

Introduction to Aetha Consulting

General presentation

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Aetha Consulting

Trusted advisor to the telecoms industry, undertaking data-driven and quantitative assessments to support strategic and regulatory decisions

Aetha Consulting helps players in the telecommunications industry to develop **creative and sustainable solutions** to the challenges facing them in a constantly changing environment

We specialise in undertaking **rigorous data-driven and quantitative assessments** to support major strategic and regulatory decisions. We work collaboratively with clients to develop the tools and methodologies appropriate to solve each new business problem as it arises

Our staff have been contracted to advise on **key industry issues**, including market strategy development, radio spectrum policy, spectrum valuation & auction support

We are committed to focusing on quality and exceeding our client's expectations. We have a strong track record of successful assignments with **operators, regulators, and manufacturers**, as well as **financial and legal institutions**

By helping our clients solve the issues facing them, we assist in realising the potential of the telecommunications industry to provide a significant contribution to **sustainable economic growth and quality of life**



Our staff

Our senior staff collectively have over 100 person-years of experience



Amit Nagpal specialises in complex strategy projects in the wireless space, for example winning and implementing the third mobile licence in Egypt. He is also an expert on spectrum policy



In recent years, **Lee Sanders** has been at the forefront of spectrum policy, helping operators to value spectrum and bid in auctions and regulators to develop award processes

During his 20 years of consulting, **Graham Johnson** has carried out sector strategy studies, market reviews, consultation support, expert valuation reports and service costing models



With 14 years experience, **Pierre Blanc** has a strong track record of helping operators, strategic and financial investors evaluate and close deals, and carry out post-deal integration



For 20+ years, **Andrew Wright** has advised on all aspects of wireless communications, including regulatory policy, spectrum, network sharing, pricing & product development and transactions

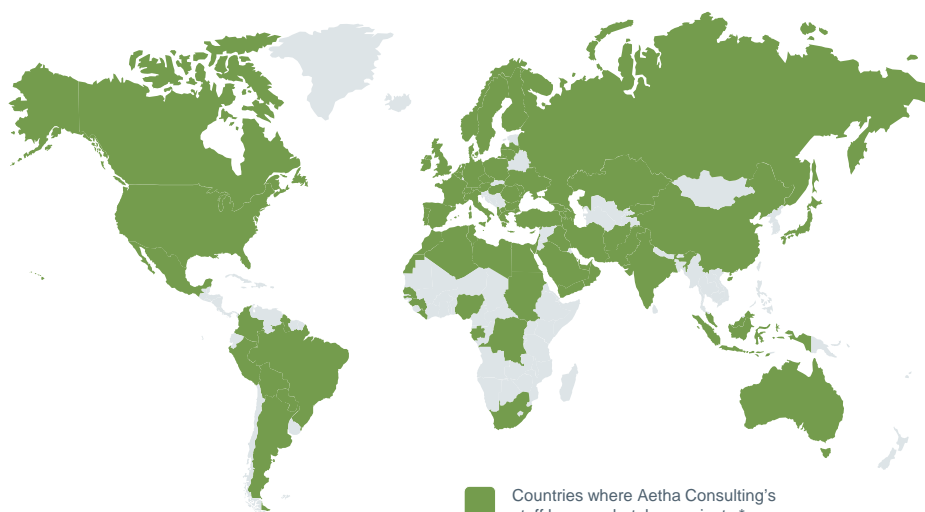


Currently a sought after expert on spectrum issues, **Marc Eschenburg** has also worked on next generation broadband, business planning, as well as TV and media-related projects



Our experience

Our staff have a strong track record in both developed and emerging markets across all continents



In mid 2011, Aetha was founded by former Partners of Analysys Mason (a specialist telecommunications strategy consultancy). The founders' other previous employers include Deloitte Consulting, PA Consulting Group, Mercer Management Consulting (now Oliver Wyman), Radiocommunications Agency (now Ofcom), and Nortel Networks (now Ciena)

Aetha Consulting's staff have completed **over 250 consulting assignments** in the past five years

