

**INTERCAI MONDIALE
OVERVIEW OF POLICY, REGULATORY
AND BUSINESS PLANNING PROJECTS**



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INTERCAI MONDIALE

Intercai Mondiale is an internationally regarded specialist consultancy focusing on telecommunications and related industry sectors. Our clients include governments, regulators, start up and existing telecommunications and IT businesses, and financing organisations.

Our consultants have multi-disciplinary skills and capability focused on ICT

Our consultants have strong industry experience combined with expertise in Business, Finance, Economics and Technology. Our breadth of experience allows us to contribute to landmark projects involving national policy, major privatisations, the development of new strategic directions and the implementation of large ICT networks in an increasingly volatile commercial and technical environment.

Our capability covers the array of business models, regulatory models, sector models and technologies that characterize the converging telecommunications environment. We have gained this capability through projects across Europe, the Middle East, Africa and Asia, experiencing markets at all stages of development.

We undertake projects for all sector stakeholders

The nature of our projects reflects the needs of our clients and the broad range of skills of our consultants.

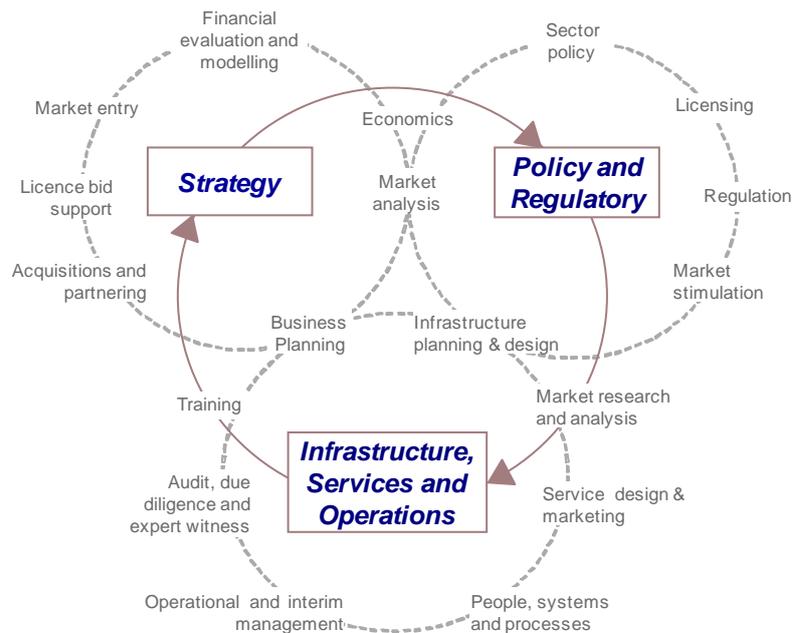
Telecommunications Operators and Service Providers	<ul style="list-style-type: none">➤ Business strategy, planning and market analysis➤ Product planning and service implementation➤ Business case development➤ Network planning, provisioning and implementation project management➤ Quality of Service and performance evaluation➤ Bid preparation and submission
Telecommunications Industry Regulators	<ul style="list-style-type: none">➤ Regulatory policy and strategy development➤ Economic analysis➤ Development of regulatory regimes in particular areas such as interconnect and USO
Government ICT Ministries	<ul style="list-style-type: none">➤ Development of policy and strategy for the telecommunications and IT sectors➤ Development of specific policy elements such as broadband stimulation and universal service obligations➤ Implementation of telecommunications industry regulator and performance of regulatory function
Financiers	<ul style="list-style-type: none">➤ Business case evaluation and financial modelling➤ Commercial and technical due diligence➤ Business valuation and funding strategies

We provide consulting services to stakeholders from the development of policy and strategy through to implementation and operation of services and infrastructure in the face of rapid technological development, liberalisation, regulatory change and increasing competition.

We adopt a pragmatic and flexible approach to staffing and running consultancy projects to provide the most appropriate expertise leading to successful customer specific solutions.



