol style="list-style-type: none"> 1: End to End media Clearance 2: Installation 3: Commissioning & Integration 4: Reporting, PAT & FAT
<p>Telenor TRX Expansion Project Estimated Value \$ 25,000</p>	<p>TRX Expansion in CII Region</p>	<ol style="list-style-type: none"> 1: End to End Media Clearance 2: TRX Expansion installation 3: Commissioning & Integration 4: Reporting, PAT & FAT
<p>Telenor Pakistan Turnkey In-Building Coverage Solutions (IBS) Estimated Value \$ 150,0000</p>	<p>Turnkey IBC Solutions</p>	<ol style="list-style-type: none"> 1: Survey & Design with Optimization 2: Equipment & Material Supply 3: Telecom Implementation 4: Media Clearance, Commissioning, Integration 5: Reporting, PAT & FAT
<p>Huawei E-Cell Estimated Value: \$ 62,500</p>	<p>Indoor Building Coverage</p>	<ol style="list-style-type: none"> 1: Survey & Design (Technical Proposal) 2: Telecom Implementation. 3: BTS testing and commissioning.
<p>Huawei Pakistan Duration: 2 years</p>	<p>PTCL OFAN Network</p>	<p>Splicing, jointing and testing of fiber optic access network. O&M support for on-going activities was also provided for 1 year.</p>

Estimated Value: \$ 514,188	CDMA WLL and Warid GSM Site Acquisition Services	1-Acquisition of 40 BTS sites for the PTCL WLL and Warid GSM Project 2- Huawei DVCOM Acquisition Services
	CDMA WLL (Phase 1 &2) & GSM Implementation	1- Project Plan, Survey and Survey Reports preparation 2- MSC and BSC installation 3- BTS installation, testing and commissioning
Motorola Duration: 1 year Estimated Value: \$ 229,000	CDMA WLL Project	Site Surveys of 60 Sites including the BOQ preparation of civil works
		Civil works including grounding system and power provisioning for the 32 BTS sites. Installation, commissioning and integration of the sites performed by Motorola.
Mobilink Duration: 1 year Estimated Value: \$600,000	In-Building Coverage Solutions	1- Site Acquisition 2- Technical Proposal 3- Supply and installation of DAS for in-building coverage solutions. 4- BTS Testing & Commissioning 5- BTS acceptance testing
Alcatel Pakistan Duration: 6 months Estimated Value: \$ 45,148	Mobilink Swap Project	Site Survey & Audit Reports and Feeder Sweeps of over 125 sites. The Site Survey and Feeder Sweeps were performed to prepare the sites for the swap and commercial cut over of Motorola BTS's to Alcatel.
Nokia¹ Duration: 1 year Estimated Value: \$ 202,188	Telenor GSM Project	1. Site Acquisition of 23 sites in Sialkot Site Acquisition of 7 sites in Taxila and Wah
		2. Civil Works including Tower foundation, erection, grounding and electrical works of 6 BTS Sites.

		3. Telecom Implementation of the BTS sites including installation, commissioning, integration testing and acceptance testing.
Ericsson Pakistan Duration: 3 years Estimated Value: \$ 710,000	GSM Network Deployment	1- Acquisition of 70 sites including SIR, SLA and government NOC's 2- Installation, Commissioning and Integration of more than 700 sites including expansion works. 3- Installation of Islamabad MSC & BSC
Siemens Pakistan Duration: 1 year Estimated Value: \$ 200,000	Energization of BTS and Switching Sites	Site survey, preparation and submission of demand note, getting the NOC from WAPDA and supply installation of power including energization of site.
Consistel Duration: 2 year Estimated Value: \$1,000,000	In-Building Coverage Solutions	Supply and installation of DAS for in-building coverage solutions. The project was first of its kind in Pakistan. The Scope of work includes 18 months O&M support after the commercial operation of sites.
Ericsson S.Arabia Duration: 1 year Estimated Value: \$ 300,000	Technical Training for STC	Setting up of training Exchange including collocated HLR, MSC, BSC and 3 BTS's. The project included design, development and delivery of GSM courses for 220 Saudi Students
Huawei Augere Estimated Value: \$ 36,800.	WiMAX Solutions	1- Installation of WiMAX BTS. 2- Rectifier installation and auxiliary equipment. 3- Software commissioning and testing. 4- Microwave RTN installation and commissioning.
Huawei PTCL Swap Estimated Value \$ 34,188	CDMA Swap Project	1- Complete indoor installation. 2- Dismantling of existing equipment. 3- Commissioning and testing of BTS equipment.



