Dan Lee presided.

July 4th will fall on Thursday this year, so there will be only one meeting in July.

Dan Lee's announced that Major Robert Liberati's talk on Prince George's traffic cameras has been rescheduled for July

Our presenter was Mark Pastrone, VP of Business Development for SemiConnect, a privately owned Annapolis startup that is developing, manufacturing, and marketing charging stations for electric vehicles. They are currently located in the Melford Business Park, 4961 Telsa Drive, Bowie, MD. (It was supposed to be "Tesla Drive", but whoever installed the street signs in Melford misspelled it.)

The charging stations provide an electric cable (approx. 18 ft.) with an electrical connector on the end that can be plugged into an electric car. The connectors are standardized by the Society of Automotive Electrical Engineers (SAE),(sorry IEEE). They have five conductors: a ground, two 110VAC connectors (+ and -) to give 240V AC between them, and two data leads to authorize users and transmit payment information. Electric cars have their own chargers, so the charging station only supplies the electricity at an actual cost of about 50 to 80 cents per hour, although the owner of the charging station may charge more.

Electric vehicle charging stations are rated Level I, II, or III. Level I charging stations supply 120VAC at 12 Amps. You could get an adapter that would plug into an ordinary home electric supply. Level II charging stations are the most common in the commercial market for the typical 24 Kilowatt Hour (KWH) electric car battery. They supply 240VAC at 30 Amps. Level III is for cars like the Tesla S which has an 80KWH battery which uses a special home station which supplies 480 VAC at 70 Amps.

SemiConnect markets mainly to the commercial market: Apartment buildings, work places, shopping centers, parking garages (BWI airport has four in the hourly garage and four in the daily garage.) Cost of the commercial charging stations ranges from $2500 to $8000. If you bought an electric car and wanted to charge your vehicle at home, the installation cost of a Level II station would be about $1000. The low cost of electricity compared to gasoline will quickly recoup your installation cost. It will take longer to recoup the extra cost of buying an electric vehicle instead of a gasoline vehicle. The cost of a lithium ion battery for an electric car currently costs about $500/kilowatt hour, or $12,000 per typical electric vehicle. Mr. Pastrone has a Nissan

Leaf, an all-electric vehicle. Before he bought it, he paid approximately $200/month for gasoline; now it costs him about $40 per month for electricity for his car. He gets better mileage in town where lower speeds mean less wind drag and better fuel economy at traffic lights because the engine shuts off instead of idling and when decelerating or going downhill because non-emergency braking generates, or as the electric vehicle industry likes to say “regenerates” electricity.

A major disadvantage of an all-electric vehicle is the limited range. The Nissan Leaf has a range of 65 to 100 miles. The Tesla S with its much larger battery has a range of 250 miles. Hybrid electric vehicles carry a gasoline engine to recharge the batteries extending the vehicle range to several hundred miles.

Lithium ion batteries are lighter and have better lifetimes than the older batteries. There are two kinds of Lithium ion battery: LiMgO which are in the Chevy Volt and the Nissan Leaf and LiCoO which are in many laptop computers and theTesla S. The latter has more energy density, but it also generates more heat. Manufacturers of Li ion batteries for vehicles are NEC, LG Chem, A123, and Panasonic. Johnson Controls may be entering the field.

SemiConnect supplies an app for SmartPhones that will help you locate the nearest charging station and tell you about whether there is a car presently using it. Mr. Pastrone recommends www.Plugshare.com as a website that will give you this information. See https://play.google.com/store/apps/details?id=com.xatori.Plugshare&hl=en .

Here’s an article from Maryland Life about the founder of SemiConnect:

http://www.marylandlife.com/living/opportunity-knocks/opportunity-knocks%3A-semaconnect/

When I googled SemiConnect, I got slightly dated websites that pointed to old addresses on the map.

If you enjoyed Mark Pastrone’s presentation, Dan Lee urges you to email Mark a thank you at mpastrone@semiconnect.com.

Submitted by Barry Hammond