



# The MEC Group of Companies



# INTRODUCTION

The MEC Group is a ICT Consultancy business providing Telecoms, Media and Technology (TMT) professional services to clients around the world.

MEC operates client service offices in numerous high growth market regions including:

- Abu Dhabi, UAE
- Dubai, UAE
- Delaware, USA
- Tampa, Florida, USA
- Erbil, Iraq
- Bucharest, Romania
- Tripoli, Libya (JV with Local partners we operate as ECM Gulf Libya)
- And other locations

Every customer is a VIP and receives partner level commitment at all times to ensure on-time/on-budget service delivery

We are highly flexible and work to find the optimum solution for every clients requirement



# WHAT MEC STANDS FOR?

M.E.C. is an acronym for: "***Management-Engineering-Consulting***"

## **Management** – MEC provides industry leading management

All of MEC's team come from the industry we serve, each with decades of: "hands on" successful experience, highly proven track records, and delivering top results. MEC Experts have experience operating in more than 70 countries around the world, and its team members will go wherever, whenever, to provide whatever is needed to get the job done.

## **Engineering** - MEC has Senior industry recognized Technical leaders

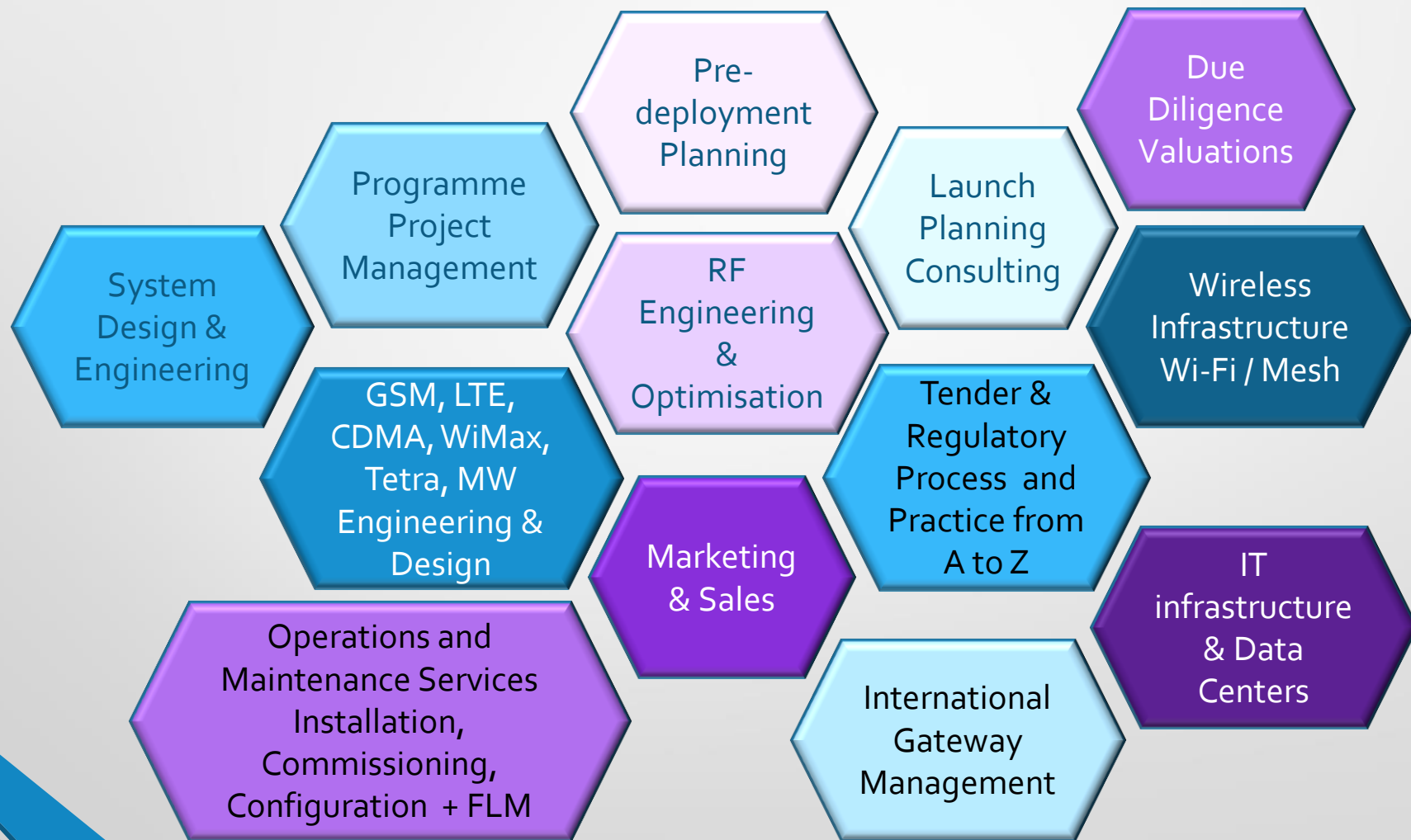
MEC specialists are experienced with all major telecommunications vendors, equipment and service providers, and use the latest planning and operations tools to deliver results to our clients. MEC has developed partnerships with leading vendors & organizations which allow us access to the latest knowledge and expertise.

