



**Islander December 2012
Technology Update**

The Demise of the PC is Clear - the Future is GLASS!

We know the digital world is evolving rapidly, and it is likely to become the greatest single impact that we've ever experienced on the way we live and work.

Its impact will be profound: the ability to unlock vast global markets and deliver innovative services faster and cheaper while creating entirely new business models with opportunities that offer enormous potential for those with the vision, creativity and energy to exploit them. After Microsoft, Apple and Google, we can only wonder at the opportunities that a full-blown digital economy can offer.

The problem is that the inverse is also true. Contraction and bankruptcy are often the fate of incumbents who fail to spot changes and do something about it quickly enough. Spotting the writing on the wall is the challenge before their market disappears. Take Kodak for example, or Nokia, and now even HP, the world's largest manufacturer of the PC.

When you look at those names, it's a rapid change in the world order isn't it? However let's take a look at the exciting stuff first.

Corning's "A Day Made of Glass"

If you haven't seen these YouTube videos yet, you should do so now before moving on. They're made by Corning, a glass manufacturer with true vision.

http://www.youtube.com/watch?v=6Cf7IL_eZ38

I must thank Steph in our office for passing this link on as it has fired my imagination, and last week at METS Amsterdam, I spent many hours trying to hunt down any new products using intelligent glass. Unfortunately, there was very little on offer.

If you can't watch the video right now, let me explain that it is set in the not-too-distant future, and begins with a couple waking up to a new day....

Can you imagine organising your daily schedule with a few touches on your bathroom mirror? Or chatting with far-away relatives through interactive video on your kitchen counter? Or reading a classic novel on a whisper-thin piece of flexible glass?

Corning is not only imagining those scenarios – the company is engaged in research that could bring them alive quite soon.

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Wendell Weeks, Chairman and CEO of Corning, says that Corning's vision for the future includes a world in which myriad ordinary surfaces transform "from one-dimensional utility into sophisticated electronic devices."

The video depicts a world in which interactive glass surfaces help you stay connected through seamless delivery of real-time information – whether you're working, shopping, eating, or relaxing.

"While we're not saying that it will develop exactly as we've envisioned," Wendell says, "we do know that this world is being created as we speak."

Glass is the essential enabling material of this new world. "This is a visual world – so transparency is a must," explains Wendell. But that's just the beginning. Ubiquitous displays require materials that are flexible, durable, stable under the toughest of environmental conditions, and have a cool, touch-friendly aesthetic. And not just any glass will do. This world requires materials that are strong, yet thin and lightweight; that can enable complex electronic circuits and nano-functionality; that can scale for very large applications, and that are also environmentally friendly.

Such real-time information also depends on communications networks with massive bandwidth. This is another opportunity for a glass company such as Corning to provide optical, high bandwidth delivery pipes.

It also shows what can be done with increased bandwidth, which is now becoming available not only with fixed fibre connections but also 4G LTE.

So what do you think to this window on the not too distant future? You and I as the consumer are driving the trend, thus the vision for tomorrow is very clear. We all want to be connected with *what* we want... *when* we want... *anywhere*... and with great ease. This matches e3's vision for the future.

Google's Project Glass

Coincidentally, Google has also been working on a project called Project Glass. As consumer hardware goes, few items have had such an instantly polarizing effect. They are concept smart glasses or, to be more precise, augmented reality head-mounted display. To call them glasses is an understatement, though the company's description isn't much help either: "technology that frees you to explore and share your world while keeping you in the moment." Clear as mud? To the uninitiated, think of them as a small computer with a mini screen on a springy headband that sits above your eye.

In mid September at New York Fashion Week, legendary designer Diane Von Fürstenburg put them on the catwalk.

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“Fashion went four-eyed, as Google sent its high-tech glasses down the runway at the Diane Von Furstenberg show at New York Fashion Week.

Models at the DVF show strutted down the runway in the tech company’s futuristic frames as they displayed the designer’s couture.

Google founder Sergey Brin then joined Von Furstenberg on the catwalk at the end of the show, walking the runway with the iconic designer and DVF creative director Yvan Mispelaere as they each showed off a pair of the glasses.”

There’s still a very big split between those who instantly shout in horror and crow about security risks, and those who envisage a new dawn in computing. Perhaps they both have a point. For some, these will be the ultimate intrusion, yet for others they could revolutionise business or the way we interact with the world. The truth is, we just don’t know yet.

In my previous life as a young electronics engineer and designer, I was working on the side-lines of an “in-eye head up display” for aircraft, where the pilot had a display in front of his eye showing all the aircraft information, so he only missed something if he blinked!

It has taken Google about 35 years to come up with a redevelopment of an old idea, but technology has moved on apace as the models on the catwalk in New York didn’t require a helmet stuffed full of electronics to make it work!

The twilight years of the PC?

Yes, I think we’re nearly there. Sales are falling for conventional PCs and laptops, as they are replaced by Smartphones and Tablets.

Three of the biggest manufacturers in the world are changing their business models to adapt. IBM has already done it successfully some years ago, but HP and Dell need to get on with it.

HP which was the world’s largest personal computer maker, and which employs more than 300,000 people globally, is undergoing a restructuring aimed at focusing the sprawling company on enterprise services, in the mold of International Business Machines Corp (IBM) who saw the writing on the wall some years back.

On November 20th 2012, HP said that personal computer sales shrank again and its quarterly revenue fell 6.7 percent. HP’s stock dropped 6.6 percent in premarket trading. Revenue from all of its main business units fell, with the personal computer division recording the steepest drop at 14 percent.

On November 15th Dell’s quarterly results struggled to find form, and, as was expected, sales were light.

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Dell's biggest challenge is that it has been seeking to de-emphasise its older PC-centric business and pivot toward higher-margin enterprise services, hardware and software. Even so, about half its business is still tied to PCs, both in the consumer and business segments.

Outrageously fast and cheap data

Imagine paying about €150 per month for 150Gb of data with a bandwidth of up to 20Mb? Considering current Euro 3G tariffs are about €90 for 5-10Gb at real speeds of 500k, you might think I was pulling a fast one. Well you'd be wrong as that is what we can now provide to yachts in Antigua this winter on the new Digicel 4G LTE service!

Roger Horner of e3 Systems

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