Scott Andrews

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Summary

Creative, energetic, and innovative internationally recognized technical executive experienced in general management, systems engineering, advanced product development, advanced technology, business development, strategic planning, and program management

- Location Based Technologies
- Vehicle Information Systems
- Vehicle Electrical/Electronics Systems
- ITS and Related Industries
- Communications Systems
- Mobile Information Technology
- Multimedia/Internet Computing
- Mobile Technology Test Instrumentation
- Vehicle Safety and Control Systems
- Enterprise Software

Experience

12/2001-Present Cogenia Partners, LLC

Systems engineering consulting supporting and mobile information, mobile electronics and automotive safety and entertainment systems development

Current Engagements:

- Expert witness for patent litigation, contracts and trade secrets:
  - General Motors, related to various automotive systems
  - Lordstown Motors, related to infotainment systems
  - Uber, related to location based systems
  - USAA, Related to vehicle location systems
  - Cummins Diesel, related to cloud based vehicle data collection
  - Progressive, related to location based insurance systems

Prior Engagements/Projects:

- Technical consultant for connected vehicle security credential management system management concepts; Sponsored by Transport Canada
- Technical consultant for sensor supplemented message validation system for vehicle to vehicle communication based collision waring/avoidance systems. Sponsored by US DOT NHTSA
- Technical consultant for connected vehicle security credential management system deployment; Sponsored by US DOT NHTSA
- Subject matter expert and co-principle investigator on DSRC performance Measures development project for U.S.DOT NHTSA.
- Subject matter expert on communications data delivery system study to understand optimal roadside unit placements to support security credential management in connected vehicle systems; Sponsored by U.S. DOT RITA
- Developed systems engineering methodology for vehicle E/E systems; Applied methodology on project for Yazaki to reverse engineer the E/E architecture for a 2004 BMW 5 series vehicle.
- Co-Principal investigator for Integrated Advanced Transportation System; A 30+ year future technical feasibility assessment and strategy for U.S. DOT Federal Highway Admin. (FHWA).
- Technical consultant to American Association of State Highway Transportation Officials (AASHTO) for connected vehicle deployment analysis and strategy.

PCNA Ex. 1004
U.S. Patent No. 9,955,551

- Chief System Architect for the Vehicle Infrastructure Integration (VIIC) program (BMW, Chrysler, Daimler Benz, Ford, GM, Honda, Nissan, Toyota, VW); A connected vehicle research program funded by U.S. DOT FHWA.
- Technical consultant to Michigan State DOT (Enterprise Pooled Fund) to develop a system architecture and deployment strategy for Rural ITS.
- Telematics delivery architecture development for a Fortune 100 service provider
- Technical consultant to the Vehicle Safety Consortium developing Dedicated Short Range Communications (DSRC) standards for safety systems;
- Designed novel super capacitor based high performance hybrid vehicle as part of an early stage startup company; Developed performance requirements, conceptual designs and patented integrated electrical system architecture concept.
- Toyota Motor Sales – 10 year technology survey;
- Connected Vehicle Trade Association- Transferred AMI-C specifications to ISO TC 22, TC 204 AND OSGi. Developed OSGi Vehicle Interface Specification;
- Expert witness for:
    - Orbital Sciences, related to vehicle fleet management
    - Volkswagen, related to vehicle control technologies
    - Apple, related to mobile communications device control
    - Google, related to map displays
    - Platform Sciences, related to location based fleet management
    - Unified Patents, various location based technology cases
    - Uber, related to display of multiple terminals on navigation display
    - Directed Electronics, related to vehicle remote start systems
    - ZTE, related to cell phone location and orientation systems
    - Audi, America, related to vehicle control systems
    - Club Car, related to golf cart navigation systems
    - Unified Patents, various location based technology cases
    - Toyota, related to vehicle communications systems
    - American GNC vs. LG, related to MEMS sensors
    - Dale Progress, Ltd. vs. Toyota, related to vehicle information display systems
    - Blackberry vs. SNAP, related to display of multiple terminals on navigation display
    - Location Services vs. Google, related to augmented reality displays
    - Alert Signal vs. Apple, related to cell phone messaging systems
    - AGIS vs. LG related to cell phone messaging systems
    - Maxell vs. ASUS, related to cell phone navigation systems
    - AGIS vs. HTC, related to cell phone location systems
    - AGIS vs. Huawei, related to cell phone location systems
    - AGIS vs. LG
    - Michigan Motor Technologies vs. Hyundai, related to vehicle control systems
    - Princeton Digital vs. Konami et al, related to video game display systems
    - Delphi, related to automotive safety systems
    - ATT vs. Vehicle IP relating to cell phone navigation systems
    - VW/Audi vs. Beacon, relating to traffic information systems
    - VW/Audi vs. Blitzsafe relating to mobile device integration and mobile audio systems
    - T-Mobile vs. TracBeam relating to wireless location technologies
    - VW/Audi vs. Joao relating to remote service architecturesApple Computer

