

Martin Peter Morell
Senior Consultant, Project Finance Advisors LLC

1. Name: MORELL, Martin Peter

2. Nationality: United States

3. Education:

- BS Physics (cum laude), Brown University, Providence, RI USA
- MA Computational/Mathematical Linguistics, concentration in Slavic languages, Columbia University, New York USA
- Advanced graduate study, Moscow State University, Moscow, former USSR

4. Membership in Professional Societies:

- Member, Business Communications Forum
- Member, DevelopmentEx

5. Other Training:

Various courses and seminars on topics including:

- Fiber-optic transmission media and hardware
- Wireless Local Loop (WLL) technology and applications
- Voice over Internet Protocol (VoIP)
- CDMA technology
- Satellite communications
- Network security

6. Countries of Work Experience:

Afghanistan, Albania, Algeria, Armenia, Belgium, Brazil, Bulgaria, Canada, Chile, Colombia, Costa Rica, Ecuador, El Salvador, France, Georgia, Germany, Grenada, Guatemala, Guyana, Honduras, Hungary, Indonesia, Italy, Jordan, Kazakhstan, Kenya, Kosovo, Kyrgyzstan, Liberia, Macedonia, Malaysia, Moldova, Montenegro, Morocco, Palestinian Territories, Panama, Peru, Poland, Romania, Russia, St. Lucia, St. Vincent, Serbia, South Africa, Tajikistan, Tanzania, Thailand, Tunisia, Turkey, Uganda, Ukraine, UK, USA, Uzbekistan.

7. Languages:

	Reading	Speaking	Writing
English	Excellent	Excellent	Excellent
Spanish	Excellent	Excellent	Good
French	Excellent	Good	Good
Russian	Excellent	Good	Good
Italian	Excellent	Good	Good

8. Employment Record:

Consultancy

1998–present: Independent consultant. Combine a strong technical background in ICT/telecom infrastructure planning, procurement and implementation with extensive engagement with policy and strategy formulation, elaboration of legislation and regulations, and business development; ICT-driven enabling environments and applications; Internet development; universal access/service; and digital inclusion. Direct involvement in setting up national regulatory agencies, and in conducting workshops and training for staff of national policy/regulatory bodies. Fluency in several European languages. In many overseas assignments, have assisted institutions and organizations, in both the public and private sectors, to address challenges resulting from advances in technology, new competitive pressures, and/or changes in institutional and political frameworks.

Staff Appointments

1989–1998: Senior consultant (to 1995), Vice President (1995–1998), LYNX Technologies, Inc., Fairfield, NJ USA. Oversight responsibility for large international voice/data networking projects (e.g., ITT Corporation, Sheraton Hotels International, McKinsey and Company, Globalstar, International Monetary Fund, United Nations Development Programme).

1986–1989: Telecommunications Manager North and Central America, Alitalia Airlines (based in New York). Responsible for all aspects of voice and data networking in the region.

1985–1986: Staff consultant for international telecommunications, Gartner Group, Inc., Stamford, CT USA. Advised Fortune 500 clients on international telecom and network/service availability and deployment.

9. Work Undertaken That Best Illustrates Capacity

Reference assignment 1

Name of assignment or project: Jordan: Souk Bab al Madina Development Planning

Year: July 2018–present

Location: Zarqa and Amman, Jordan

Client: The Moon Land

Main project features: The Moon Land (a regional real estate construction company) is constructing and leasing a multi-million dollar business center complex in Zarqa City, Jordan – the Souk Bab al Madina (“Madina Mall”). Souk Bab Al Madina is part of the larger King Abdullah Bin Abdulaziz City development project.

Positions held: Senior Consultant

Activities performed:

- Prepared comprehensive market assessment that assembled and integrated previous work on demographics, household spending, disposable income, shopping habits and preferences, etc., of Zarqa City and its residents.
- As part of project’s Corporate Social Responsibility initiative, interviewed a wide

range of representatives of women's and disadvantaged/refugee groups in Zarqa, to assist in determining what provisions should be made for accommodating these groups in terms of job creation and allocation of commercial space.

