

Auto Sector: Innovation to be focused on software, electronics -- IBM

Workshop probing sector that is “facing more change in next ten years than in past 50 years”

Kal Gyimesi, associate partner at IBM's Institute for Business Value, Industry Sector Lead, previewed a view of IBM's “Automotive 20/20” Study that will be explored at an upcoming elite workshop in June on the “Networked Vehicle”. For more information on participating with companies like HP, INTEL, IBM, Cisco and CA, please contact Emily Boucher at: eboucher@networkedvehicle.org

Offering a vision of the vehicle of the year 2020, the co-author of a major IBM think-piece on the future of the auto sector. Kal Gyimesi, said that tomorrow's ‘intelligent’ and connected vehicles will “become an extension of lifestyles, with entertainment solutions -- streaming audio, video and communications -- that allow seamless transition between mobility, office and home.”

Noting that a new era is rapidly approaching in which the very definition of personal mobility will change, Mr. Gyimesi said that the automobile sector is confronting a magnitude of change rarely seen in any industry: “Automakers, along with their partners, must respond to the changing dynamics of how automobiles will be manufactured, purchased, distributed and serviced. Consumers are becoming more empowered and sophisticated. Their wants and needs are evolving at an exponential pace. Basic transportation will no longer suffice, as consumers look to a comprehensive mobility experience.”

Innovation drives the automotive industry today, prompting automakers to differentiate products and services by increasing performance, reliability, economy and options. The vehicles of the near future will be “intelligent.” Electronics will bring new capabilities to every part of the vehicle. New technologies will provide for greater assistance in navigation, enhanced driver information about the vehicle, its environment and vehicle connectivity. Consumers, with a plethora of electronic devices that inform them, entertain them and keep them safe, will find themselves enjoying the overall experience of their vehicles. Connectivity and lifestyle trends will change the way cars are used. This “experience” will be a key differentiator in attracting consumers, especially in the areas of driver assistance, safety and service.

Automobile 2020 stated that glimpses of technologies that will shape the vehicle of 2020 are becoming visible today. Telematics is coming of age. Active safety technologies that sense and respond to driving behaviors and road conditions are becoming common in mid- to upper-tier vehicles in the developed world. Entertainment choices and navigation have seen rapid adoption in recent years. Powertrain innovations are making their way out of engineering workstations and into vehicles around the world.

The extension of this vision for the vehicle of the not-so-distant future reveals an autonomous vehicle smart enough to sense its surroundings and navigate through traffic safely and efficiently, all the while allowing its occupants the luxury of personalized comfort and convenience. Ultimately, this vehicle would represent a seamless transition from life within the vehicle to life outside it.

The vehicle of 2020 will be characterized by several significant developments that, although implemented in incremental steps over the next 12 years, will make it remarkably different from today. A fierce focus on innovation across the broad automotive landscape will be concentrated on software, electrical systems, electronics, engine and auxiliary systems, and powertrain.

“The vehicle of 2020 will be a communications wonder,” added Mr. Gyimesi. “As another node on the Internet, it will connect with other vehicles (V2V connectivity), the transportation infrastructure (V2I) and to homes, businesses and other sources (V2x).”

Sensing capabilities, software and wireless communications will enable the vehicle to detect road conditions, recognize other vehicles and pedestrians near its space and sense environmental changes. The vehicle will then have the capability to either self correct or communicate information back to the driver. Connectivity will allow vehicles to respond to developing traffic situations, find alternate routes and anticipate impending collisions. Telematics will enable the vehicle to diagnose operating problems and self heal. Built-in speech recognition capabilities will result in more voice commands by the driver and fewer manual processes.

Overall, IBM expects that the connected vehicle will enhance the driving experience in three specific areas: safety, driver assistance and service.

Mr. Gyimesi will be available to expand on “Automotive 20/20” at the invitation-only June 15-17 Networked Vehicle Foundation workshop. The Networked Vehicle Foundation (NVF) provides information to advance the era when vehicles will be connected to the modern mobile broadband communications infrastructure. The Agenda for the June 15-17 Workshop in Greenville, South Carolina, can be found at:

http://www.networkedvehicle.org/NVF_june2009_event_agenda.pdf