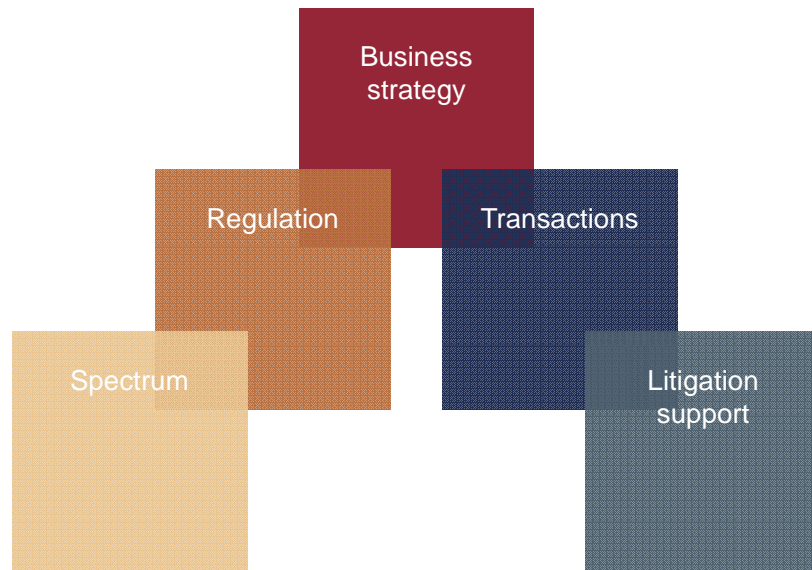
* A significant amount of the experience shown was gained by our team members prior to joining Aetha





Our services

Our five service offerings are based on a common foundation provided by the expertise of our senior team: knowledge of how communications businesses work in practice



Business Strategy

We work with operators to critically appraise new investments and initiatives, and assist with planning changes to existing businesses

Aetha's staff assist telecoms operators in **appraising the feasibility of a proposed new strategy** and (where appropriate) supporting its subsequent implementation

Our staff have helped operators to catalyse **incremental revenue generating** opportunities (such as new product/service launches, including MVNOs). We assist operators to achieve **operational efficiency improvements** via infrastructure sharing and towers outsourcing arrangements

Our **detailed understanding of industry dynamics** and **data-driven approach** to quantification of the business case provides our clients with the confidence needed for making major strategic decisions

- Our services**
- Business planning
 - Market entry strategy
 - MVNO launch support
 - Product and service launch
 - Wholesale strategy
 - Infrastructure sharing
 - Technology strategy

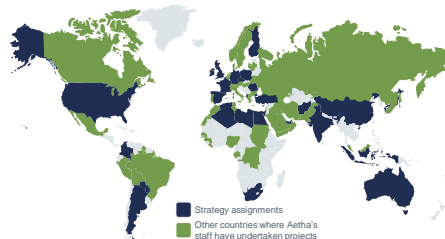
Recent strategy assignments and reference projects *

Ireland: Advisor to the Government on its strategy in relation to NGN deployment

UK: business case for network sharing and support with the creation of a new joint venture

UK: Quantification of the incremental revenues from providing coverage across the London Underground

Colombia: Commercial and technical support regarding the introduction of mobile number portability



South Africa: Five year strategic plan for a major operator

Libya: Technology deployment strategy for fixed/mobile entrant (FTTH, WiMAX, HSPA+ and EDGE)

Spain: Assessment of convergence for regional cable operator

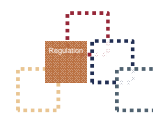
Albania: 2G and 3G network rollout strategy of a new entrant

Turkey: Budget and long-term business plan for Türk Telekom Group

Cyprus: MVNO launch of a fixed broadband operator

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Regulation

We help regulatory authorities, and the firms that they regulate, by supplying the benchmarks, market analyses and cost models they need to implement telecoms and media regulations

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Aetha's staff have developed and audited a range of **cost models** (top-down, bottom-up, fixed, mobile,...) for both regulators and regulated firms

Our consultants have helped regulators to run, and operators to respond to, **public consultation processes** of all kinds, from **costing methodologies** and **market analyses**, right through to **forward-looking sector studies**

Our team's ability rapidly to identify key issues in regulatory processes and disputes, and to critically appraise the corresponding **comparative benchmarking data**, is grounded in expertise developed over a long and varied set of projects covering all regions of the world

Our services

- Cost models and regulatory accounting
- Margin squeeze models
- Comparative benchmarking
- Sector strategic reviews

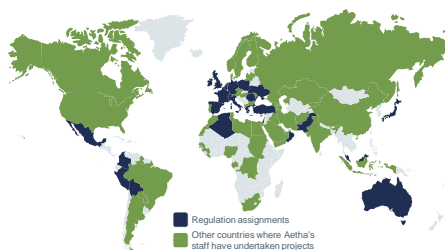
Recent regulatory assignments and reference projects *

Colombia: Econometric model of competitiveness, review of LRIC cost model, support in industry consultation process

Spain: Response to consultation on next generation access, including options for fibre unbundling

Oman: Bottom-up cost models of fixed and mobile networks, plus associated support in discussions with regulator

UK: Assessment of flow of funds for non-geographic call services for Ofcom



Belgium: LRIC model for the regulator and support to the industry consultation process

Japan: Report on regulatory challenges arising out of new services and operator moves

