Integrated Starter/Generator for Military Hybrid Vehicle

RCT Systems completed an SBIR contract with the National Automotive Center at TARDEC to develop an Integrated Starter/Generator (ISG) for hybrid powertrain military vehicles. This award expanded RCT Systems' portfolio of vehicle power technologies with the development of an integrated starter/generator based on advanced permanent magnet machinery design concepts. This work is a direct follow on from machinery research conducted at the Massachusetts Institute of Technology (MIT) for the automotive sector, and a previous RCT Systems SBIR supporting the Department of Energy's FreedomCAR traction motor development program. RCT Systems will leverage its Partnership for the Next Generation Vehicles (PNGV) development work and Advanced Integrated Power Module (AIPM) technology to provide the mating drive for the ISG. This machine technology has direct applicability to both military and civilian hybrid electric vehicle applications as an ISG and/or traction motor, and represents a technology advancement compared to the Toyota Prius electric machine technology. The objectives for a motor-drive system based on this technology includes; constant power speed range (CPSR), rugged design, high power density, and affordable manufacturing capability.