vs. Porto relating to cell phone navigation systems
- Mercedes vs. Adaptive Headlamp Technologies relating to adaptive headlamps
- Liberty Mutual, Geico and Hartford vs. Progressive Insurance relating to usage based insurance systems
- Toyota vs. American Vehicular Sciences (AVS) relating to occupant sensing systems
- Lenovo and Amazon vs. Pragmatus relating to device tracking
- Ford in a patent vs. Eagle Harbor Holdings relating to Bluetooth systems and mobile device integration in the vehicle
- Bentley vs. Cruise Control Technologies relating to adaptive cruise control
- Google vs. Walker Digital relating to 3D navigation displays
- Volkswagen/Sirius-XM vs. case relating to traffic information systems
- Volkswagen, Ford and GM in patent cases vs. Affinity Labs, relating to the iPod interface
- Honda vs. American Calcar, relating to telematics equipment and user interfaces
- Alpine, Denso and Pioneer Corporation in an International Trade Commission patent case vs. Honeywell, related to navigation systems
- BMW vs. American Calcar, relating to telematics equipment and user interfaces

4/2000 to 12/2001 Cogenia, Inc.
President and Chief Executive Officer, Founder
Founded company in 2000 to develop enterprise class data management software system. Responsibilities included development of business concept and plan, corporate administration including financial and legal management, leadership of executive team in product development, fundraising, business development, organizational development, and investor relations. Raised $2.2M between 8/00 and 5/01 from individuals and funds;

1996 to 4/2000 Toyota Motor Corporation, Japan
Project General Manager, R&D Management Division
Responsibilities included the conceptualization and development of multimedia and new technology products and services for Toyota's future generations of passenger vehicles in the United States and Europe, Heavy emphasis on strategy for information systems, and on development of technical concepts for computing and Internet oriented systems. Led automated vehicle Development program leading up to 1997 Automated Highway Systems (AHS) demonstration in Sand Diego, CA; Supported technology acquisition for hybrid vehicle control systems; Working under direction of Toyota board members, established the Automotive Multimedia Interface Collaboration (AMI-C), a partnership of the world's car makers to develop a uniform computing architecture for vehicle multimedia systems, and led all early technical, planning and legal work. Provided technical management of technical contracts with Carnegie Mellon University Robotics Lab (Image based collision warning systems), and the development of Toyota's position on the US Intelligent Vehicle Initiative.

1983 to 1996 TRW, Inc.
Held a series of increasingly responsible positions in program management, technology development and business development.

1993 to 1996 TRW Automotive Electronics Group
Director, Advanced Product Planning/Development

Specific responsibilities included leadership and overall management of advanced development programs such as Automotive Radar, Adaptive Cruise Control, Occupant Sensing, In Vehicle Information Systems, and other emerging transportation products; Managed remotely located advanced development laboratory performing approximately $6M in annual development projects.

1983 to 1993 TRW Space & Electronics Group

Manager, MMIC Products Organization

Developed TRW's commercial GaAs MMIC business. Responsibilities included development of business strategy and business plan, and overall management of customer and R&D programs. Developed extensive international business base and took operation from start-up to $5M sales per year in under two years. Developed the first single chip 94 GHz Radar (Used for automotive cruise control and anti collision systems).

1979-1983 Teledyne Microwave

Developed high reliability microwave components. Developed CAD tools.

1977-1979 Ford Aerospace, Advanced Development Operation

Designed, tested and delivered microwave radar receiver systems

Education

MSEE Stanford University, 1982

BSEE University of CA, Irvine 1977

TRW Senior Leadership Program 1992

Publications

1. Two Dimensional Vehicle Control for Obstacle Avoidance in Multi-Lane Traffic Environments; Published in the proceedings of the 1998 IEEE International Conference on Intelligent Vehicles.
2. Automotive Multimedia Interface Collaboration; Briefing Presented to the 9th VERTIS Symposium, April 1999, Tokyo Japan.
3. Privacy and Authenticity in Telematics Systems; Published in the Proceedings of the Society of Automotive Engineers World Congress, 1999
4. Automated Highway Systems Acceptance and Liability; Briefing presented to the Automated Vehicle Guidance Demo 98 Conference, Rinjwoude, The Netherlands, June1998.
5. What is Telematics? Briefing presented at IIR Telematics Conference Scottsdale, AZ, December 2001
6. Advanced Telematics Services: A Hard Look at Reality; Briefing presented at IIR Telematics Conference Scottsdale, AZ, December 2001
7. Consumer Electronics and Telematics; Briefing presented at Eye For Auto Telematics Update Conference Las Vegas, NV, January 2003

