

Chartered Institute of  
Management Accountants

**CIMA**

# Portafone

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## Job description

You are a Financial Manager with Portafone. You report to Leo Chan, a Senior Financial Manager, who in turn reports to the Finance Director.

Your primary responsibilities are associated with management accounting. This means that you often have to liaise with colleagues from the treasury and financial reporting functions and also from other functional areas, including Sales, Human Resources and Operations.

Portafone encourages its managers to engage with the wider community and, as part of that initiative, you provide teaching support to the Faculty of Business at Capital City University. You have been asked to review the attached extracts of a report on Portafone and the mobile phone industry that has been submitted by a postgraduate student at the University. The student was asked to sign a non-disclosure agreement (NDA). The teaching staff believe that the report should be considered for the prize that is awarded for the best project.

## Portafone – report for review by Financial Manager

### Introduction

Portafone designs and manufactures mobile phones.

The company is based in Farland, which is a developed and industrialised country. Farland requires the application of IFRS for financial reporting. The country's currency is the F\$.

The company was called Brinestar Electronics when it was founded in the 1950s to manufacture consumer electronics, such as radios. The company's product range changed in response to developments in consumer tastes and trends. By the early 1990s, Brinestar was a major manufacturer of mobile phones. By 1995 the company was making nothing but mobile phones and so it changed its name to Portafone.

Portafone is a global manufacturer. Its products can be purchased in most countries.

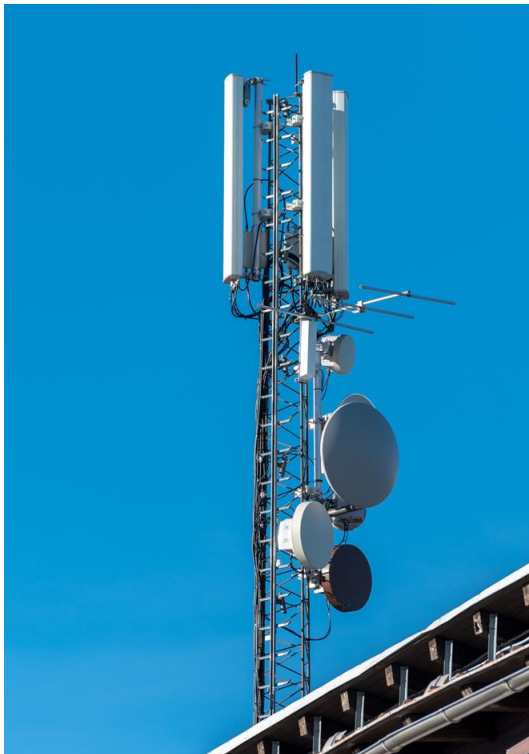
Portafone was quoted on the Farland stock exchange in 1997.

## Network providers and retailers

Mobile phone manufacturers such as Portafone do not actually provide phone services. The phones themselves would be useless without the extensive infrastructure created by the network providers that make it possible for mobile phones to make or receive calls from almost any populated area on Earth.

The infrastructure is based on relatively low-powered radio base stations that have adjoining or overlapping coverage so that a phone user is always within range of at least one base station.

The base stations can be free standing, or mounted on top of buildings. In cities, there are often small systems mounted on the sides of buildings. The base stations have a relatively short range and so establishing a mobile phone network is a complicated and expensive undertaking in order to ensure that population centres are covered. It is also necessary to build and operate base stations alongside motorways and other major roads.



Most countries have several network providers who compete to sell connections to phone users. Users pay to use these services in two ways: 'pay monthly' and 'pay as you go'.

Under a pay monthly contract, the customer pays at the end of each month for calls made and other services that have been used. There is usually a fixed element to the monthly payment, which covers access to the network and also some calls and other services. There will be an additional variable element to the payment if the customer uses additional call time or other services. The network provider has the customer's bank details and collects monthly payments by direct debit.

Pay monthly contracts are typically for two years. The network providers usually give the customer a phone as an incentive to sign the contract and a replacement (or 'upgrade') phone when the

user renews at the contract's end. Those phones will either be 'free' or will require the customer to pay a heavily discounted price that is usually 20-25% of the phone's retail value. The networks are effectively selling these phones on credit because they recoup their costs by building a repayment into the fixed element of the monthly fee.

Pay monthly customers are effectively being sold new mobile phones every two years, whenever they renew their contracts. As an incentive to attract or retain customers, the network providers use their buying power to obtain discounts when they buy phones and they pass much of that discount onto their customers.

A pay as you go customer must pay in advance to use the network. Advance payments can be made by buying a voucher from a shop, by making a card payment or by using some

bank automated teller machines. The resulting credit is tracked by the network providers' systems and is used whenever the phone makes a call or accesses another service.