<p>Huawei Duration: 1 Year Estimated Value: \$330,000</p>	<p>Wireless Network Frame Agreement</p>	<p>BTS indoor & outdoor Installation of more than 200 sites.</p> <ol style="list-style-type: none"> 1. BTS Testing & Commissioning 2. BTS acceptance testing
<p>Telenor Duration: 6 Month Estimated Value: \$100,000</p>	<p>Telenor GSM Project</p>	<p>Telecom Implementation of the BTS sites including installation, Media Clearance, Commissioning, integration testing and acceptance testing.</p>
<p>Telenor Duration: 6 Month Estimated Value: \$1,050,000</p>	<p>In-Building Coverage Solutions</p>	<ol style="list-style-type: none"> 1- Technical Proposal 2- Supply and installation of DAS for in-building coverage solutions. 3- Repeater Installation and Commissioning 4- BTS Testing & Commissioning 5- BTS acceptance testing 6- Installation of Active Equipment and testing
<p>S.C.O Duration: 1 year Estimated Value: \$ 25,000</p>	<p>GSM Project Consultancy</p>	<ol style="list-style-type: none"> 1. RFP analysis including technical and commercial aspects 2. Selection of vendor and contract negotiations 3. Supervision during implementation phase 4. Acceptance of system
<p>Warid Telecom Duration: 4 months Estimated Value: \$ 20,000</p>	<p>LDI</p>	<ol style="list-style-type: none"> 1- Initial Network Design 2- RFP Preparation 3- Commercial Evaluation 4- Vendor Evaluation 5- Project Implementation
<p>WorldCALL Duration: 2 months Estimated Value:</p>	<p>LDI</p>	<ol style="list-style-type: none"> 1. Network Design 2. RFP Preparation 3. Vendor Evaluation

\$ 10,000		
WiseComm (France) Duration: 3 months Estimated Value:	LDI	1. Feasibility Study 2. Technical Plan 3. Business Plan 4. Project Implementation
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Defense Housing Authority Lahore Duration: 3 months Estimated Value: \$ 80,000	LL Duration: 1 years Estimated Value:	1. Feasibility Study 2. Technical Plan 3. Business Plan
Ericsson China Duration: 3 years Estimated Value: \$ 800,000	GSM System support	1 st line and 2 nd line support. CSR handling and emergency support
	GSM Network testing, integration and verification	Testing and integration of HLR's, MSC's, BSC's and BTS's. UMTS/GPRS system verification. More than 100 nodes were tested and integrated
	GSM Course development and delivery	Design, development and delivery of courses on GSM O&M, CCITT7 signaling. Compilation and verification of Upgrade Procedures
	Application System Replacements	China R 9.1 system upgrade and verification
Ericsson Nigeria Duration: 3 years Estimated Value: \$ 600,000	Expansion of TACS Cellular Network Nitel	Expansion of Group Switch and Trunk lines
	Capacity Upgrades TACS Cellular Network Nitel	Upgrade of Processors in Live Switches
	Expansion of Radio Network Nitel	Installation, testing and integration of ETACS Base Stations including Microwave Links. Installation, testing and integration of more than 60