## **Consulting** – MEC experts are leaders in their specialties

MEC consultants have successfully 'worked in' & lead industry organizations

MEC experts have performed 1000's of projects across our portfolio of services, including project and program management, new license acquisition, new network planning and rollout, due diligence, strategic planning and business operations optimization as well as many others.

# MEC'S SOLUTION PORTFOLIO





# SELECTED MEC GROUP CLIENTS & PARTNERS



A world map is centered in the image, with various countries highlighted in different colors to indicate the presence of MEC Group clients and partners. The highlighted regions include North America (USA, Canada), South America (Brazil), Europe (UK, France, Germany, Spain, Italy, etc.), Africa (Egypt, South Africa, etc.), Asia (China, India, etc.), and Australia.

Logos of selected MEC Group clients and partners are arranged around the map:

- Analysys Mason**
- DETECON** (Detecon & Diebold Consultants)
- BCG** (The Boston Consulting Group)
- WTIG** (Worldwide Trading & Investment Group)
- wesacomserv**
- Qtelmedia** (the content network)
- SOTELMA**
- ROMTELECOM**
- Asiacell**
- Batelco**
- ARTEL INCORPORATED**
- ORASCOM TELECOM**
- Deutsche Telekom**
- T-Mobile**
- swisscom mobile**
- swisscom**
- SABAFON** (خدمة الوصل)
- Afghan Wireless** (Connecting Afghanistan)
- O2** (can do.)
- vodafone**
- verizon**
- Qtel** (Let's Connect)
- swisscom**
- ROSHAN** (Roshan)
- KALIMAT**
- SHOWTIME**
- QTEL**
- GO**
- yu**
- MTN**
- Cable Runner**
- logicaCMG**
- cell**
- MTC**
- Pervenio** (M-Powering Connections)
- etisalat**
- ERICSSON**
- Nokia Siemens Networks**
- HUAWEI**
- mobily**
- zain**

# WE COVER YOUR ORGANIZATION'S FULL SPECTRE

MEC delivers projects across the business spectrum including Technical, Operational, and Commercial. For every project that MEC does our team uses Project management tools and our 'Fast Track' project toolset



MEC measures and tracks your project, because we believe you will only get the results that you measure and we use our PMO office to report to you. The MEC FASTRACK solution is customizable according to the client's requirements. The diagram shown below illustrates the inter-relationship of the project's forces that need to be balanced and managed by the Project Manager with its team of experienced telecommunications professionals.

# WE WORK IN THE MOST CHALLENGING LOCATIONS

## Iraq

- ❑ **Iraqna** – Turnkey GSM Network Launch and Deployment for Orascom (2003-2004)
- ❑ **Moutiny** – Commercial launch strategy, planning, implementation (2005)
- ❑ **Kalimat** – Complete Deployment plan from RFP development and launch implementation plan for a CDMA project in Iraq (2005/6)
- ❑ **Asiacell** – Turnkey BSS Network Installation (NSN), commissioning, and integration services across entire Unbar Region of Iraq (from Baghdad to the Syrian and Jordanian borders) (2008-2009)
- ❑ **NSN** – NSS Operations and Maintenance (O&M) support services on behalf of NSN client(s) in Iraq. Established and managed a team of Core, VAS, and IN specialists to meet customer SLA's for planned and emergency core network services. Operated a team of field technicians servicing 16+ core network element locations across the country (2008/9)
- ❑ **NSN** – Core network Platform(s) Installation services for NSN (2009/10)