The network providers ensure that pay as you go phones are sold at a discount to their full retail value, again as an incentive to attract customers. That discount is less generous for a pay as you go phone than for pay monthly because a customer who buys a pay as you go phone is under no legal obligation to buy further credit.

Each mobile phone is identified by a SIM card, which carries unique identifying data. The network provider issues the SIM card to the user. Changing the SIM card changes the identity of the phone, including its phone number.



All phone manufacturers, including Portafone, generally 'lock' their phones by entering an encrypted setting in the phone's operating system. A locked phone will work only with a SIM card issued by a designated network provider, thereby forcing the phone's owner to use that network provider's service. Locking the phone protects the network provider, who has given the customer a discount from the retail price.

Otherwise, customers could buy their phones from one network and insert SIM cards from another.

It is possible to buy unlocked phones, which will work with any network. The lack of a discount from the network supplier makes them expensive to buy.

Network providers often have their own retail channels to sell phones and SIM cards. These can include both shops and online sales. These channels carry the network provider's brand. They sell pay monthly and pay as you go phones, with associated service contracts, that are locked to their own networks.

Mobile phones can also be purchased from independent retailers, who generally sell phones on behalf of a variety of network providers. Network providers give the retailers commissions so that the customer pays the same for a pay monthly contract or a pay as you go phone obtained through a retailer or through the network provider.

## Mobile phones and their uses

When mobile phones were first developed, their primary function was to enable users to make and receive phone calls when they were away from home. Over time, various functions have been added and voice calls have become increasingly irrelevant to many users. For example, SMS text messaging rapidly gained popularity and it became commonplace to communicate by text message in place of making voice calls.

The function of mobile phones is constantly being redefined, thanks to the flexibility associated with the underlying technology. A mobile phone is essentially a handheld computer that incorporates radio facilities for wireless communication. In addition to the wireless connection to the mobile phone network, most phones have the ability to connect directly to wireless local area networks through Wi-Fi and to other nearby electronic devices through Bluetooth.

Mobile phones are frequently used to access the internet and email and are frequently used to update social media accounts and to engage in online commerce.



Many phones come equipped with cameras. Many users rely on their camera phones for their photographic needs, to the point where phone cameras are rivalling basic digital cameras in terms of quality. Camera sales are declining because of improvements in phone cameras.

Phones are also used as personal music players and handheld games consoles, again displacing audio players and portable games devices.

It is becoming increasingly common for householders to dispense with traditional landlines for making phone calls. Landlines are often used for internet access and mobile phones are used for all voice calls.

Quite apart from the technical developments, many users regard their phones as fashion accessories. Perfectly functional phones are often replaced in order to remain abreast of current trends.

So-called 'smartphones' offer the level of functionality described above, although there is also a market for basic mobile phones that may be used by those who find smartphones too complicated or who need an inexpensive phone to allow, say, a child to stay in contact when away from home.

Most manufacturers, including Portafone, concentrate their development efforts on their smartphones. Upgrades to existing models are often incremental, for example a slightly better camera or a slimmer and more attractive case.

## Software issues

All electronic devices, including mobile phones, rely on operating systems to enable the hardware to function.

In the early days of mobile phones, each manufacturer developed a basic operating system to translate, say, key presses into electronic instructions such as accepting an incoming call.

Over time, mobile phones have become increasingly complicated to the point where it would be uneconomic to develop separate operating systems. Most manufacturers use an open source operating system that has been adapted slightly to meet their specific needs. Open source means that the operating system's owner grants permission to install it free of charge and to adapt it as required. For example, Portafone's smartphones display the company's logo when the phone is being powered up and the various screens that the users interact with were all designed by Portafone.

Users can also buy software applications (known as 'apps') that enable them to add functions to their phones. A wide range of apps is available, ranging from games to business software such as word processors. Some apps are free to download and use and others must be paid for. Many electronics companies release apps that enable the user's mobile phone to operate as remote controls for their products. For example, some televisions can be operated using apps running on compatible phones. Apps may have also have specialised uses, such as assisting pilots to prepare and file flight plans.

Portafone's use of the open source operating system that has become the industry-standard is very much a mixed blessing. On the plus side, it means that it need not incur the costs associated with developing and updating its own operating system. The operating system's owner does not charge for its use. Potential buyers know that they will be able to install a wide selection of apps. The operating system can also exchange files with their laptops and tablets. On the downside, most of Portafone's direct competitors use the same operating system, which gives their phones a similar appearance to Portafone's.

## Radio frequencies and data connections

Radio communications work by transmitting a signal that is pitched at a specific frequency. The signal can then be captured using a receiver that is set to the same frequency. That principle is true for all forms of wireless communications, including radio and television broadcasts, radio communications by the military and emergency services, and other telecommunications, including mobile phones. Most countries have very strict laws governing radio transmissions, otherwise there would be a risk of interference between signals. Most governments treat radio frequencies as a national resource. Over the years there have been four generations of mobile phone, each of which has occupied a different area of the radio frequency spectrum. The changes have arisen because the laws of physics mean that some frequencies are more suitable than others for communications. Moving mobile phones to different frequency bands can also reduce the risk of interference between mobile phone communications and other services.