Practice areas orientated around our clients' business life cycles



Strategy & Planning

Within the Commercial sector, Intercai Mondiale has been involved in a wide variety of projects for clients ranging from Merchant Banks and Venture Capital organisations to major Fixed and Mobile Operators and market entrants. We combine our deep industry knowledge with strong quantitative analysis and leading-edge thinking to identify and assess new opportunities, and to assess the implications of changing business models, technologies and markets on business performance. Our consultants have experienced the unique circumstances and factors that govern business in developing economies, particularly those that are facing regulatory change.

We anticipate and take advantage of the wealth of opportunity and challenges available to our clients by working with them to reinvent their businesses with practical, well-conceived and flexible business designs.

We promote growth and shareholder value for our clients by harnessing our relationships, extensive industry knowledge and strategic expertise, together with our implementation and operational skills.

Policy, Regulation and Privatisation

We have carried out policy and strategy assignments for government clients, operators and service providers in countries in the Middle East, Africa and Eastern Europe as well as in Western Europe and North America. Our breadth of experience has allowed us to contribute to landmark projects involving market liberalisation, policy development, privatisation, and regulation of liberalised markets and has involved our consultants in operational roles in telecommunications regulators.

In the Kingdom of Bahrain, for example, we defined the strategy for liberalisation and then carried out the practical steps necessary to implement it. After an economic analysis based on a series of liberalisation options, we established the legal framework for liberalisation and set up the regulator, the Telecommunications Regulatory Authority. We went on to provide TRA's management team, undertaking licensing and market management as well as issuing consultations and determinations in areas as diverse as National number plan, cost of capital, price controls and spectrum allocation.

In addition we have developed a range of skills to support Government and Local Government initiatives in improving the supply of telecommunications services within disadvantaged regions of Europe. This work includes the UK Public Sector regarding the issues and provision of broadband



communications in rural areas. Intercai Mondiale has been involved across the UK and in some other European countries in broadband stimulation, the improvement of supply of broadband services, and in early aggregation schemes. We have designed national networks and provided specialist expertise to service providers in the areas of cost reduction, Quality of Service standards and Service Level Agreements for telecommunications networks.

Design & Integration

We specialise in IT and telecoms technology, mobile and fixed, wireless and wireline, within e-business and traditional environments. In particular we have advised in detail on the network infrastructures and technologies that could best be deployed by incumbent and new entrant operators in the Fixed and Mobile Telecommunications sectors.

We have experience in the complexities of large scale telecommunications systems. We design technology environments for mobile virtual network operators and communications networks including key areas of security, content management systems, network management systems and portal infrastructures for voice and web services.

We have assisted a major technology organisation that supplies strategic telecommunications network services to the UK Ministry of Defence (MoD). In the course of this, and similar projects we have developed a broad understanding of modern network infrastructures, including key aspects such as Operational Support Systems (OSS), interworking with other networks and evolution planning. In terms of technology, we have an established track record of designing large scale networks, including the selection of most appropriate switching/routing, long-haul transmission and local distribution options.

Our wide experience of developing and enforcing regulatory instruments has enabled us to provide relevant design and integration advice for market entrants in an evolving market and for established operators seeking to adjust to competition.

A wide range of ICT sector organisations

Our clients represent a mix of telecommunications operators and service providers, equipment and software vendors, venture capital and other financing organisations, national regulatory authorities and government ministries focused on the telecommunications sector. The following is a selected list of our clients.

