Keith S. Hardy

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Professional Experience

- **2001-Present**. Argonne National Laboratory
  - **2008-Present**. Acting Director, FreedomCAR and Fuel Partnership detailed to U.S. Department of Energy (DOE) Headquarters since July 2008
    - Serve as liaison between DOE and industry in the government-industry partnership that includes U.S. automotive manufacturers, the oil industry and electric utilities – during the transition to the new Administration and the focus on vehicle electrification; responsible for reflecting DOE's objectives in the strategic direction of the partnership as well as priorities and work plans of technical teams
    - Represent the program and the Partnership at conferences and technical symposia as well as management-level meetings with other Federal agencies, private industry and academia – domestically and internationally
    - Initiated the Grid Interaction Tech Team and the involvement of the DOE Office of Electricity in the Partnership
    - Evaluated numerous proposals submitted to DOE for the Advanced Technology Vehicles Manufacturing loan guarantee program and the Advanced Research Projects Agency-Energy (ARPA-E) R&D program; member of the Vehicle Technologies review panel for the ARPA-E program
    - Resulted in the Addendum to the Partnership Plan (utilities and Grid Interaction Tech Team), numerous presentations, management talking points, International Plug-in Hybrid Electric Vehicle (PHEV)-Grid Workshop at EVS-24 (organizer), Interactive Smart Vehicle-Grid Technology Display to promote international codes & standards for PEVs
  - **Senior Technical Advisor**
    - Consultant to the DOE Vehicle Technologies Program providing program planning and support
    - Responsible for the DOE PHEV Program Plan, assessing global automotive technology development, initiating and managing international cooperative programs to further DOE objectives
    - Member of the Science Advisory Board of the Swedish Hybrid Vehicle Centre, Lindholmen Science Park, Gothenburg
    - Member of the Swedish Energy Agency's Review Panel for the Strategic Energy Research program
    - Resulted in the DOE PHEV R&D Plan, cooperative agreement with the Swedish Energy Agency and the US-Sweden cooperative PHEV Program
  - Section Leader, Vehicle Systems
    - Staff of about 20 engineers/analysts/technicians
    - Manager of automotive modeling & simulation (i.e., Powertrain Systems Analysis Toolkit [PSAT]), hardware-in-the-loop and vehicle testing in the Argonne Advanced Powertrain Research Facility
    - Regular interaction with EC projects and Federal agencies to identify potential cooperative activities and assess programs; coordinated Argonne, Los Alamos