- Reanalyzed data from large-scale survey of current shopowners in and around Zarqa, to gain better insight into incentives/disincentives to relocate or expand to new premises, as well as willingness to pay for improved / more efficient facilities and services.
- Involved in planning and implementation of ICT infrastructure for project (financial management / property management / facilities management systems).

Reference assignment 2

Name of assignment or project: South Africa: City of Cape Town ICT Investment Analysis

Date: March 2018–present

Location: Cape Town, South Africa

Client: City of Cape Town (CoCT)

Description: A large-scale multi-disciplinary feasibility study assessing the viability and impact of proposed investments in five key smart-city ICT areas: enabling infrastructure; intelligent transportation systems; safety and security; digital inclusion; and digital literacy, with the objectives of increasing Internet penetration and productive usage, as well as improving the efficiency and responsiveness of the CoCT's administrative and operational processes. Additional benefits include enhancements to the CoCT's economic enabling environment, leading to increased productivity and greater digital inclusion and citizen engagement.

Position: Senior Consulting Associate, responsible for Digital Inclusion and Digital Literacy

Activities performed:

- Evaluated results of CoCT's initiative to deploy and operate free public Wi-Fi in disadvantaged communities and at CoCT facilities locations (take-up, traffic, application usage, network performance)
- With local partners, designed, tested and implemented large-scale questionnaire survey and focus group programs to identify and quantify perceived benefits of free public Wi-Fi usage
- Developed recommendations for conversion of 200+ existing Community Centers into Digital Outreach Community Centers (DOCCs), providing both expanded access to CoCT e-services and digital literacy educational and career training programs, targeting disadvantaged social groups (youth, women, elderly) in particular
- Evaluated legal/regulatory implications of DOCC initiative (e.g., conformity to South Africa data privacy laws, possible conflicts with national educational mandates)

Reference assignment 3

Name of assignment or project: East Africa Regional: In-Country Due Diligence

for Prospective Investment in Regional Triple-Play Operator

Year: January 2012–June 2013

Location: Kenya, Tanzania, Uganda

Client: Wananchi Group Ltd.

Main project features: Comprehensive due diligence (technical, commercial, legal/regulatory, financial) on behalf of Lender for prospective \$90 million investment in regional triple-play and Direct-to-Home operator seeking to expand service offerings across East Africa.

Positions held: Principal Technical and Market Assessment Specialist

Activities performed:

- Carried out extensive in-country technical review of operator's existing infrastructure and related operations (headend, outside plant, NOC, Call Centers, walk-in centers, OSS/BSS, training facilities)
- Reviewed build-out and future expansion plans, subscriber and revenue assumptions in light of available market and socio-economic/demographic data
- Interviewed wide range of company technical and commercial personnel, as well as representatives of established telecom/ICT companies, regulatory/policy bodies, other sector actors

Reference assignment 4

Name of assignment or project: Tunisia ICT Competitiveness Program (Infrastructure Component)

Year: September 2012–January 2013

Location: Tunis, Tunisia

Client: Government of Tunisia

Main project features: Cross-cutting institutional assistance to the Government of Tunisia to create an enabling policy, legal, regulatory and institutional framework to promote competition and investment in the Tunisian knowledge economy.

Positions held: Short-Term ICT Policy and Infrastructure Specialist

Activities performed:

- Conducted preliminary review of available information (in French and English) on Tunisia's international and domestic connectivity, fixed-line and wireless technologies deployed or slated for near-term rollout, major operators and competitive climate, service offerings and quality, pricing, take-up in public and private sectors, etc.
- Met with a wide range of stakeholders including Ministry of ICT, Instance Nationale des Télécommunications, Agence Nationale des Fréquences, Agence Nationale d'Internet, major operators, independent ISPs and other private sector actors
- Performed a targeted analysis to determine the most important infrastructure access and related regulatory oversight issues, and their relative importance in terms of the development of a National Broadband Plan
- Prepared report that set out and substantiated a total of 16 policy/regulatory

recommendations, both near-term and longer-term, to promote increased deployment and take-up of broadband access throughout Tunisia. Near-term recommendations addressed the removal or mitigation of obstacles that distort the marketplace, limit fair and free competition, and/or hinder coordinated and efficient oversight of the sector, while longer-term recommendations primarily addressed the framework for migration to next-generation broadband technologies

