Before our summer break I reported that guest speaker Peter had revisited his 2009 forecasts of the development of major factors in computing and communications and what happened. Here are some of his thoughts; more at a later date.

1. DISPLAY

Resolution.

The latest Ipad uses a high resolution called retina display. It is so good that you cannot easily see individual pixels (dots of colour). There is no immediate need to improve on this, but improvements will come as gadgets become more sophisticated and improved resolution gives a commercial advantage.

Power draw

The power needed to run these better displays is reducing and will extend battery duration between charges.

Projection

'Head- up' projection (aka H.U.D. or head up display) has been around for years (such as used by fighter pilots). In cars it would mean being able to read the dashboard without taking your eyes off the road.

Google Glass enables a smart-phone in your pocket to project images to a mini-screen worn attached to a pair of spectacles. Will it catch on?

Under development are flexible plastic screens using quantum dots. Such screen can be shaped to suit immediate needs and rolled away when not in use.

2. COMPLEXITY

Moore's Law observed that several computer properties would tend to double every 18–24 months. Predicted to come to an end several times, it has nevertheless continued to apply regardless. Gordon Moore was hoping it might apply for ten years. That was 40 years ago and latest thinking says it is slowing down and will last only another 10 years ….

…On current trends today's £500 gadget should still cost £500 in 2030, yet be able to store ALL music. What you do not want to carry in your pocket will be accessible from 'The Cloud'

3. PROCESSOR

The processor will handle more and more tasks ever faster as the trend for more powerful chips continues. (See Moore's Law above.) By 2020 a chip will be as powerful as a 2013 computer.

The battle will be between major manufacturers ARM and INTEL for domination. The ARM chip is used in mobile phones and portable computers as it produces less heat and therefore doesn't need as much fan cooling. The need for a fan affects device size and weight.

BATTERY

The limiting factor on all mobile devices is the battery life. [The *Beltway* battery announced in 2009 that recharged very quickly didn't happen and sank without trace.] The search for new and better materials continues apace with the potential of great rewards for the winner. As chips run more efficiently the reduced cooling energy required also contributes to increased battery life between charges. ARM is ahead of INTEL in this race at moment. Of course, when your laptop is plugged into mains supply, energy is not a limiting factor.