AAM Management Info Consulting, Hungary	Gamma	O2
Accelerator Management Company, Jordan	GSM Association	O2 Germany
Aepona	Holman Fenwick & Willan	Omzest Group, Oman
Alcatel Lucent	IIR	Orascom
Alten (UK)	Inclarity	Paradigm Services
Ashford Borough Council (UK)	International Telecommunications Union	Qtel
Astrium Limited	Jordan Telecom	Royalton Partners
Atkins	Kent County Council (UK)	Rulespace
Azerfon	Kenya Power & Lighting Company	SCS
Batelco	Kuwait Finance House	SEEDA
Bristol City	Mazoon Mobile, Oman	Siemens Network Systems
British Telecom	MENATElecom	Thales
CITC, Saudi Arabia	Ministry of Industry and Commerce, Bahrain	TRA, Oman
Devoteam	Ministry of ICT, Jordan	TRA, UAE
Digicel	Ministry of ICT, Samoa	TRC, Jordan
Environment Agency (UK)	mPunkt	Uganda UCC
Etihad Etisalat	National Telecommunications Commission, Thailand	Umniah
Economic Development Board, Bahrain	Neutel Communications, Bahrain	Value Partners
FMN/Quintain		Wedlake Bell
		YFM Venture Finance



RECENT PROJECTS

Business planning

The following projects demonstrate our capability to develop business plans for market entrants and for existing operators that intend to introduce new services. They represent our capability to:

- Assess the market for utility services;
- Assess the environment for the development of the new business including the competition, regulatory factors, political, economic, social and technological factors
- Determine strategic options and make an initial estimate of the attractiveness of those options including network, call centre and hosting centre based businesses;
- Prepare business plans including financial projections of the business, capital requirements, return on investments and business valuation;
- Prepare roadmaps for the implementation of the business plan;
- Prepare technical plans where necessary.

USF Bid

Our client, an operator in a major Middle Eastern country, retained us to manage the preparation of a bid to the national regulator for the setting up and running of a Universal Service Fund scheme based on its mobile network. We reviewed the client's current network capability and capacity, determined the projected demand, service requirement and pricing position to establish the financial viability and identified the level of subsidy required to achieve an acceptable business case. In parallel we worked with the client's technical team to determine the network requirements and obtain submissions from vendors to meet them. Finally we prepared the formal bid document.

This first project was followed by a second similar project from the same operator covering a different area of the country.

FTTH feasibility study

For a European electricity transmission and distribution company, we investigated the opportunity for them to participate in a prospective public private partnership to build a national FTTH infrastructure. The Government in this EU member state had issued a draft law to enable the public private partnership. Our client wanted to determine whether it should take part in a tender associated with the law. As the owner of an electricity distribution network, and with network based infrastructure development expertise, our client believed that it may have a cost, resource and skills advantage over other prospective bidders. We investigated whether the advantage was real and whether it gave our client sufficient advantage given that the opportunity was outside its core business for a feasible bid. In addition, we commented on the draft law.

Arabian Gulf data centre feasibility study

For a major trading house in a Gulf state, we examined a range of opportunities for entering the ICT services market including a number of alternative telecommunications services proposition and the provision of data centre services. We started by investigating the core capabilities of the present business that could form the basis of the new business. In parallel we examined regulatory and market characteristics of a number of Gulf states to identify market opportunities and regulatory constraints. This analysis enabled feasible opportunities to be identified. We then examined in detail the characteristics of the data centre and hosting services business that could be established in the Gulf, and prepared a detailed financial case and an action plan to realize the business. We worked closely with the client manager and executive management committee who would be responsible for this new venture and provided further support in making the case to company's owners.



Business plan for entering the telecommunications market

For the electricity transmission company in Kenya, we prepared a business plan to enter the telecommunications market.

Our client was planning to install a SCADA system and related fibre optic network for its transmission and distribution network. The fibre network was intentionally provisioned with excess capacity. The client wanted to know how it could best exploit this spare capacity. The aim of the project was to identify business opportunities, to qualify the opportunities with supporting evidence and to provide a plan for the realisation of the opportunity.

We carried out a thorough analysis of the telecommunications regulatory environment, the factors driving growth in different sectors of the telecommunications market, the size and growth of the market and the competitive environment. We examined technical options for a national backbone and for access. We evaluated our client's strengths and weaknesses, opportunities and threats. Out of this analysis we identified and characterised market entry options and evaluated them against the attractiveness of the market reached by each option and the ease of market entry for our client. This analysis enabled us to prioritise the options and develop a roadmap for an evolutionary development of the business. Having agreed this roadmap with our client, we developed a business model and a business plan. Our client's board agreed to the first step in the roadmap and is now implementing the plan.

