



ATECS

ATECS, L.L.C.
Wireless Telecommunications Consultants



Who is ATECS and What Can They Do For Me?

ATECS, L.L.C. is a full service wireless telecommunications engineering consulting firm. We specialize in **RF Engineering** and **Network Engineering** services ranging from basic cellular/PCS design and optimization to strategic planning for advanced technologies. We also offer **full turnkey** services including **Project Management**, **Site Acquisition**, and **Construction Management**. Whether you need help planning a handful of sites for your cellular/PCS business, or you're looking for help researching and validating new wireless broadband and 3G technologies, we can help.

ATECS has over 50 years of combined experience in the wireless industry. Our experience includes design, implementation, and operation of several cellular/ PCS markets ranging from cities as small as Tallahassee, Charleston and Albuquerque to larger markets such as San Francisco, Seattle, and Denver. ATECS also has experience working for the vendor community with companies such as Motorola and Nortel. In addition, our engineers have significant experience researching and developing advanced technologies such as third generation PCS, wireless broadband, and advanced intelligent networks. ATECS can also help your business with standard air interfaces including **WCDMA, CDMA, UMTS, GSM, TDMA, iDen, NAMPS, and AMPS**.



Specific Engineering Services Offered by ATECS...

Business Consulting Services:

- Business Case Development
- Product Roadmaps
- Engineering Strategy and Standards
- Project Management
- Fiscal Planning and Growth Planning

Advanced Engineering Services:

- New Technology Assessment
- Technology Roadmaps
- Technology Selection
- Vendor Negotiation and Management
- Engineering Guidelines and Parameters
- Technical Field Trials
- New Technology Migration and Implementation
- Technology Training and Custom Course Development

Standard Engineering Services:

- System Design (RF, Network, and OSS)
- Site Design
- Micro-cell, In Building, and Distributed Antenna System Design
- Network Optimization and System Performance
- Traffic Forecasting
- Growth and Capacity Planning
- Regulatory Engineering (Appendix D, NEPA, FAA, FCC)
- Performance Problem Identification and Mitigation
- Site Development

ATECS Qualifications and Experience

RF Engineering							
	R&D	Business Modeling	Management	Design	Implementation	Optimization	Operation
CDMA IS-95	✓	✓	✓	✓	✓	✓	✓
CDMA IS-95B	✓	✓					
CDMA 2000-1x	✓	✓					
CDMA 1xEVDO	✓	✓					
GSM		✓	✓	✓	✓	✓	
3G UMTS (TDD)	✓	✓	✓	✓	✓	✓	✓
3G UMTS (FDD)	✓	✓					
TDMA IS-136	✓	✓	✓	✓	✓	✓	✓
iDEN		✓	✓	✓	✓	✓	✓
AMPS	✓	✓	✓	✓	✓	✓	✓
NAMPS	✓	✓	✓	✓	✓	✓	✓

Network Engineering							
	R&D	Business Modeling	Management	Design	Implementation	Optimization	Operation
GSM	✓	✓	✓	✓	✓	✓	✓
IS-634					✓	✓	
IS-41	✓	✓	✓	✓	✓	✓	✓
SS7	✓	✓	✓	✓	✓	✓	✓
TCP/IP	✓	✓		✓	✓	✓	✓

Client/Company Experience							
	R&D	Business Modeling	Management	Design	Implementation	Optimization	Operation
Alltel (Sprint Cellular)		✓		✓	✓	✓	✓
AT&T (Cellular One)		✓	✓	✓	✓	✓	✓
Commnet Wireless		✓		✓	✓		
Ericsson	✓	✓	✓	✓	✓	✓	✓
GE	✓						
I-Cubed	✓	✓					
IBM		✓					
IPWireless	✓	✓		✓	✓	✓	
Motorola	✓			✓			
Nextel				✓	✓	✓	✓
Nortel	✓	✓	✓	✓	✓	✓	✓
Qwest/USWest Wireless	✓	✓	✓	✓	✓	✓	✓
Sprint PCS	✓	✓	✓	✓	✓	✓	✓
T-Mobile			✓	✓	✓	✓	✓

Equipment Vendor Experience					
	Base Station	Switch/Router	HLR/RADIUS	Service Node	Business Development
Lucent	✓	✓	✓	✓	✓
Cisco		✓	✓		✓
Motorola	✓	✓			✓
IPWireless	✓	✓	✓	✓	✓
Ericsson	✓	✓	✓	✓	✓
Nortel	✓	✓	✓	✓	✓



ATECS Executive Profiles

Mike Mackiewicz – President

Mr. Mackiewicz has 13 years of experience in the areas of RF Engineering, Planning and Technology Development. He has extensive experience in WCDMA, CDMA, TDMA, NAMPS and AMPS. Wireless vendor experience includes Motorola, Ericsson, Qualcomm and Lucent. Prior to forming ATECS, Mike served as Director of RF Planning and Technology Development at Qwest Wireless and the Western Region RF Supervisor for Cellular One. He also provided RF engineering service for Nextel in the Bay Area and Sprint Cellular in Chicago. He earned a Masters degree in Telecommunications from the University of Colorado in Boulder and a Bachelor of Science degree in Electrical Engineering Technology from Purdue University.

Dan McVaugh – Sr. Partner

Mr. McVaugh has 10 years of experience in digital cellular and fixed wireless technologies. He possesses strong practical and theoretical RF engineering experience and in-depth technology experience with WCDMA, CDMA, NAMPS, and AMPS standards as well as proprietary technologies for broadband wireless access. He has worked with the Lucent, Ericsson, Qualcomm, Motorola, IPWireless, Adaptive Broadband and Arraycomm system implementations. Prior to joining ATECS, Dan served as Director of Wireless Broadband and Manager of RF Engineering at Qwest Wireless and the Denver MTA RF Manager for Sprint PCS. He also provided RF engineering service for Sprint Cellular in Chicago. He earned a Bachelor of Science degree in Electrical Engineering from the University of Colorado.

Mark Poletti – Sr. Partner

Mr. Poletti has 15 years of experience in wireless telecommunications technology. He has in-depth engineering and scientific capabilities, ranging from Satellite EMC, early PCS research, CDMA optimization, and development of advanced technologies such as the first open interface implementation of CDMA using IS-634. Prior to joining ATECS, Mark served as Director of Applied Systems Engineering, Senior Applied Systems Engineer, and CDMA Systems Engineer at Qwest Wireless. He also served as a Member of Technical Staff at US West Advanced Technologies, and EMC Systems Engineer at General Electric's Aerospace Division. He earned a Masters degree in Telecommunications from the University of Colorado in Boulder and a Bachelor of Science degree in Physics from State University of New York



Contacting ATECS

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