		BTS's including Microwave links
	Launch of Nitel GSM Network	Installation, testing and commercial cut-over of Nitel GSM Network for 60,000 Subscribers
Ericsson Nigeria Duration: 3 years Estimated Value: \$ 200,000	Technical Support	Providing first and second line support for the TACS and GSM networks in Nigeria.
	Project Management Nitel	Roll-out of 1 HLR, 3 MSC's, 3 BSC's, BGW, 100 BTS's, SMSC and VM systems
Millicom Tanzania Duration: 3 months Estimated Value: \$ 60,000	Expansion of GSM Radio Network	Installation, Testing and Integration of 6 GSM BTS's. Training delivered on installation and commissioning of Microwave equipment.
Ericsson UK, Sweden, Ireland, South Africa & Malaysia Duration: 2 years Estimated Value: \$ 120,000	Technical Training	Development and delivery of technical courses on GSM fundamentals, MSC O&M, BSC O&M, HLR O&M, Hardware and SW fault finding and Emergency Handling
Tele2 Russia Duration: 1month Estimated Value: \$ 20,000	Site Audit	Conducted an Audit of an existing switch to bring it in-service after 2 years. A complete Audit report was submitted and the switch was brought in service by providing remote support
Eircom Ireland Duration: 1 month Estimated Value: \$ 18,000	O&M Support	Provided O&M support for the Millennium cut-over. Procedures for the clock roll over was provided for all the nodes in GSM network including OSS, HLR, MSC, BSC and BTS's
ITS Italy	VoIP Implementation	Migration of Voice Traffic from Circuit Switched

Duration: 1 month Estimated Value: \$ 35,000		technology to Packet Switched technology with QoS parameters and cost budgets.
NTC Pakistan Duration: 2 month Estimated Value: \$ 10,000	VOIP Network Design	Provided consultancy on the design and implementation of VoIP network for NTC
PTA Pakistan Duration: 2 month Value: \$ 10,000	QoS Standards	Research and Development of Quality of Service Standards for the telecom operators in Pakistan
Huawei Pakistan Duration: 2 month Estimated Value: \$ 150,000	Supply of Tools	Supply of Fiber Accessories & Tools to Huawei Technologies for DWDM with the Pakistan Telecom Corp Ltd (PTCL)
Ministry of IT² Duration: 5 month Estimated Value: \$ 150,000	Policy framework for implementation and management of Universal Service Fund 'USF'	Feasibility and establishment of USF policy framework. The work required extensive data collection and analysis to provide rural coverage estimates and associated budgets.
Ministry of IT² Duration: 8 month Estimated Value: \$ 550,000	Policy framework to introduce new Mobile cellular operators	Design and implementation of the policy for the new mobile cellular license operators. The scope involved complete review of regulatory and legal framework, business planning, drafting of license, IM, bidding procedures and policy.

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Customer	Projects	Scope of Work
<p>Telenor Pakistan Turnkey In-Building Coverage Solutions (IBS) Estimated Value \$ 150,0000</p>	<p>Turnkey IBC Solutions</p>	<p>1: Survey & Design with Optimization 2: Equipment & Material Supply 3: Telecom Implementation 4: Media Clearance, Commissioning, Integration 5: Reporting, PAT & FAT</p>
<p>Telenor Pakistan Estimated Value \$ 185,100</p>	<p>In-Building Coverage Solutions Repeater System</p>	<p>1- Technical Proposal 2- Supply and installation of DAS 3- Supply of CME Material 4- Repeater Installation and Commissioning 5- Reporting, PAT & FAT.</p>
<p>Mobilink Estimated Value: \$600,000</p>	<p>In-Building Coverage Solutions</p>	<p>1- Site Acquisition 2- Technical Proposal 3- Supply and installation of DAS for in-building coverage solutions. 4- BTS Testing & Commissioning 5- BTS acceptance testing</p>
<p>Consistel Estimated Value: \$1,000,000</p>	<p>In-Building Coverage Solutions</p>	<p>Supply and installation of DAS for in-building coverage solutions. The project was first of its kind in Pakistan. The Scope of work includes 18 months O&M support after the commercial operation of sites.</p>
<p>Huawei E-Cell Estimated Value: \$ 62,500</p>	<p>Indoor Building Coverage</p>	<p>1: Survey & Design (Technical Proposal) 2: Telecom Implementation. 3: BTS testing and commissioning.</p>
<p>Zong IBS Project Estimated Value: \$35,000</p>	<p>Indoor Building Coverage Solutions</p>	<p>1: First Indoor Building Coverage Site installation in Pakistan (Islamabad International Airport) for Zong. 2: Supply of CME Material 3: Pre & Post Walk Test & Report Submission 4: Site Installation & Commissioning 5: PAT & FAT.</p>