Middle East Transit Network

For a private investment group in the Middle East, we constructed a forecasting model and enterprise valuation model for a regional high capacity transit network. The model permitted a wide variety of scenarios to be run concerning the uptake of international IP bandwidth for the networks footprint of some 17 Middle Eastern countries, driven by the penetration of internet users and their usage profiles, competitive shares and pricing assumptions for IP bandwidth routes, coupled with the capital and operating costs, permitted cash flow valuations to be performed.

Second Fixed Licence

In 2006, we were retained by an international operator to investigate the potential opportunity arising from the anticipated letting of a second fixed licence in Oman. Prior to the launch of the formal licence application process, the operator wished to understand the incremental opportunity of obtaining the licence and explore the possibility of obtaining the licence concession prior to a public competitive process. To this end, we undertook two parallel tasks, the first of which developed a lobbying position to be put to the regulatory authority with the aim of pre-empting a formal licensing process and, the second, developed a market model that enabled various scenarios of a business plan to be assessed.

Valuation of a Strategic Partner Stake in the 3rd Mobile Operator in Kuwait

For a Bahraini telecommunications company, we conducted a business planning and valuation assessment of the Client's position within a consortium bidding in the 3rd mobile licence opportunity in Kuwait. Specific focus was given to the Return on Equity analysis for the Client stake in the consortium.

The project required Intercai to:

- Model the Kuwaiti mobile market
- Prepare and cost a network roll-out plan
- Develop an enterprise valuation model that took account of the differing membership conditions and objectives of the various consortium members.



Due diligence of a Russian telecoms operator

We undertook a due diligence project on behalf of the EBRD concerning a Russian local telecommunications operator. A change in the regulatory environment in Russia led to the need for a reappraisal of the investor's stake in the operator. We assessed the market for telephony, broadband and internet services available to the operator, and estimated the impact on its business from regulatory change. We prepared a financial model of the operator based on a demand model derived from discussions with the operator and an analysis of the demographics of the area covered. The financial model was used to undertake a scenario analysis thereby to make revisions to expectations on the value of the investment.

Diversification Strategy Development

We investigated diversification opportunities for an electronics manufacturing company in Saudi Arabia faced with a need to extend its business into new areas. The opportunities identified were fulfilment, call centre operations and hosting centre operations. Once the client had agreed these proposals we investigated them in more detail in order to present an investment case to the client's board. This investment case was linked with a number of partnering opportunities with Western fulfilment and IT companies.

Bid for a national fixed wireless network licence

For a Middle Eastern investment vehicle, Intercai Mondiale was responsible for bidding for a fixed wireless network licence to provide telephony and broadband services in Bahrain. The work involved building a business plan and valuing spectrum for a WiMAX network. The work included an assessment of the potential market, definition of services and specification of the necessary technology, interfaces and standards, as well as developing a business model and financial plan, and determining the value of the licence. The bid was successful and the service was launched at the end of November 2008.

Bid for the third 3G mobile licence in Bahrain

For the same Middle Eastern investment vehicle, Intercai Mondiale was responsible for a bid for a 3G mobile licence in Bahrain. The work involved identification and negotiation with potential partners to provide operational experience, development of a business plan and a valuation of the licence. Business plan development required us to undertake primary market research particularly in innovative services – content and data applications – as well as market analysis using existing sources, development of a marketing and distribution plan, development of a product portfolio and pricing, tendering for a network and services infrastructure and development of a market model, business model and valuation of the licence.