Singapore: Support to regulatory authority regarding pay-TV consultation

Greece: Audit of regulated company costing systems, with models to detect price-squeeze

Qatar: Mobile market review covering retail-price control, and approval of tariff bundles

Bahrain: Top-down costing system for calculating service costs of a mobile operator



Spectrum

We help operators and regulators to analyse the opportunities and threats arising out of changes (whether real or proposed) in their radio spectrum holdings

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Throughout the recent unprecedented growth of wireless services, Aetha's staff have been at the **forefront of spectrum policy**

Our consultants have assisted **regulators** to award spectrum and develop regulatory frameworks, including supporting the European Commission to tackle issues such as spectrum trading and the digital dividend

We also support **operators to understand their spectrum needs, value spectrum and bid in auctions**. Our staff have supported bidders in over 20 spectrum awards worldwide in the last 20 years. Our technical knowledge combined with our rigorous valuation modelling approach, ensures that our clients are comprehensively prepared for auctions

Our services

- Spectrum strategy
- Spectrum valuation
- Auction support
- Regulatory support
- Spectrum pricing
- Spectrum award preparation

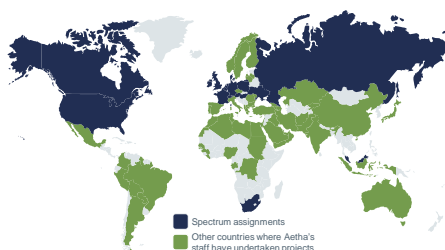
Recent spectrum assignments and reference projects *

Netherlands: Valuation and auction strategy for an operator ahead of 2.6GHz auction.

UK: Study for Ofcom regarding the liberalisation of 2G spectrum.

USA: Valuation of 220MHz spectrum for two railroad companies.

France: Study for ARCEP to quantify the economic benefits of uses of the digital dividend.



Denmark: Support to NITA to award spectrum in the 2.1GHz, 2.6GHz and 800MHz bands

Poland: Valuation support to a mobile operator ahead of the 2008 900MHz auction.

Hong Kong: Advised OFTA to implement a spectrum trading regime.

Germany: Spectrum valuation support for an operator ahead of the 'big bang' auction

UAE: Advised the regulator regarding digital TV switchover.

Singapore: Supported IDA to develop a strategy for the digital dividend.



Transactions



We use our market and technical knowledge to provide a unique advisory service on the buy- and sell-side of telecoms transactions

In the last five years alone, our senior team members have directed over 50 **M&A and debt transaction-support** assignments, on behalf of operators, investors and lenders across the globe

We utilise a **robust approach supported by benchmarks and sound business modelling**. With our knowledge of network economics and our global experience of telecoms markets, **we deliver an independent view** of the commercial opportunity in a way that provides the investor with a practical understanding of the technical drivers

Our consultants' quantitative modelling work is second to none, and has consistently attracted positive feedback from clients, including both financial and strategic investors in telecoms

Our services

- Commercial & technical due diligence
- Vendor due diligence
- Asset and firm valuation
- Synergy analysis
- Tender auction and support

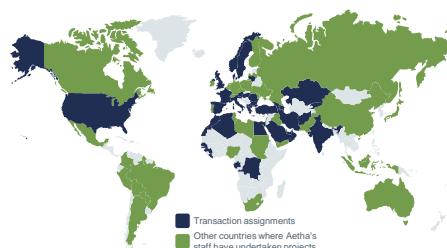
Recent transaction assignments and reference projects *

Sweden: Due diligence of a European fibre backbone provider on behalf of a private equity firm

Spain: Merger of two DTH operators including contracts governing sport and movie content

France (Caribbean): Due diligence of mobile operator

Gabon: Due diligence of a mobile operator in Gabon in support of a debt refinancing



Kazakhstan: Assessment of synergies from merger of a cable TV operator and a long haul operator

Bulgaria: Market and technical adviser for due diligence on broadcasting tower networks operator

Turkey: Due diligence for the privatisation of Türk Telekom

Egypt: Support to Etisalat with its successful USD3 billion acquisition of Egypt's third mobile licence

Austria: Due diligence of One Austria for private equity firm.

Saudi Arabia: Commercial and technical due diligence of Mobily in support of USD3 billion debt transaction

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Litigation support



We use our deep commercial, technical and regulatory understanding to support in litigation, arbitration and disputes over asset valuation

Aetha's staff have applied their expertise in a series of successful international arbitrations and in litigation. We have acted as **expert witnesses** using our expertise both on industry issues and valuations of telecommunications operators to **guide counsel through complex industry issues** and to **quantify losses**

Our technical knowledge combined with our **rigorous valuation modelling approach**, ensures that our testimony and damages calculations are accepted by arbitration tribunals, and/or **accelerate the process** of amicable settlement

Our services

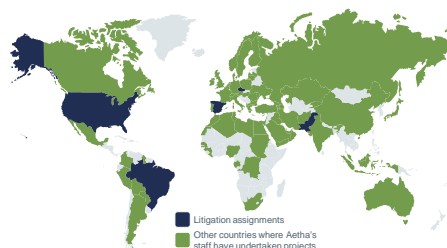
- Regulatory expert testimony
- Quantification of damages
- Quantum expert testimony

Recent litigation support assignments and reference projects *

USA: Valuation of a long distance fibre network of IRUs with special rights.