Reference assignment 5

Name of assignment or project: South Africa: City of Cape Town Digital Inclusion Project

Year: January 2013–September 2013

Location: Cape Town, South Africa

Client: City of Cape Town

Main project features: A multi-disciplinary consultancy providing input and advice to the Cape Town municipal administration regarding the planning, deployment and ongoing operation and maintenance of wireless mesh networking infrastructure in two communities (Khayelitsha and Mitchells Plain), to facilitate affordable access to basic and advanced services by residents of these economically disadvantaged areas.

Positions held: Senior Technical Specialist

Activities performed:

- Participated in numerous site visits to the two communities to assess existing infrastructure, terrain, building density and configuration, availability and accessibility of “high sites” and public buildings where wireless equipment can be deployed
- Conducted an in-depth review of technological options (e.g., hybrid fiber/coax, passive optical networks, 4G mobile, WiMAX, Wi-Fi); developed recommendations for selection and use of Wi-Fi mesh architecture
- Assisted with the preparation of a detailed technical plan, comprising a Proof of Concept phase followed by five commercial deployment phases, and corresponding budget for each phase
- Conducted meetings with ISPs and other providers interested in delivering services over the wireless infrastructure

Reference assignment 6

Name of assignment or project: Morocco: Office National de l'Electricité (ONE) Commercial Telecom Initiative

Year: June 2001–March 2003

Location: Morocco

Client: ONE

Main project features: Part of multi-disciplinary team that advised ONE on large-scale deployment of fiber optic transmission systems, with a view to entry into commercial telecom marketplace.

Positions held: Principal Technical and Market Assessment Specialist

Activities performed:

- Supervised and coordinated extensive in-country research of demand for non-residential telecom and Internet-related services
- Analyzed technical, economic and regulatory aspects of fixed and wireless last-mile options
- Estimated network build-out requirements under various commercialization scenarios
- Collaborated with US-based and local legal counsel, and with national telecom regulator ANRT, on various aspects of legal/regulatory diligence (coverage/service requirements, interconnection issues, potential constraints on ONE market entry)

Reference assignment 7

Name of assignment or project: North Africa Regional: Electric Power Management and Communications Plan

Year: 2002–2003

Location: Alger, Algeria; Casablanca, Morocco; Tunis, Tunisia

Client: COMELEC

Main project features: USTDA-funded study to evaluate economic viability of interconnections among the electric utilities of Algeria, Morocco and Tunisia (SONELGAZ, ONE and STEG respectively) under the general coordination of the Algeria-based Comité Maghrébin de l'Electricité (COMELEC), to promote increased and more reliable power exchange among these utilities.

Positions held: Telecom Expert

Activities performed:

- Assisted with development of a Management and Investment Plan for expansion of interconnected power transmission networks, which COMELEC could use in dealing with lending institutions, sovereign entities and sources of private equity
- Reviewed SONELGAZ plans for implementation of fiber-optic-based network to be used as a basis for centralized dispatch and to support SCADA/EMS applications; estimated size of necessary investments under various deployment scenarios

Reference assignment 8

Name of assignment or project: Republic of Georgia: Advisory Services to Silknet (ex United Telecom Group)

Year: October 2009–June 2011

Location: Tbilisi and other locations in Georgia

Client: Silknet JSC

Main project features: Part of a multi-disciplinary team providing support to Silknet (ex United Telecom Group) of Georgia, the fixed-line incumbent operator, which was seeking financing for expansion of its advanced network platforms (xDSL, CDMA and IPTV).