Product strategy for a fixed WiMAX operator

Having won a licence to provide a fixed wireless access service, our client needed to finalise pricing for over fifty propositions contained in the client's WiMAX based product portfolio. We did this using a detailed bottom up fully allocated cost (FAC) model of the business that we developed. The FAC model enabled the calculation of gross and net margins. The model was also to be used to satisfy the requirements for the submission of regulatory accounts.

We carried out an analysis of pricing for competing services. This identified gaps and discontinuities which could be exploited by the repositioning of the client's proposition and prices. It resulted in a marked repositioning of the products to avoid severely damaging cost competition.

Further, the modelling confirmed termination rates to be negotiated with competitors, leading to a significant improvement in gross margins.

Bid for mobile licence in Egypt

Intercai Mondiale provided the technical input to a major Middle Eastern operator's bid for a mobile licence in Egypt. Our responsibility was the accuracy of the bid, including standards conformance and credibility of deployment plans.



Policy and regulatory affairs

We work with government, national telecommunications sector regulators and regulatory affairs departments in telecommunications companies, contributing to landmark policy and sector strategy, regulatory strategy and regulations to implement such strategy. Our focus is on economic regulation and licensing but we also have capability in technical regulation. Our policy and regulatory projects include the following.

Technical, Economic and Regulatory Advisor to the Kingdom of Bahrain for the liberalisation of the telecommunications market

This was a landmark project that repositioned Bahrain as a country with a competition oriented telecommunications policy that led to the development of Bahrain's dynamic telecommunications sector.

Intercai Mondiale was appointed by the Government of Bahrain to advise it on the strategy and approach for the liberalisation of its telecommunications market, and support the preparation of the necessary legislative instruments. After gaining an in-depth understanding of the current market we identified a range of Market Structure Options (MSOs) that offered varying degrees of liberalisation. The economic impact on the sector and the effect on the incumbent were modelled for each MSO and a formal decision analysis process, involving the client, was undertaken to select the preferred option. We then drafted a National Plan to present the approved Government policy to the market and supported the legal team in the drafting of the necessary laws and licences.

Interim Telecommunications Regulator for Bahrain

For a period of two years, Intercai Mondiale supported the Government by fulfilling the functions of the newly created Telecommunications Regulatory Authority on an interim basis. This included the transition from our interim position to the establishment of a permanent team. As part of this role, the Intercai Mondiale Team undertook consultations on defining relevant markets, determinations of dominance and Significant Market Power (SMP), local loop unbundling and universal service provision. We also undertook analysis and implementation of rate rebalancing, interconnect / wholesale pricing, and Cost of Capital. We were also responsible for undertaking the selection and issuance of a second mobile licence. Further we had responsibility for type approval, quality standards, customer complaints and the general operation of the regulatory function. We assisted in the recruitment of permanent staff and participated in a programme for skills transfer and training.

Other related projects in Bahrain

In addition to the above projects, we have advised Government on a variety of related topics, for example:

- International telecommunications sector policy. We prepared recommendations for restructuring the international telecommunications sector to overcome identified market inefficiencies.
- Ecommerce, and in particular on mechanisms for stimulating both supply and use of ecommerce channels in the economy.

ICT and postal policy and national strategic plan

Intercai Mondiale assisted the Ministry of Information and Communications Technology (MoICT) in Jordan in the preparation of an overarching policy statement covering the postal, telecommunications and information technology sectors. The policy statement took account of Jordan's international obligations and Jordanian law. It was justified by assessing the impact of alternative policy options on economic and social development, the development of the individual sectors and government efficiency.

Following adoption of the policy by Government, we developed the first national strategic plan for the MoICT. The plan coordinated and consolidated the many initiatives that were being undertaken in Jordan by Government ministries, Government executive agencies and NGOs.



Development of a unified licensing regime and licence transitioning

Intercai Mondiale was asked by the TRC, Jordan to develop a framework for unified licensing and to support the TRC in transitioning existing licensees to the new licences. We reviewed the Telecoms Law and existing fixed and mobile licenses, and subsequently prepared a comprehensive plan for liberalisation of the fixed sub-sector, and the introduction of the unified licensing regime in line with Government policy. This regime encompassed the many tasks required to introduce competition into the market, and detailing the body of regulation necessary in order to successfully implement the new regime.