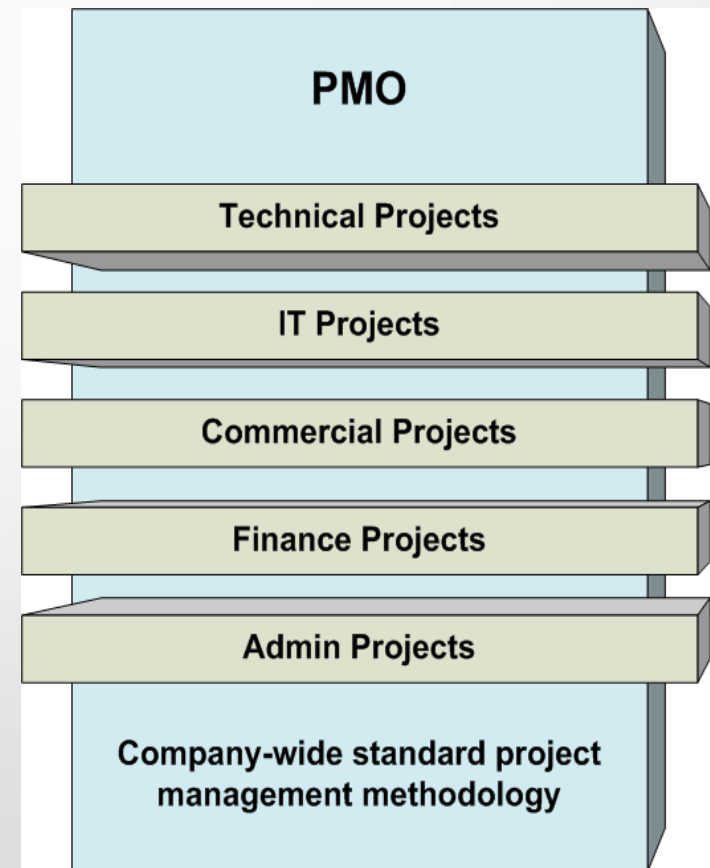
# OUR SERVICES



# PROGRAM MANAGEMENT OFFICE - PMO

MEC PMOs that are staffed with certified Project Management Professionals or “PMPs”, most with ITIL certification and all performing in conformance with ITIL guidelines.. They are mobilized upon the award of contract to initiate the process for success. Some key project management activities and tasks are as follows:

- Scope
- Timeline
- Resource Plan
- Budget
- Communication Plan
- Quality Assurance
- Risk Management Plan
- Financial Plan
- Business Process development





# MERGER & ACQUISITION SUPPORT

MEC possesses extensive world-wide experience in supporting merger and acquisition efforts for all types of networks. MEC specialists have supported license acquisitions globally including Europe, Middle East, Africa, and the Americas. In addition MEC has prepared numerous winning “bid books” for various clients.

## Due Diligence

MEC can support the most complex technical, commercial, and/or operational due diligence efforts for existing or new operations.

Capabilities include:

- Operational Audit and ‘as-is’ assessment
- Bankable Business Valuations including regional/global benchmarking
- License bid support and bid book development
- Due Diligence of all aspects of the business and its operating environment
- Business assessment including but not limited to:

- ‘As-Is’ review and performance improvement plan
- Human resources assessment
- Physical inventory and Assets
- Technical and Operational network evaluation
- Organisational structure & capabilities
- Markets and Customer segmentation
- Market potential, business strategy, new services and competitive review

# AUDIT AND NETWORK ASSESSMENT

- ❑ Operator Performance Reviews in Saudi Arabia, Yemen, Chad, Afghanistan, Venezuela, Nigeria, and others.
- ❑ Operational assessments of Operators in Somalia, Sudan, Mali, Philippines, Malaysia, Poland, Libya, Morocco, Iran, Nigeria.
- ❑ New Mobile network and Broadband data network launches in Sudan, Saudi Arabia, Iraq, Romania, Slovakia, Thailand, Venezuela, UK, Europe, USA, Russia and a number of other African countries
- ❑ Due Diligence of Operators in Syria, Chad, Yemen, Afghanistan, USA, Mauritania, Dem. Rep. of Congo, Tanzania, Senegal, Iraq, Russia, Ukraine, Romania, Kazakhstan, Uzbekistan, Tajikistan, Croatia, Costa Rica.
- ❑ Technical/operational implementation projects across all functional areas in: Iraq, Afghanistan, Sudan, Saudi Arabia, UAE, Qatar, Korea, Thailand, Romania, Slovakia, Russia, Ivory Coast, Venezuela, USA, Argentina, Dominican Republic, and many others.