Zong Comba IBS Project Estimated Value \$ 65,600	Indoor Building Coverage BTS & Repeater System	<ol style="list-style-type: none"> 1: Pre Walk Test, RF Survey and Design Submission 2: Supply of Repeaters, RF & CME Material 3: Telecom Implementation 4: Repeater Commissioning & Testing 5: Post Walk Test & Acceptance
Telenor BTS Rollout Project Estimated Value \$ 150,000	GSM BTS Rollout in Central I, II & North Regions	<ol style="list-style-type: none"> 1: End to End media Clearance 2: Installation 3: Commissioning & Integration 4: Reporting, PAT & FAT
Telenor TRX Expansion Project Estimated Value \$ 25,000	TRX Expansion in CII Region	<ol style="list-style-type: none"> 1: End to End Media Clearance 2: TRX Expansion installation 3: Commissioning & Integration 4: Reporting, PAT & FAT
Telenor NgHLR Project Estimated Value \$ 50,000	Telenor Huawei NgHLR Managed Services Project Central, South & North Regions	<ol style="list-style-type: none"> 1. Preventive Maintenance. 2. Corrective Maintenance 3. On Site Support Services 4. Day to Day Operation activities 5. Migration of Subscribers 6. Expansion Activities
Huawei Pakistan Duration: 2 years Estimated Value: \$ 514,188	PTCL OFAN Network	Splicing, jointing and testing of fiber optic access network. O&M support for on-going activities was also provided for 1 year.
	CDMA WLL and Warid GSM Site Acquisition Services	<ol style="list-style-type: none"> 1-Acquisition of 40 BTS sites for the PTCL WLL and Warid GSM Project 2- Huawei DVCOM Acquisition Services
	CDMA WLL (Phase 1 &2) & GSM Implementation	<ol style="list-style-type: none"> 1- Project Plan, Survey and Survey Reports preparation 2- MSC and BSC installation 3- BTS installation, testing and commissioning
Motorola Duration: 1 year	CDMA WLL Project	Site Surveys of 60 Sites including the BOQ preparation of civil works

Estimated Value: \$ 229,000		Civil works including grounding system and power provisioning for the 32 BTS sites. Installation, commissioning and integration of the sites performed by Motorola.
Alcatel Pakistan Duration: 6 months Estimated Value: \$ 45,148	Mobilink Swap Project	Site Survey & Audit Reports and Feeder Sweeps of over 125 sites. The Site Survey and Feeder Sweeps were performed to prepare the sites for the swap and commercial cut over of Motorola BTS's to Alcatel.
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Ericsson S. Arabia Duration: 1 year Estimated Value: \$ 300,000	Technical Training for STC	Setting up of training Exchange including collocated HLR, MSC, BSC and 3 BTS's. The project included design, development and delivery of GSM courses for 220 Saudi Students



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<p>Huawei Duration: 1 Year Estimated Value: \$330,000</p>	<p>Wireless Network Frame Agreement</p>	<p>BTS indoor & outdoor Installation of more than 200 sites.</p> <ol style="list-style-type: none"> 1. BTS Testing & Commissioning 2. BTS acceptance testing
<p>Telenor Duration: 6 Month Estimated Value: \$100,000</p>	<p>Telenor GSM Project</p>	<p>Telecom Implementation of the BTS sites including installation, Media Clearance, Commissioning, integration testing and acceptance testing.</p>
<p>Telenor Duration: 6 Month Estimated Value: \$1,050,000</p>	<p>In-Building Coverage Solutions</p>	<ol style="list-style-type: none"> 6- Technical Proposal 7- Supply and installation of DAS for in-building coverage solutions. 8- Repeater Installation and Commissioning 9- BTS Testing & Commissioning 10- BTS acceptance testing 11- Installation of Active Equipment and testing
<p>S.C.O Duration: 1 year Estimated Value: \$ 25,000</p>	<p>GSM Project Consultancy</p>	<ol style="list-style-type: none"> 1. RFP analysis including technical and commercial aspects 2. Selection of vendor and contract negotiations 3. Supervision during implementation phase 4. Acceptance of system
	<p>LDI</p>	<ol style="list-style-type: none"> 1- Initial Network Design