The initial task was to develop the body of regulation. This included mechanisms for dealing with service providers with significant market power, interconnection rules, tariff controls, access, accounting separation, universal service obligations and access deficit, managing scarce resources (spectrum, numbers, rights of way), quality of service, consumer protection, fixed wireless access and sanctions. In addition to our own team of economic and technical experts we managed the inputs of a team of lawyers and public relations experts.

Subsequently, we implemented an integrated licensing regime and supported the transition of existing licences to the new structure. In addition to the incumbent there were four independent mobile licensees to transition. Prior to undertaking extensive consultations with each, we prepared detailed economic models to support the position we had developed.

During the project, the mandate for issuing licences changed. Nevertheless, we were able to develop licences that proved fair and acceptable to all parties.

Other policy and national strategy projects in Jordan

We have undertaken several other significant projects for the MoICT and TRC in Jordan covering policy and regulation These include:

- Development of the USO policy for the MoICT
- Development of the regulatory regime for the USO on behalf of the TRC
- Development of a national ecommerce strategy for the MoICT

Telkom South Africa Restructuring and privatisation of Telkom South Africa

This is one of our older projects, but it demonstrates the many roles that we can play in relation to restructuring the telecommunications sector

We provided the telecommunications industry expertise in support of a Merchant Bank that was mandated to restructure the telecommunications sector in South Africa. Our client was the Department of Communication (when part of the Ministry for Posts, Telecommunications and Broadcasting). Intercai Mondiale advised on the technical issues associated with the drafting of the various licenses and other regulatory instruments, including interconnection and tariff regulations, which were closely modelled on European Union precedent. In addition, we provided significant input to the prospectus for the sale of 30% of Telkom SA and evaluated the bidders. We prepared a financial model of Telkom SA and to provide a forward looking assessment of the value to a buyer, in order to give an indication to the South African Government of likely receipts. The final stage involved assistance with the detailed negotiations with the preferred bidder, especially in relation to the agreement of spectrum for Wireless Local Loop deployment.



Other policy, national strategy and regulatory economics work

- National strategy for telecommunications regulation in Thailand on behalf of the NTC
- Development of a five year strategic plan for the telecommunications market on behalf of the TRA in UAE
- Expert advisor to the Macedonian regulator regarding the technical and economic aspects of interconnect, universal service and cost of capital. This work also included the delivery of a training programme in Accounting and Costing of telecommunications services
- For the CITC, Saudi Arabia:
 - Economic and technical advisor on the licensing of new operators, including licence drafting, development of the bid process, and assessment and scoring technical bids for new licences
 - Advisor for Interconnection Guidelines, Number Portability, Number Planning, Roaming, and Quality of Service. We also ran a series of technical workshops covering mobile network technologies (2G & 3G); data network technologies and standard and Interconnection
- For the Omani TRA:
 - Management of the development of a unified licensing scheme for broadband wireless access
 - Briefings on planned licences on three planned licences, (i) the landing of submarine cables, (ii) Teleport and VSAT, (iii) Private Networks. In each case we identified the options on the structure and content of the licence and provided the rules and procedures of the accompanying regulation. We also prepared a paper outlining the options and issues surrounding the regulation of encryption.
- Evaluation of interconnection cost models for MCIT, Samoa
- Regulatory workshops on interconnect, pricing and universal service obligations for the ITU
- International roaming advice for the GSMA
- Development of regulatory standards for new members of the EU

Regulatory support for operators

We provide a regulatory support service for a number of operators. The service can be structured as a long term call off contract or as ad hoc support on particular issues. Project experience includes:

- In Saudi Arabia: long term support of one of the major telecommunications operators. We have undertaken a number of large projects described elsewhere and some shorter projects. Topics covered by these have included: the designation of relevant markets, USF, Reference Interconnect Offer, guidelines for exposure to EMF, Disaster Recovery, rights of way and colocation.
- In Jordan, we have supported operators in a number of areas in responding to the TRC including:
 - A response to specific WACC proposals
 - A response to a LRIC modelling draft decision
 - Responses to consultations on fixed broadband access markets and mobile markets
- In UAE, we advised an operator on its responses to consultations on market definitions and market power issued by the TRA, in relation to its RIO and potential modifications to its licence.