## Asiacell GSM Network Rollout

Direct contract with Asiacell, Iraq, to install, commission and integrate an **NSN** BSS network into their existing Huawei GSM network

### **BSS Network Rollout in Unbar Province**

Installation, commissioning, integration and drive-testing of GSM base station sites and microwave transmission network. Installation, commissioning and integration of Ramadi BSC, including interoperability testing between **NSN BSC and Huawei MSC**.

### **NetAct Installation and Commissioning**

Installation, commissioning, integration of **NSN NetAct OSS** platform, including integration with BSS network and training of client personnel.

### **Rollout Project Management**

Project management of the Unbar BSS rollout, coordinating activities between MEC implementation teams, vendor (NSN), client (Asiacell) and client subcontractors.

# REGULATORY AND CONTRACTUAL SUPPORT

## ❑ S. Sudan regulatory Body Support

- Direct support to the regulator on licensing and services support
- Tender development for national fiber network and International Gateway

## ❑ Jordan ICT regulatory body

- Mobile number portability project planning and design project

## ❑ Qatar ICT regulatory

- Delivered to ictQATAR Technical Regulatory Authority Process Development and Process Training services

# FOC SERVICES: PASSIVE EQUIPMENT

- ❑ Structured cable designing & Implementation
- ❑ Complete telecom package design (PDH, SDH & Ethernet)
- ❑ Fusion Splicing (OSD, indoor), Glue & polishing/ crimping, Termination
- ❑ Fiber optic cable installation
- ❑ Power meter testing & Optical Time Domain Reflectometer (OTDR)
- ❑ Trouble shooting of Fiber Optic Live Network.
- ❑ Audio / Video / Data signal test
- ❑ Commissioning and Testing of Fiber Networks.
- ❑ On-site or factory training
- ❑ Annual maintenance
- ❑ Complete engineering, designing, implementation, documentation & handing over of the project.



# FOC SERVICES: ACTIVE EQUIPMENT

- Fiber Monitoring Devices
- Temperature Monitoring Devices
- PON (Passive Optical Network) for FTTX solutions
- Multiplexer
- Transceivers (Audio, Video and Data)
- Fiber & Ethernet Switches
- Ring Switches
- Media Converters: Fiber (Single Mode & Multi Mode) to Gigabit Ethernet, Fast Ethernet, RS-232, RS-422, RS-485 and other network protocols
- Fiber Optic Drop and Insert Modems



# FOC SERVICES: MAJOR CLIENTS

- Dubai Civil Aviation Authority
- Road and Transport Authority of Dubai (RTA)
- Dubai World Center (DWC)
- Abu Dhabi Water & Electricity Authority (ADWEA)
- Dubai Electricity & Water Authority (DEWA)
- Sharjah Electricity & Water Authority (SEWA)
- Federal Electricity & Water Authority (FEWA)
- Dubai Aluminum Company (DUBAL)
- Dubai Municipality
- Emirates Aluminum (EMAL)
- ADCO
- GASCO
- Du
- Qatar Cool
- New Doha Qatar International Airport (NDIA)
- Kahramaa Qatar
- Qatar Petroleum





## ADDITIONAL AREAS OF EXPERTISE

- ❑ **MEC** senior management team have held C-Level positions responsible for direct hands on management of national carrier services in numerous countries including Micronesia, Romania, Venezuela, Puerto Rico, USA and other countries for incumbent carriers.
- ❑ MEC has developed a full portfolio of Business Support Services that are described in the additional attached presentation



# OUR EXPERIENCE



## OUR GCC EXPERIENCE

**MEC has worked in the GCC since 2003 and completed almost 100 separate individual projects for most industry leaders:**

