# RTT TECHNOLOGY TOPIC
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# Lost in the cloud? The wisdom of the cloud?

## Lost in the cloud?

On 5 January 1941, while flying from Blackpool to RAF Kidlington near Oxford, **Amy Johnson** went off course in poor weather and drowned after bailing out into the Thames Estuary. She was run over by the ship that was sent to her rescue.

It is assumed she lost her sense of direction although an alternative theory is that she was shot down by the RAF after failing to provide correct identification. Glen Miller met a similar end **(probably)** when hit by a jettisoned bomb.

Either way it's a telling illustration that it is easy to get lost in a cloud and not a great idea to rely on less than foolproof identification procedures.

At the recent **Cellular 25 conference at the Science Museum** Amy was name checked as an example of the triumph of self confidence and self belief over common sense.

The conference was in the **Flight Gallery.** Some statistics were put forward to illustrate some of the challenges that our industry faces and to highlight future opportunities.

Two data points (sourced from John Cunliffe's **Ericsson presentation**) highlighted some of the issues.

Every two years the number of voice and data sessions doubles.

In 2009, more than four exabytes (four billion gigabytes) of unique information were created.

This information has to be stored somewhere and only has value if it can be accessed efficiently and effectively.

It has been suggested that information and the applications that interact with that information are best accessed when needed rather than locally stored.

This is commonly referred to as 'the cloud'. Information and applications and our relationships with other people and other things in the physical world around us will be mediated through what is in effect a virtual network.

**The Wisdom of the Cloud?**

The argument for or against centralized or distributed information is of course not new – the cloud is just a way of describing well understood mechanisms for sharing and remotely accessing common resources. This means that 'the cloud' combines a mix of familiar benefits and risks.

Realizable benefits apart from the **assumed cost savings of shared tenancy** could theoretically include an improvement in **social efficiency**, **social mobility** and **social**

**inclusion**, a part of the digital inclusion debate, an improvement in **economic efficiency** and **economic equality,** an improvement in **intellectual efficiency,** and an improvement in **environmental efficiency.** John Cunliffe pointed out that using a mobile phone for a year has an equivalent CO2 footprint to driving a car for an hour**.** If we assume that owning a mobile phone helps us to travel less then this should result in a net environmental gain. Also, apparently 17.4% of subscriptions in Sweden are machine to machine compared to 2.4% in Europe and 4.4% in the US. Some of these subscriptions will be for energy monitoring and energy control and environmental monitoring and environmental control suggesting that additional environmental gains are achievable if the Swedish model were to be more widely applied.

Possible risks include compromised identification procedures, a proxy for safety and security, and non altruistic political interference and control, of which more later.

There are also some practical issues. One of the Ericsson predictions was that by 2013, 80% of all users will access the internet using a mobile phone.

This is not the same as saying that 80% of all users will access the cloud by mobile phone but does suggest an expectation that wireless access will be relatively dominant.

However as Sigurd Shuster of NSN pointed out, mobile applications remain constrained by battery limitations. At times it can be more power efficient, faster, more convenient and more secure to store information locally rather than remotely.

Additionally, from a network perspective it is plausible to assume that wireline average data speeds will continue to increase faster than wireless data speeds party due to physics and partly due to available power. The only factor that would prevent this happening is a lack of investment in fiber, copper and cable connectivity which in turn would be a function of the returns achievable from the investment.

**A profitable cloud?**
On this basis cellular network investment has historically looked attractive – a base station installed at the right place at the right time could pay for itself in a few months.

It could be argued that markets deliberately structured to be over competitive combined with spectral auctions manipulated to maximize short term returns to national treasuries have destroyed this advantage though this may be about to change.

**A locally economically relevant cloud?**
And self evidently the impact of the cloud will be different in different countries. The weather is dramatically different in different places and so are the clouds.

Nokia have recently introduced their C Series phones targeted at emerging markets such as Indonesia. The product offering is coupled with Nokia's Ovi store.

The product includes low cost phones with quad band GSM, Bluetooth and WiFi connectivity. It is therefore **economically relevant to the local market.**

**A locally socially relevant cloud?**
This is an ongoing strategy that has seen the Ovi store pulling ahead of Apple in emerging markets partly as a result of established distribution, partly by having a wide range of low cost and relatively simple access products and partly by adding applications to the store that are **socially relevant to the local market.**

This may reflect a growing recognition that the future of our industry is no longer being shaped by European or US consumer needs. The vendors best placed to take advantage of this shift may be most advantaged.

**A locally politically relevant cloud – the China Cloud?**
But life is not always so simple. Politicians in developed countries like to talk about net neutrality and the recent experiences of Google in China suggest that political attitudes to a right of unfiltered access can be substantially different in other parts of the world.

China's ambassador to the UK, Madam Fu Ying, interviewed on the BBC (26/1/2/10) made the point that the average income in China is equivalent to the average UK income in 1913 and suggested rather persuasively that it is inappropriate and arrogant to automatically assume that Western values and customs can or should be imposed on other cultures that may be socially and economically different.

Pragmatically this means that compromises that may seem to be politically incorrect from a western perspective may at times be a necessary mechanism for increasing engagement between different cultures. The hope and aspiration has to be that this engagement results in the better parts of each culture being absorbed, shared and adopted over time.

**The cultural cloud?**
In this context, consider the following statistics (Ericsson presentation)

There are 200 million active users on Facebook. There are three hundred million on the Chinese community QC. 20% of all internet users are Chinese. Between the 25th and 31st January 2009, over the Chinese New Year, over 18 billion SMS messages were sent in China.

The mobile phone is one of the world's most transformative devices with a capability to improve cultural understanding between countries traditionally and tragically distant in the past. The mobile phone and the cloud are potential partners in this process.

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