8. The Automotive Multimedia Interface Collaboration Software and Network Architecture: Extending the Concept of Platform Independent Computing; Briefing Presented to the Future Generation Software Architectures in the Automotive Domain Conference, San Diego, CA, January 2004
9. Quality, Choice and Value: How New Architectures are Changing the Vehicle Lifecycle; Briefing presented at IEEE Convergence Conference, October 2004
10. Critical Standards for the Next Generation of Telematics Systems and Services; Briefing presented at the Telematics Update Conference, December 2004
11. VII System Overview; Briefing presented To Transportation Research Board, ITS and V-HA Committees 2007 Mid-Year Meeting; July 2007
12. Testing and Development of In-Vehicle Equipment and Private Applications (P08-1634); Briefing presented to the Transportation Research Board Annual Meeting, Washington, DC, January 2008
13. A Comparison of Communications Systems for VII; Presented at the ITS World Congress, New York, NY, October, 2008
14. Vehicle Infrastructure Integration Systems Overview; Presented at the ITS America Annual Meeting, June 1 2009, National Harbor, Maryland
15. Telematics Standards: Logical Next Steps; ITS International, August 2009
16. IntelliDrive^{SM} Overview; ITS International, May 2009
17. Time Synchronization and Positioning Accuracy in Cooperative IntelliDrive^{SM} Systems; Presented at the 2010 ITS America Annual Meeting, June 2010, Houston, Texas
18. Systematic Development of Positioning Requirements for Vehicle Applications; Presented at the 18th World Congress on Intelligent Transportation Systems , November, 2011, Orlando, Florida
19. The Interpretation of GPS Positioning Accuracy and Measurement Integrity in a Dynamic Mobile Environment; Presented at the 18th World Congress on Intelligent Transportation Systems, November, 2011, Orlando, Florida
20. Connected Vehicle Positioning Requirements and Possible Solutions; Presented at the 22nd World Congress on Intelligent Transportation Systems, October, 2015, Bordeaux, France
21. Connected Vehicle Performance Requirements; Presented at the 22nd World Congress on Intelligent Transportation Systems, October, 2015, Bordeaux, France

Patents

1. Mobile Body Reporting Device And Its System; Patent Number: JP11118902; 4/30/1999

2. Multiformat Auto-Handoff Communications Handset; Patent Number: US5,649,308; 07/15/1997

3. A Communications Terminal Device, A Communications System, And A Storing Medium For Storing A Program To Control Data Processing By The Communications Terminal Device; Patent Number: EP0867850, A3; 09/30/1998

4. Communication System For Controlling Data Processing According To A State Of A Communication Terminal Device; Patent Number: US 6,122,682 3/23/1998

5. Method And Apparatus For Controlling An Adjustable Device; Patent Number: US 5,864,105; 01/26/1999

6. Automatic Brake Device; Patent Number: JP2000108866; 4/18/2000

7. Visual Field Base Display System; Patent Number: JP2000029618; 01/28/2000

8. Intersection Warning System; Patent Number: US 5,926,114; 07/20/1999

9. Security For Anonymous Vehicular Broadcast Messages; Patent Number: US 7,742,603 3/27/2006

10. Digital Certificate Pool; Patent Number: US7,734,050 3/27/2006

11. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 7,802,263 9/21/2010

12. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 8,209,705 6/26/2012

13. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 8,566,843 10/22/2013

14. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 9,575,817 2/21/2017

15. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 9,705,765 7/11/2017

16. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 10,002,036 6/19/1028

17. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 10,031,790 7/24/1018

18. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 10,248,477 4/2/1019

19. System for Location Based Triggers for Mobile Devices; Patent Number 9.973.899 5/15/2018

20. System for Location Based Triggers for Mobile Devices; Patent Number 10,194,291 1/29/2019

21. System for Location Based Triggers for Mobile Devices; Patent Number 10,194,292 1/29/2019

22. System for Location Based Triggers for Mobile Devices; Patent Number 10,349,243 7/9/2019

23. System for Location Based Triggers for Mobile Devices; Patent Number 10,499,215 12/3/2019

24. System for Location Based Triggers for Mobile Devices; Patent Number 10,631,146 4/21/2020

25. System for Location Based Triggers for Mobile Devices; Patent Number 10,735,922 8/4//2020