- ❑ **Mobily** – Launch support - On the ground commercial projects and resource support Sales, Distribution, Marketing, Product management resources for launch support and build out of national distribution plus tom implementation
- ❑ **Atheeb/GO** – License bid support, bid book development, Due Diligence support, financial and technical modeling, Rights issue support
- ❑ **Showtime/OSN** – National distribution and sales network development
- ❑ **Du** – Rollout management supervise all sub-contractors and manage Turnkey Radio network rollout for NSN network, supply of services and equipment for numerous projects
- ❑ **STC** – PMO and other projects
- ❑ **Qtel** – PMO planning and implementation of an organization wide PMO (PI)
- ❑ **Etisalat** – Merger/DD support for numerous projects
- ❑ **TDIC** – Various projects across the region including an Island wide MESH project

## OUR AFRICAN EXPERIENCE

- ❑ **Chad** - Privatization Support (fixed and Mobile operator). Business/strategic planning and investment memorandum. End to end infrastructure inventory/audit, New business plan development, corporate transition planning (public to private), new equipment/vendor tendering & selection for fixed/mobile, staffing and HR competency assessments/organizational right sizing', legal and regulatory support
- ❑ **DRC** – Orascom National infrastructure assessment/audit, project managed site rehabilitation, developed budget requirements for infrastructure dealing with the existing Siemens equipment in service.
- ❑ **Gambia** – Network audit and business assessment, 3G+ rollout planning effort, support to re-sell the operation after failed privatization (ongoing project)
- ❑ **Mali** – Sotelma Due diligence, network audit, bid book for the tender for sale of Sotelma . Including complete business plan, operational plan, Network upgrade and vendor expansion plan, confirmed take over management team (interim consultants and migration strategy to permanent staff as per tender) all documentation delivered entirely in French.
- ❑ **Millicom Corporate** – Provided CTO interim management services in the countries of Ghana, Senegal, and Tanzania
- ❑ **Sudan** – New GSM network planning and rollout support. Tower network aquisition

# OUR AFRICAN EXPERIENCE

- ❑ **Nigeria** – Zain Constructed a National data deployment plan including WiMax and HSDPA strategies, WiMax network and frequency plans, Capex and Opex budgets and assessment of potential buy versus build opportunities. Deliverables Included a combined assessment of 3G, WiMax, and Fixed line deployment strategies and frequency related issues for Nigeria
- ❑ **Ivory Coast** – Complete GSM launch and build out support
- ❑ **Kenya** – Essar established and managed launch PMO effort including (IT, Network, Commercial etc). Provided full launch team management and utilized our “Fastrack” project tracking procedures and controls. Directed activity which drove the business through to launch while meeting license requirements. Current business now branded as “Yu”
- ❑ **Kenya** - Provided PMO and Project management support for large dish deployment(s) including build supervision support for voice & data services for internal and commercial sales

## OUR ASIAN EXPERIENCE

- ❑ **Yemen:** International traffic network operations and carrier marketing support  
Grey VoIP Mitigation and international traffic strategy
- ❑ **India:** Spice Telecom - Network planning services for multiple projects and programs. Motorola - Fiber rollout support across the country
- ❑ **China:** Comsource - Engineering support and network laboratory support  
Yang Heng – Equipment and services planning and Deployment (rail communications)
- ❑ **Thailand:** Support to DTAC
- ❑ **Indonesia:** Network infrastructure support and tower/power projects
- ❑ **Afghanistan / AFTEL – Turnkey network Launch support (C level)** – Planning and launch support for new 2G/3G/4G national mobile network including but not limited to: Commercial, PMO, Technical, operations, Customer care, etc. **Including LTE network strategy and planning**
- ❑ **Afghanistan / Confidential client** – Project to assess existing implementation and network designs for large GSM network operator including the provision of network upgrade and migration plan to support national expansion efforts

**Afghanistan / AFTEL** – Project MEC is providing turnkey interim management and launch planning support for a new GSM/3G network for the Ministry in Kabul



# OUR AMERICAN EXPERIENCE

- ❑ **USA** - ComSource NSN 2G , 3G & LTE test lab planning, detailed design, build support
- ❑ **Panama** – Radio planning & engineering services for various customers
- ❑ **Verizon** – Contract Technical services in various countries in the Americas
- ❑ **Costa Rica** – (confidential customer) New license business planning for iDEN network
- ❑ **Costa Rica** – Due diligence and network assessment for 2 target customers
- ❑ **Panama** – Telecommunications laboratory design support for public/private partnership
- ❑ **Honduras** – Grey market bypass solutions support