Positions held: Chief Technical and Market Survey Expert

Activities performed:

- Conducted interviews with a wide range of actors in the ICT sector, including fixed-line and wireless operators, ISPs, representatives of the regulator GNCC and other government agencies, NGOs, and end users
- Prepared a comprehensive survey of the sector and its fixed-line, wireless and Internet sub-sectors
- Carried out detailed supply-side analysis of Silknet's fixed-line, xDSL and CDMA infrastructure, currently being correlated with the results of demand analysis and modelling
- Participated in "bottom-up" survey of telecom/Internet usage in a sample of 258 SMEs (first of its kind in Georgia); provided training, in Russian, for survey teams
- Participated in three-day "walk-down" (preliminary survey for costing/budgeting purposes) of a new alternative fiber-optic cable route between Tbilisi and Batumi

Reference assignment 9

Name of assignment or project: Peru: Planning of National Fiber-Optic Backbone Network Infrastructure

Year: August 2012–April 2013

Location: Lima and various locations in Peru

Client: Ministerio de Transportes y Comunicaciones (MTC), Fondo de Inversión en Telecomunicaciones (FITEL)

Main project features: A multi-disciplinary comprehensive study, conducted by a consortium of consulting organizations on behalf of MTC and FITEL, of the feasibility of deploying a nationwide fiber-optic backbone network that would primarily utilize the rights of way of Peru's regional electric transmission companies.

Positions held: Chief Technical Expert

Activities performed:

- Reviewed MTC/FITEL's background data, coverage requirements and preliminary deployment plans
- Participated in an extensive field inspection mission and selective route survey to gather on-site data about current infrastructure and terrain conditions
- Participated in multiple interviews with representatives of regional electric companies to assess readiness and identify potential impediments (e.g., planned infrastructure replacements and upgrades, long spans, co-location, security issues)
- Had sole responsibility for preparation of the official Spanish-language version of the Technical Specifications, subsequently incorporated into a comprehensive RFP for network procurement
- Presented the draft Technical Specifications and conducted subsequent discussion

(in Spanish) at an all-day workshop at the MTC

Reference assignment 10

Name of assignment or project: Eastern Caribbean Regional (St. Lucia, St. Vincent and Grenada): Caribbean Regional Communications Infrastructure Program (CARCIP)

Year: 2014

Location: St. Lucia, St. Vincent and Grenada

Client: Governments of St. Lucia, St. Vincent and Grenada

Main project features: Comprehensive telecommunications study designed to make recommendations for broadband infrastructure upgrades, Internet exchange and computer center facilities, and other improvements that would enhance Internet access, reduce connectivity costs and advance digital inclusion.

Positions held: Head of Technical Team

Activities performed:

- Conducted extensive review of existing documentation related to regional and national connectivity, wired and wireless infrastructure, and status of Internet deployment (take-up, pricing, quality of service, competitive profiling and assessment of major providers)
- Participated in meetings with a wide range of public- and private-sector stakeholders
- Supervised and coordinated data-gathering and analysis efforts of Technical Team members, with a particular focus on regional subsea connectivity and national switching and transmission infrastructures of major operators)
- Participated in site visits to infrastructure key infrastructure facilities (cable landing stations, switching centers, cell sites) of major operators in all three countries

Reference assignment 11

Name of assignment or project: Jordan: REACH 3.0 ICT Initiative

Year: June 2002–October 2002

Location: Amman, Jordan

Client: Reach 3.0 initiative

Main project features: The REACH initiative, supported by the USAID AMIR program, aimed to bolster Jordan's nascent ICT sector and to maximize its ability to compete in local, regional and global markets. It outlined an action plan, encompassing the private sector, Government and other stakeholders, to ensure a place for Jordan in the world knowledge-based economy.

Positions held: Group Leader and Evaluation Consultant

Activities performed:

- Tasked with reviewing previous work, assessing progress to date, and providing

input and direction to REACH 3.0 Working Group on Enabling Environment and Infrastructure

- Interviewed wide range of representatives of Jordanian ICT sector; collaborated with Working Group to quantify progress to date and to define forthcoming priorities and focus areas
- Formulated specific recommendations, e.g., regarding need for: 1) benchmark study of affordability and availability of connectivity; 2) comprehensive campaign to heighten Internet awareness; 3) public/private sector initiative to increase PC availability; 4) development of “mission statement” for providing free broadband connectivity for every Jordanian schoolchild
- Presented findings, observations and recommendations at REACH 3.0 public workshop.

