CHRISTOPHER K. WILSON

Redwood City, CA 650.867.2621 Chris@CWcons.com http://www.linkedin.com/in/cwilson7

Connected Vehicle & Telematics Consultant – Testifying Expert

I have been developing vehicle telematics systems since 1992, mostly for safety and Advanced Driver Assistance Applications (ADAS). I participated in the early development of key telematics technologies, including positioning, communications and mapping, worked with most automakers, supliers and government agencies, and have been involved in the deployment of many telematics systems from Automatic Collision Notification to systems for Stability Control and Driver Assistance.

Expertise in:

- Navigation, Telematics, Sensors
- Data science
- Vehicle & infrastructure interaction
- Vehicle data collection, analysis & applications
- Positioning, communications & mapping technology
- Vehicle & traffic technology and deployment

SELECTED ACCOMPLISHMENTS

Vehicle Data Interpretation and Analysis

- Founded Vehicle Data Science Corporation developing tools for processing of vehicle probe data to calibrate various vehicle sensors including radar, vision, communication, diagnostic and positioning systems. (2013-2014)
- Worked with a top US insurance company to develop algorithms and methods for pricing vehicle insurance based on driver behaviors. Algorithms implemented in premium setting. (2012-2013)
- Managed the development and production of digital map products for automotive ADAS applications meeting the needs of automotive customers, providing map support for radar, vision and other vehicle sensor systems, and enabling entrance to new markets. (2008-2011)
- Developed algorithms and tools to infer map geometry from vehicle probes. Inspired US and European industry-wide projects on mapping technology (EDMap, NEXTMap, $19M combined budget). Concepts cited in justification of TomTom's purchase of TeleAtlas for $4B. (1996-2014)

Navigation, Communications and Safety Application Development (Telematics)

- Coordinated standards for vehicle communications (802.11p) to meet automotive industry requirements. Refinement on-going and may lead to federal mandate in 2016. (2000)
- Developed the concept of operations for a Cooperative Intersection Collision Avoidance System (CICAS). Worked with vehicle and infrastructure providers to develop and deploy prototype systems. Many derivatives of this work with deployments likely in the next few years. (2005)
- Developed the first off-board navigation system (TRW's In-Vehicle Information System), before cellular and GPS (1995). Today such systems are the norm for smartphones and other devices.
- Designed and developed the first Automatic Collision Notification (ACN) system (1993). Worked with public safety and E-911 officials to recognize and respond to automated callers. Initiated research on biometric crash assessment using airbag occupant sensors and triggering systems to infer crash outcomes. These systems are becoming standard throughout the world.

Vehicle Connectivity Business Models and Initiatives

- Developed business model for deployment of car-to-car/infrastructure communications system (VII). Partnered with US Department of Transportation to refine model and gain consensus of

stakeholders including US automotive industry, federal, state and local governments and key suppliers (2003). Current investments in initiative's derivatives are over $100M/year worldwide.

- Identified, modelled and developed markets for historical vehicle data. Worked with vehicle, transportation infrastructure, traffic, insurance, advertising, and emissions management executives to promote and validate concepts (2010). Products introduced starting in 2010 and on-going.
- Initiated Vehicle Safety Communications project within automotive industry to validate suitability of vehicle communications technology (DSRC) for safety. Developed business case around vehicle diagnostics. Positive results with refinements continuing today (2001). Deployments anticipated in 2016.
- Launched start-up TerraSonance to create consumer demand for connectivity around "Stories of Place" (2007). Concepts currently being further developed by several start-up companies.

PROFESSIONAL EXPERIENCE

Consultant, Intellectual Property and Connected Vehicles. **2012 – Present**

Vehicle Data Science Corporation, Redwood City, CA **2013 - 2015**

CEO ***(****Start-up building kinematic maps for automated vehicle applications.)*

TomTom BV, Redwood City, CA **2008 - 2011**

Director of Program & Product Mgmt, Advanced Driver Assistance Systems (2009 – 2011)
Director of R&D (2008 – 2009)

DaimlerChrysler Research and Technology North America Inc., Palo Alto, CA **1996 - 2008**

Vice President, ITS Strategy & Programs (2002 – 2007)
Group Manager, Telematics & Safety (1998 – 2002)
Senior Research Scientist (1996-1998)

Information Access Inc., San Francisco, CA **1995 - 1996**

Director of Product Development (1995-1996)

TRW Inc., Sunnyvale, CA **1986 - 1995**

Program Manager (1991 - 1995)
Senior Systems Engineer (1986 - 1991)

EDUCATION/TRAINING

PhD Candidate, Astrophysics**,** University of California, San Diego
BA, Physics, Princeton University, Princeton, NJ
Advanced courses in business, strategy, & technology @ Harvard, Stanford, Berkeley, MIT

PROFESSIONAL ASSOCIATIONS

Member, Institute of Navigation (ION), Society of Automotive Engineers (SAE), Institute of Transportation Engineers (ITE), Institute of Electrical and Electronics Engineers (IEEE)
Board Member, ITS California (former), Vehicle Infrastructure Integration Consortium (Founding Director, previous), *Inside GNSS* magazine (advisory board)

PATENTS AND PUBLICATIONS

13 US patents (6 granted) in vehicle positioning and vehicle data processing and analytics,
Chapter on Probe Data in Springer-Verlag's *Handbook of Intelligent Vehicles*, 2012
Widely quoted in publications such as Scientific American and Telematics Update