# OUR EUROPEAN EXPERIENCE

## ❑ **T-Mobile GSM Network Swap/Rollout - Germany**

Direct contract T-Mobile, to install (and/or swap existing gear), commission and integrate BSS network across former East Germany

## ❑ **Swisscom Mobile Microwave Rollout - Switzerland**

Direct contract to Swisscom for the planning, Design, deployment, & commissioning a nationwide microwave backbone network for voice and data traffic. Multi year agreement tendered each year with MEC selected for 4 years in a row.

## ❑ **RomTelecom - Romania**

Privatization and commercial operations support, interim management resources





# OUR SATELLITE EXPERIENCE

- ❑ **Confidential client** – Project to assist in the planning for national program to design, plan & launch communications satellites in conjunction with SES Astra
- ❑ **Iraq / Iraqna GSM** – Planned, designed, and implemented redundant International Gateway (IGW) via VSAT providing international calling for a network that currently supports over 7M subscribers
- ❑ **Nigeria / WESA Comserv** - Earth station implementation Full Turnkey project consisting of engineering and design support with a full systems build out and ongoing maintenance support for initial period of operations
- ❑ **Libya / Various operators** – Deployed 20+ separate VSAT installations of voice and data platforms from 1.2M, 2.4M, 3.8M Ku and C band installations. Installations of full IP and TDM (w/DCME) solutions including installation, commissioning, training and handover to local staff.
- ❑ **Kenya / Essar** – Provided PMO and Project management support for large dish deployment(s) including build supervision support for voice & data services for internal and commercial sales

# MEC IN LIBYA

In 2011, MEC began a series of projects in Libya to restore mobile communications with both domestic and international calling in support of the Transitional National Council (TNC). These projects included:

- ❑ **Benghazi Libyana recovery project:** Installation, commissioning, & integration of a full set of core network functionalities including SMSC, IN, HLR, OTA, AUC from a 3<sup>rd</sup> party vendor and overlaid onto the existing Huawei MSC/MGW/BSC/BTS infrastructure. In addition MEC installed/commissioned national and international VSAT systems to allow calling to other networks. More than 1M subscribers were brought up in +/- 6 weeks
- ❑ **Misrata Madar recovery project:** Installation, commissioning, and integration of a complete core network including MSC, HLR, VLR, IN, SMSC, OTA, AUC from a 3<sup>rd</sup> party vendor and overlaid onto the existing Ericsson MGW/BSC/BTS infrastructure. In addition MEC installed/commissioned national and international VSAT systems to allow calling to other networks. More than 100K subscribers were brought up in +/- 3 weeks
- ❑ Supply of analogue and digital PMR and other mobile radio solutions for 'public safety and security

MEC partnered to form ECM Gulf Libya and has a full in country office based in Tripoli

- ❑ MoHE (Ministry of Higher Education) Planning, Design, implementation of the VWLAN internet distribution system for campuses in Tripoli and Benghazi with future expansion across the country



## OUR KEY PERSONNEL'S EXPERTISE



**Frederic Wohl** is a Global Senior Level Executive with previous responsibility for operations at \$1 Billion level. Mr. Wohl has extensive expertise in building top producing business relationships with multi-national customers and business partners worldwide. He has a comprehensive understanding of business operations and organizational development on a global basis and has worked in more than 40 countries. Mr. Wohl has held numerous positions Such as COO, CCO, and various VP level positions.

Mr. Wohl currently serves as CEO for MEC Telematik Global and heads the Middle East office, based in Dubai. He is responsible for all MEC's operations in the region and directs project delivery teams for Middle East and Africa current projects include due diligence efforts, network & RF Optimization, Sales and distribution consultancy, network audits, network design and new network launch activities. Projects included the managing the development and launch of all sales and distribution activities for Mobily, Due Diligence efforts for Q-Tel, Technical audit of Etisalat UAE operation, Network audit and Optimization for Roshan Afghanistan, direct turnkey M&O project of a new national CDMA WLL network in Iraq,

Prior to heading the Middle East office he served as interim Chief Commercial Officer (CCO) for Iraqna (Orascom Telecom's Iraq subsidiary) and a year in country directing launch activities.