Warid Telecom Duration: 4 months Estimated Value: \$ 20,000		2- RFP Preparation 3- Commercial Evaluation 4- Vendor Evaluation 5- Project Implementation
WorldCALL Duration: 2 months Estimated Value: \$ 10,000	LDI	1. Network Design 2. RFP Preparation 3. Vendor Evaluation
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Defense Housing Authority Lahore Duration: 3 months Estimated Value: \$ 80,000	LL Duration: 1 years Estimated Value:	1. Feasibility Study 2. Technical Plan 3. Business Plan
Ericsson China Duration: 3 years Estimated Value: \$ 800,000	GSM System support	1 st line and 2 nd line support. CSR handling and emergency support
	GSM Network testing, integration and verification	Testing and integration of HLR's, MSC's, BSC's and BTS's. UMTS/GPRS system verification. More than 100 nodes were tested and integrated
	GSM Course development and delivery	Design, development and delivery of courses on GSM O&M, CCITT7 signaling. Compilation and verification of Upgrade Procedures
	Application System	China R 9.1 system upgrade and verification

	Replacements	
Ericsson Nigeria Duration: 3 years Estimated Value: \$ 600,000	Expansion of TACS Cellular Network Nitel	Expansion of Group Switch and Trunk lines
	Capacity Upgrades TACS Cellular Network Nitel	Upgrade of Processors in Live Switches
	Expansion of Radio Network Nitel	Installation, testing and integration of ETACS Base Stations including Microwave Links. Installation, testing and integration of more than 60 BTS's including Microwave links
	Launch of Nitel GSM Network	Installation, testing and commercial cut-over of Nitel GSM Network for 60,000 Subscribers
Ericsson Nigeria Duration: 3 years Estimated Value: \$ 200,000	Technical Support	Providing first and second line support for the TACS and GSM networks in Nigeria.
	Project Management Nitel	Roll-out of 1 HLR, 3 MSC's, 3 BSC's, BGW, 100 BTS's, SMSC and VM systems
Millicom Tanzania Duration: 3 months Estimated Value: \$ 60,000	Expansion of GSM Radio Network	Installation, Testing and Integration of 6 GSM BTS's. Training delivered on installation and commissioning of Microwave equipment.
Ericsson UK, Sweden, Ireland, South Africa & Malaysia Duration: 2 years Estimated Value: \$ 120,000	Technical Training	Development and delivery of technical courses on GSM fundamentals, MSC O&M, BSC O&M, HLR O&M, Hardware and SW fault finding and Emergency Handling
Tele2 Russia	Site Audit	Conducted an Audit of an existing switch to bring it



Duration: 1month Estimated Value: \$ 20,000		in-service after 2 years. A complete Audit report was submitted and the switch was brought in service by providing remote support
Eircom Ireland Duration: 1 month Estimated Value: \$ 18,000	O&M Support	Provided O&M support for the Millennium cut-over. Procedures for the clock roll over was provided for all the nodes in GSM network including OSS, HLR, MSC, BSC and BTS's
ITS Italy Duration: 1 month Estimated Value: \$ 35,000	VoIP Implementation	Migration of Voice Traffic from Circuit Switched technology to Packet Switched technology with QoS parameters and cost budgets.
NTC Pakistan Duration: 2 month Estimated Value: \$ 10,000	VOIP Network Design	Provided consultancy on the design and implementation of VoIP network for NTC
PTA Pakistan Duration: 2 month Value: \$ 10,000	QoS Standards	Research and Development of Quality of Service Standards for the telecom operators in Pakistan
Huawei Pakistan Duration: 2 month Estimated Value: \$ 150,000	Supply of Tools	Supply of Fiber Accessories & Tools to Huawei Technologies for DWDM with the Pakistan Telecom Corp Ltd (PTCL)
Ministry of IT² Duration: 5 month Estimated Value: \$ 150,000	Policy framework for implementation and management of Universal Service Fund 'USF'	Feasibility and establishment of USF policy framework. The work required extensive data collection and analysis to provide rural coverage estimates and associated budgets.
	Policy framework to introduce	Design and implementation of the policy for the new



Ministry of IT² Duration: 8 month Estimated Value: \$ 550,000	new Mobile cellular operators	mobile cellular license operators. The scope involved complete review of regulatory and legal framework, business planning, drafting of license, IM, bidding procedures and policy.
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Note 1: The project is done under a joint venture between KomKonsult & Global Infrastructure

Note 2: The projects were done under a joint venture with ICC UK being the lead consultant