Service Classification

The market in a major Middle Eastern country had, over time, become distorted as competition increased but fees and licence structures set at the time of near monopoly had not changed. Our client, a mobile operator, retained us to review its revenue streams and to identify services which may be reclassified in the light of regulatory changes made subsequent to the original licence award. Working closely with the client's teams we established a list of candidates for reclassification, prepared supporting arguments and developed an implementation project plan for the client to follow.

Numbering position paper

We provided support to an incumbent that was developing its response to the newly established national regulator in relation to the development of a new national numbering plan. Our objective was to position our client so that the new numbering plan could most easily be absorbed by the infrastructure and ensure that future plans were accommodated. To this end we proposed and implemented strategies relating to numbering, number portability, equal access and the use of Easy to Remember numbers. We also established a formal dialogue process with the new regulator so that documentation and disclosures could be formally tracked and managed.

Implementation of number portability

Intercai Mondiale was the technical lead on mobile number portability implementation in India, examining the various options open to the operator, based on international best practice.



Local loop unbundling and next generation access in the UK

We have undertaken a large number of projects associated with fixed broadband access. In addition to WiMax licence bids reported elsewhere, we have:

- Advised on the feasibility of government and local authority intervention to encourage broadband access and the introduction of fibre in the local loop.
- Advised on particular intervention projects associated with the introduction of broadband access and fibre in the local loop

Supported bidders in bids for fixed infrastructure franchises let by local and regional authorities.

Next Generation Access for the Kent and Medway Economic Board

On behalf of the Kent & Medway Economic Board, we reviewed options to stimulate the supply of next generation access for the Kent and Medway Region in the South East of England. Large parts of this region are to be redeveloped as part of the Thames Gateway Development Area project and major redevelopment of the town of Ashford in Kent. There are plans for over 150,000 new houses to be built in these two areas over the next ten years, with additional commercial, retail infrastructure and infrastructure for public services. The issue for the Board was to provide suitable access infrastructure for the region, particularly in areas of new build, in the medium term. The Board was keen to understand what commercial and investment models would stimulate the supply of such infrastructure in a competitive market, including the potential for municipal funding of such networks within European Union state aid constraints.

After extensive consultation with policy makers, property developers and network operators in the region, we developed financial models of the principal commercial models that we identified. These financial models were used to evaluate the feasibility of infrastructure competition and service based competition in new build areas and in existing population centres, to evaluate the commercial feasibility of FTTH and local loop unbundling, and to evaluate the degree of subsidy if any required to provide a competitive infrastructure in new build and other areas.

The project was concluded with a workshop bringing together interested parties from the local authorities concerned, the Office of the Deputy Prime Minister who is responsible for the development projects concerned, the Regional Development Agency for the South East of England, property developers, and telecommunications operators. The deliverables included a report, a presentation for use by the Board, a response to a relevant OFCOM consultation and briefing papers for local politicians.

South Yorkshire

In support of its successful bid to supply a broadband infrastructure in South Yorkshire, a European manufacturer retained us to produce a demand model tool that would enable it and its partners to assess the impact of changes in market parameters and provide outputs into other models as a part of its overall business plan. The model took demographic data from the region and merged it with predicted demand data from other research sources to provide an overall demand prediction for the network. The bid was successful and implementation of a Fibre to the Kerb infrastructure is imminent.