National Laboratory and university proposals for U.S. contribution to the EU-US FCMODEL proposal
        - Resulted in the integrated PSAT analysis, testing, development and validation capability at Argonne, numerous publications and presentations as well as contacts to facilitate international cooperation
- **1998-2001**. Hardy & Koehler, Inc., Rochester, Mich.
    - Director, CSMI Automotive Systems, Troy, Mich.
        - Staff of about 10 engineers/analysts plus contract designers/programmers
        - Consultant to DOE providing international technology assessment, hybrid vehicle studies for International Energy Agency, management of custom software development and Advanced Propulsion News (DOE EHV technology newsletter).
    - Consultant, ICRC, Warren, Mich.
        - Technology planning for SmartTruck development at U.S. Army Tank-automotive and Armaments Command
    - Consultant, TM4 Technologies, Montreal, Quebec
        - Competitive assessment and strategic planning
    - Consultant, IBM Automotive Europe, Munich, Germany
        - Program management tools and vehicle development process
- **1994-1998**. Total Administrative Services Corporation (TASC), Director, Automotive Systems Business Unit
    - Staff of 12 engineers/analysts and 5 contract designers / programmers / engineers
    - Responsible for automotive strategy, business development and implementation; business growth from $600K to >$3M/yr; defined business areas and developed supporting suite of tools and personnel
    - Primary support to GM electric and hybrid vehicle programs
    - Created concept for and managed development of the Partnership for a New Generation of Vehicles (PNGV) Systems Analysis Toolkit (PSAT) for USCAR/DOE
    - Led design of website and other media to support client services in vehicle engineering and competitive intelligence
    - Developed resource analysis and decision support training course and facilitated strategic planning of National Renewable Energy Laboratory automotive program
    - Led the proposal team for the Chrysler Hybrid Propulsion System Development Program proposal to DOE (successful $88M bid)
    - Performed competitive technology assessment for Hydro-Quebec
- **1991-1994**. General Motors Corporation, Warren, Mich.
    - 1993-1994. Manager, Vehicle Benchmarking and Competitive Intelligence, North American Operations
        - Staff of about 20 engineers/analysts and 18 technicians
        - Responsible for the competitive intelligence group and the Vehicle Assessment Center (90,000 sq. ft. facility for vehicle disassembly, display and analysis) – defined the global competitive environment, analyzed competitive vehicles, identified technology trends and forecast competitive technology strategy for new vehicle programs
        - Initiated digital imaging and intranet/internet-based portal for competitive information dissemination
        - Results: Improved communication and competitive product information within GM and the supplier base at reduced cost
    - **1993**. Technical Proposal Manager, Hybrid Propulsion Program
        - Led the GM proposal team for the technical volume of the GM Hybrid Vehicle Research Program (successful $140M bid)
    - **1991-1993**. Manager, Technology Planning, GM Electric Vehicles
        - Planned technical content for products to follow EV1, management of technology planning team (GM and allied Tier 1 suppliers), coordination with corporate planning and competitive intelligence; Served on Core (Business) Team, Product Planning Team, Battery Business Team and Public Policy Working Group

        - Interfaced with DOE Labs and identified candidates for cooperative technology development programs
        - Defined potential cooperative activities between GM, Ford and Chrysler for the “Clean Car” program (which became PNGV)
        - Developed proposal to the U.S. Trade and Development Agency for the joint GM, Ford and Chrysler effort on a Russian-American team to study the feasibility of converting aerospace industries in the former Soviet Union to produce high-tech automobile components
        - Organized the EV session at the ’92 Convergence conference, served on the ’92 SAE Mobility Technology Planning Forum and the EV Committee
- **1986-1991**. TASC
    - Management Consultant, GM Electric Vehicles Platform
    - Project Leader, Allante Program Support, Cadillac Division, GM
    - Project Systems Engineer, Freedom Project, GM Research
    - Risk Analyst, 4-Wheel Steer Project, Flint Automotive Division, GM
    - Project Systems Engineer, GM Project Trilby
    - Management Consultant, Cars & Concepts, Inc.
    - Project Systems Engineer, GM Project Trilby
- **1985-1986**. EG&G Idaho
    - Manager, Propulsion System Technology Development, Battery Technology R&D and Analysis, DOE Electric Hybrid Vehicle Program
    - Contract Technical Manager, Ford/DOE ETX-II Program
- **1984-1985**. Roan & Associates, Consultant to Jet Propulsion Laboratory, the Aerospace Corporation and DOE
- **1981-1984**. Hardy Engineering, Inc.
- **1978-1984**. Jet Propulsion Laboratory
    - Manager, Advanced Vehicle Systems Assessment
    - Contract Technical Manager, Westinghouse Ni-Fe Battery Program
    - Technical Review Board Member, GE/Jet Propulsion Laboratory Hybrid Vehicle Program
    - Vehicle Systems Analyst, Inductively Coupled Vehicle Assessment
    - Cost Analyst, Hybrid Vehicle Potential Assessment
- **1975-1978**. University of Florida, Research Assistant, Urban Vehicle Design Project

Education

- ME, Mechanical Engineering, University of Florida, 1978
- BS, Mechanical Engineering, University of Florida, 1977
- BS, Mathematics, University of Florida, 1974

Awards

- Argonne National Laboratory Special Recognition Award (2007)
- GM Special Recognition awards (1991 and 1992)
- NASA Achievement Award - JPL EHV Project (1984)

Publications

- 1 white paper
- 3 presentations
- 2 workshops
- 49 publications