Reference assignment 12

Name of assignment or project: Kosovo: Telecom Policy and Regulatory Assistance to the Government of Kosovo

Year: January 2006–September 2007

Location: Prishtina, Kosovo

Client: Ministry of Transport and Communications (MTC) and Telecom Regulatory Authority (TRA) of Kosovo

Main project features: Part of Booz Allen Hamilton team that provided EBRD-funded technical assistance to Ministry of Transport and Communications (MTC) and Telecom Regulatory Authority (TRA) of Kosovo, including capacity-building to the TRA in the area of Interconnection. Interconnection framework was mandated to be maximally conformant with EU practice.

Positions held: Telecom Sector Policy and Interconnection Expert

Activities performed:

- Assisted MTC to prepare a comprehensive telecom sector policy, with a 5-year horizon, in conformity with Ministry’s obligations under the Telecom Law.
- Participated in review of Telecom Law to identify areas and issues where supplementary legislation or new regulation required.
- Worked with TRA to establish necessary organizational structure, staffing and training requirements of newly established telecom regulatory agency.
- Interviewed public- and private-sector stakeholders in telecom sector; prepared detailed sector market analysis covering all major fixed-line and wireless operators and ISPs.
- Developed curriculum for, and co-taught, week-long workshop on Interconnection, conducted on behalf of the TRA, MTC and major operators, comprising the following: 1) one-day introductory seminar for all participants; 2) case studies in dispute resolution; 3) review of proposed Reference Interconnection Offer (RIO) of dominant operator PTK; 4) analysis and discussion of evolving Interconnection regulatory framework and need for additional regulatory instruments.

Reference assignment 13

Name of assignment or project: Serbia Telecom Regulatory Development Project, Phase 2

Year: August 2006–May 2007

Location: Belgrade, Serbia

Client: RATEL

Main project features: A nine-month EBRD-funded project aimed at strengthening the new telecom sector regulatory agency (RATEL), in particular through development of maximally EU-conformant Interconnection and Universal Service frameworks.

Positions held: In-country Project Manager and Expert Advisor

Activities performed:

- Conducted intensive one-day introductory seminars for personnel of the regulator and the Ministry of Capital Investments on Interconnection and Universal Service.
- Over a period of several months, chaired ongoing Working Groups on Interconnection and Universal Service, tasked with drafting regulatory frameworks for these areas.
- Oversaw the drafting of the following instruments: 1) *Regulation on Interconnection of Public Networks*; 2) *Guidelines on Interconnection of Public Networks*; 3) *Proposal to Ministry of Capital Investments on the Definition of the Basic Set of Universal Services*; 4) *Decision Regarding the Establishment of the Universal Service Fund*; 5) *Rule Regarding Designation of Contributors to the Universal Service Fund*.
- Assisted with preparations for one-day stakeholder workshops on Interconnection and Universal Service.

Reference assignment 14

Name of assignment or project: Serbia Telecom Regulatory Development Project, Phase 1

Year: June 2004–April 2005

Location: Belgrade, Serbia

Client: Ministry of Capital Investments

Main project features: A year-long EBRD-funded project aimed at assisting the Ministry of Capital Investments (responsible for telecom policy at that time) to establish an independent telecom sector regulatory agency (RATEL).

Positions held: Expert Advisor

Activities performed:

- Developed detailed survey of the telecom sector in Serbia, covering legal/policy framework, sector structure and revenues, position of dominant operator Telekom Srbija, major operators and service providers, infrastructure, services, coverage, tariffs, service quality, major challenges, etc.; interviewed wide range of stakeholders.
- Identified priority areas requiring attention by regulator.

- Assisted with preparation of RATEL Framework Documents, including proposed allocation of responsibilities between Ministry and RATEL; recommendations on general organization and staffing; necessary competencies and skill levels; position descriptions for Managing Board, Executive Director, department heads and staff.
- Provided input to further recommendations on supporting resolutions and regulations.