Before joining MEC, Mr. Wohl, served as a member of Verizon international's senior management team, and spent more than 14 years working in various Verizon properties worldwide including serving as the Director of International relations and Director of Public Communications for CANTV – Venezuela, CCO for EuroTel – Slovakia, and CCO of Romtelecom – Romania and multiple other roles managing existing operations or launching new ones.

Mr. Wohl has also served as Vice President for Global Operations of AgInfoLink (now a subsidiary of John Deere).

Mr. Wohl brings a wealth of proven experience in all facets of the telecommunications industry including; wireless, wire line, Satellite, Wholesale network services and submarine systems. He has held management roles in 4 international GSM , 1 CDMA, and 1 iDEN network launches.

Mr. Wohl is a former member of the T-Mobile International Marketing board and holds a bachelors degree from UCLA.



## OUR KEY PERSONNEL'S EXPERTISE



**Del Jenkins** has 30-years Communications experience on a global basis. He specialises in Information Technology, Fixed Line Operations, Submarine Cable, FTTX, and Wireless Mesh Operations, with a strong grounding in the Business and Commercial aspects of ICT operations. He has held numerous CIO roles and Director level roles, in multi-national organizations such as Verizon Communications and MCI. His international experience covers South America, APAC, Europe, and the ME

Del serves as the COO of MEC Telematik Global and operates from the Abu Dhabi, UAE office. Mr. Jenkins is a senior level telecommunications executive with 30 years of domestic and international experience in ICT operations. Mr. Jenkins recently served as Vice President of IT Services for Verizon Communications (the largest telecommunications provider in the US), prior to joining MEC Telematik, FZ, LLC. Mr. Jenkins in his career was responsible for operations in Venezuela, Micronesia, Japan, and South Korea in his international assignments. In the USA, he was responsible for Marketing, Sales, and Account Management for Verizon's business unit providing IT outsourcing solutions to the marketplace.

Mr. Jenkins brings a wealth of experience in all areas of ICT Operations, including Sales, Marketing and IT Services. His experience spans the full spectrum of managing the laying of submarine cable in the Pacific, through to negotiating contracts for equipment and services for large and Multi-National Corporations.

Mr. Jenkins holds a bachelors degree from the University of Missouri.

## OUR KEY PERSONNEL'S EXPERTISE



**Dr Alex Christie** has 18 years international experience in programme, contract, technical and engineering management and business development in mobile telecommunications. He combines a strong engineering & scientific background with excellent analytical and critical thinking skills. Dr Christie is business focussed and commercially astute, skilled in programme management and change management implementation, a natural organiser and strategic planner with a reputation for delivering. Dr Christie has held numerous senior-level positions with mobile operators worldwide, including Technical Director, CTO, Strategy Director, PMO Director, Programme Director and Launch Director.

During his career Alex has held senior management positions with numerous world-leading international telecoms companies. He served as General Manager International Sales with Orbitel (the Racal-Plessey joint venture which pioneered the development of the first GSM base stations and mobile handsets in 1989), and from 1991 to 1999 he worked in the Cable & Wireless International Mobile division. Whilst with Cable & Wireless, Dr Christie held long-term positions as National Manager Projects & Contracts with MTN South Africa, and as Technical Director with Mobikom Bulgaria.

During this time, Dr Christie was also elected Chair of both the NMT<sub>450</sub> Digital Interest Group and the NMT Specification Forum, responsible for managing the development and ratification of a digital mobile standard at 450MHz. From 1999, Dr Christie served as Regional Director in the Radio Planning division of Logica-CMG, where he was responsible for directing, managing and developing their RF planning tool and consultancy business in EMEA and APAC.

Since 2002 he has held numerous senior-level telecoms consultancy roles in the Middle East, including Technical & Strategy Director with STC Mobile in Saudi Arabia; Programme Director & CTO with Orascom Telecom in Iraq; Launch Director with RIC/ITRC in Iran; PMO Director with Qtel in Qatar.

Dr Christie brings a wealth of skills and experience in both technical and project management within established, start-up and in pre-licence telco operations.

Dr Christie is a graduate of Imperial College, London University, where he studied for both his Bachelor's degree and PhD.