Brazil: Engineer's completion certificate for investments in broadband and long haul fibre.

USA: Valuation of IRUs over electric grid rights of way



Spain: Economic model quantifying the costs of pay-per-view football rights.

Spain: Economic model quantifying the costs of pay-per-view football rights.

Switzerland: Report on post-acquisition earn-out performance of an ISP

Pakistan: Report on value of the spectrum holdings of a WIMAX operator

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About the authors

Graham Johnson – Partner



During his 20 years of consulting, Graham Johnson has carried out **sector strategy studies, market reviews, consultation support, expert valuation reports and service costing models**. Graham recently completed a comprehensive project of this kind for Tigo Colombia. Graham holds a B.A. Honours Degree in Electrical and Information Sciences (Cambridge) and a M.Phil in Management Studies (Cambridge)

Relevant project experience includes:

- Directed eleven major projects to audit the costing systems of telecoms operators, both fixed and mobile. These audits have covered the full range of costing methodologies (FDC-HCA, FDC-CCA, TD-LRIC and BU-LRIC)
- For a second mobile operator in the MENA region, developed two top-down regulatory costing systems using FAC and LRAIC methodologies, plus accompanying Accounting Procedures Manual
- Analysis of market conditions in order to forecast the impact on market share of changes in the interconnection and number portability regimes, as well as of changes in the approvals regime for on-net tariffs
- For a regulator in Western Europe, a project to develop a cost model aimed at helping in the determination of mobile termination rates in accordance with the European Commission's Recommendation
- For a third mobile entrant in Eastern Europe, developed a bottom-up mobile costing model to determine the long-run costs of voice and data services.
- For an operator in the Middle East, assistance with regulatory proceedings related to the mobile market relating to retail-price control, developing a replicability test for mobile tariff bundles
- As part of a major regulatory proceeding into the mobile termination rate (MTR), produced a series of reports, models and presentations to assist the client in its responses – the project included a critical review of the regulator's cost models
- For an incumbent fixed and mobile telecoms operator in the Middle East, developed a costing system based on bottom-up calculation of long run incremental costs, for use in price setting and in regulatory proceedings

Languages : English (mother tongue), Spanish (fluent)

Chartered Engineer (CEng), Member of Institution of Engineering and Technology (MIET), and European Engineer (FEANI) (1997)*

* Equivalent to 'ingeniero colegiado'



About the authors

Pierre Blanc - Partner



Pierre has 14 years experience focusing on **mobile strategy, business planning & transactions**. Pierre directed over 20 due diligence projects in the last four years and worked for operators in the Middle East, Africa and Latin America. Pierre has worked extensively in Latin America and is a sought after expert for model review and appraisal. Pierre holds a Master's degree in physics from ETHZ (Zürich)

Relevant project experience includes:

- Definition of long-range incremental cost for mobile termination for the Mexican regulator (Cofetel)
- Definition of long-range incremental cost for mobile termination for the Belgian regulator (IBPT)
- Support to a mobile operator in a Western European country. The operator was required to update the cost input to the regulatory fully-allocated-cost model (FAC) used to define mobile termination rates
- Strategic plan and synergy assessment for a merger between a fixed-line incumbent operator and its mobile subsidiary in Eastern Europe
- Commercial and marketing audit of two mobile operators in Western Africa
- Support to a new entrant to prepare a LTE business plan for potential investors in the Middle East
- Support to an international mobile holding to assess the opportunity to create a Partner network in the Middle East
- Development of a business case for femtocells for an incumbent fixed-line operator
- Support to vendor due diligence for a mobile asset in South Europe
- Due diligence and synergy assessment for the potential acquisition of an integrated fixed-mobile operator in Eastern Europe
- Regulatory support to a mobile operator in Eastern Europe to define MNP strategy
- Due diligence and support to licence acquisition for potential investors (including Turkey, Bulgaria, Macedonia, Slovenia, Kyrgyzstan, Saudi Arabia, Tunisia)

Languages : English (fluent), French (mother tongue), Spanish (fluent), Italian (fluent), German (fluent), Dutch (basic)



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Strategic advice to the telecommunications industry 