Telecommunications design and QoS model for major financial institution

Intercai worked with a major systems integrator during their successful bid and transformation of the IT and telecommunications infrastructure of a national banking institution. IML designed the telecommunications network architecture and after the contract was awarded built a reliability model of the full system linked to the Service Level Agreement regime so that statistical assessment of the financial exposure to service credits could be calculated.



UK City Strategic Development Authority

Our client, a Public – Private Partnership responsible for one of the principal growth areas in the South East of England wanted to ensure that it would be an attractive location for business and residential use. One attribute was the availability of state of the art broadband. We were asked to establish whether intervention was necessary to ensure that broadband services in its area were adequate to meet its economic development objectives for the first part of the 21st Century, and if intervention was necessary what form it should take. We reviewed the current service provision, assessed the developments in technology expected and explored the anticipated demand. After taking into account the legislation relevant to government intervention, and exploring a range of actions that would ensure the competitive supply of broadband services, we identified a number of intervention options that would ensure that the growth area remained an attractive location for business and pleasure. We assessed the various options and made recommendations that minimised the cost to the local authority while at the same time overcoming major cost elements that operators would face.

Following on from this first project, we prepared an implementation guide to cover the laying of ducts and fibre within and between neighbourhoods and potential points of presence owned by communications providers. The purpose of the guide was to inform developers of the practical arrangement of ducts that would be of value to prospective communications providers.

Fibre network in North Wales

For a major European telecommunications equipment manufacturer and service provider, we provided business modelling, market analysis and marketing planning support in association with a bid for a broadband network in a disadvantaged European region. We developed a demand model for business and household broadband and leased line services for each local exchange in the area to be covered and a capacity model for the backbone network. We estimated, with the client's staff, the cost of the backbone network and the access network. We prepared a business model that was used to estimate the subsidy required to provide a commercial return on investment. We developed a marketing plan for the organisation that was intended to run the broadband network. We also provided advice about the regulatory position of the service provider and state aid implications in the EU context.

Broadband market stimulation

Intercai Mondiale has been the technical and economic advisor to a number of UK government agencies and local government authorities on the development of strategies to spread broadband network access in rural areas. This work involved the use of web based tools to determine broadband availability and likely performance down to an individual post code, yielding performance for groups of up to about 30 buildings. This was done typically for counties but was also done for the whole of the South East of England involving collection of data from hundreds of thousands of postcodes. This data was then analysed using cluster analysis techniques to automatically identify clusters of postcodes where performance was poor, and then to estimate the cost of delivering broadband services to those clusters based on a proforma cost model.

Cable upgrade options

We were asked by an NRA to assess the feasibility and timing for the next generation of services from the country's Cable Operators. In particular we examined their ability to provide the majority of their customers with services that used data rates one or two orders of magnitude greater than today's norm. The target was to see if and when the vision of widespread high bandwidth connection might become a practical and affordable reality and to identify how it would be achieved. The report to the client consisted of a detailed analysis of the current cable market (its history, evolution and current status), an explanation of the relevant technology (its status, potential and limitations) and an assessment of the capabilities of the cable operators to deliver 'broaderband' services.



Security and content filtering

We have carried out several projects associated with content filtering and security of content and networks. These include:

- Development and implementation of a content filtering strategy for a pan-European mobile operator
- A technical feasibility study about filtering Internet traffic that did not use HTTP protocols on behalf of the CITC, Saudi Arabia
- Advisory services associated with the protection of critical infrastructure on behalf of the Bahrain Economic Development Board
- Lawful interception and protection of critical infrastructure for a security service
- For the Oman TRA:
 - Development of security policy guidelines and technical solutions
 - Control of encryption products
 - Control of unsolicited messaging
 - Crypto- key management for a large defence network

Quality of service

We have carried out a number of projects associated with quality of service for NRAs and operators including:

- Development of national standards for quality of service on behalf of the TRA, Oman
- Training in service level agreements for a major Middle East operator
- Development of service level agreements and input into performance related contracts for two large private network outsourcing contracts in Europe for a major IT outsourcing firm.