New generations of mobile phone occupy different frequencies and they require the network providers to install new base technologies. The overall effect has generally been to increase network capacity, meaning that mobile phone networks are unlikely to be swamped by the volume of calls. It also means that data can be transferred more quickly and the quality of voice communication has improved. The volume of data that can be carried over any given channel is often referred to as 'bandwidth'.

Each generation has been numbered as follows:

1G	Early mobile phones were capable of voice calls only. They used analogue signals, which meant that anyone equipped with a radio scanner could listen in on a call being made to or from a nearby mobile phone.
2G	The second generation of phones moved to digital signals. That made it possible to transmit and receive digital information, such as computer data. It also meant that the sound made by the caller's speech was converted into digital information that could then be encrypted and broadcast securely. That improved security enormously because it now requires specialised equipment to eavesdrop on a mobile phone call.
3G	Third generation phones were launched in the USA in 2003 and their adoption has since spread widely. 3G offers greater bandwidth than 2G, making features such as the ability to browse the internet more practical for users. Phones can also receive and transmit data files, such as photographs, more quickly. 3G technology remains in widespread use.
4G	4G phones are faster still in comparison to 3G. The spread of 4G was hampered initially by disagreements as to the standards that were to be adopted in the implementation of the new frequency range and the updating of the associated technology. 4G networks are now generally available. Phones are generally 'backwards compatible' which means that they can use older networks when required. So a 4G phone that is out of range of a 4G network can connect to any available 3G or 2G network, albeit at the slower speeds specified by those earlier generations.



5G	<p>5G is the name being given to the next generation of wireless networks. The relevant standards are in the process of being defined.</p> <p>The ambiguity around 5G is because it's still largely a concept at this point, and the wireless industry hasn't settled on any standards around the new network. Some key goals of 5G include:</p> <ul style="list-style-type: none"><li>• Significantly faster data speeds: Currently, 4G networks are capable of achieving peak download speeds of one gigabit per second (Gbps), though in practice it's never that fast. With 5G, this would increase to 10Gbps.</li><li>• Ultra-low latency: 'Latency' refers to the time it takes one device to send a packet of data to another device. Currently with 4G, the latency rate is around 0.05 of a second, but 5G will reduce that to about 0.001 of a second. This is a significant improvement when data has to be communicated in as close to real time as possible. For example, the precise operation of remote industrial equipment or the safe navigation of driverless cars will benefit from this reduction in latency.</li><li>• A more 'connected world': a phenomenon referred to as 'The Internet of Things' involves building connectivity into products and devices such as domestic appliances, cars and even wearable devices. So, if your car develops a fault it could email details to your local garage and enter the service appointment into your online diary. The growth in this technology will cause an exponential growth in the number of devices connected to the internet and will require a network that can accommodate billions of connected devices. Part of the goal behind 5G is to provide that capacity, and also to be able to assign bandwidth depending on the needs of the application and user.</li></ul> <p>Clearly, 5G offers capabilities that go far beyond enhancing the use of mobile phones. For example, the 5G network would have sufficient bandwidth for household appliances to communicate routinely over the internet. A domestic fridge could have a scanner that reads the barcodes on products as they are purchased and subsequently used. The fridge could then order replenishments from an on-line supermarket or its owner could use an app to check whether there is, say, fresh milk in the fridge before coming home.</p>
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Each new generation of phones has created opportunities and challenges for phone manufacturers. Portafone's earliest models were made for 2G. Now the company offers a range of 4G smartphones. Portafone's management team is studying the potential created by 5G, even though it is unlikely to be operational before 2020.

## Battery technology

Mobile phones depend on batteries for power. A battery is essentially a pair of electrodes that are connected electrically by a substance called an electrolyte. Chemical reactions between these components create electricity when a circuit is completed between the two electrodes. For example, switching on a mobile phone completes an electrical circuit and electricity flows from the battery until the chemical reaction has finished.

Some batteries are rechargeable, which means that the chemical reaction that created the electricity can be reversed by running an electrical current through the battery. This can be repeated many times, although most batteries deteriorate slightly with each recharging cycle and eventually lose the ability to be recharged.

The potential to create electricity from a rechargeable battery is generally a function of the materials used in its construction and also the size of the battery.

Battery life is a significant aspect of a mobile phone's performance. Whenever a mobile phone is switched on, it makes frequent connections to the network in order to update the network's ability to route calls and other messages to the phone. Calls and messaging consume power, as does any activity that requires the use of the screen because the backlighting that makes the screens LCD panel visible consumes a great deal of power.

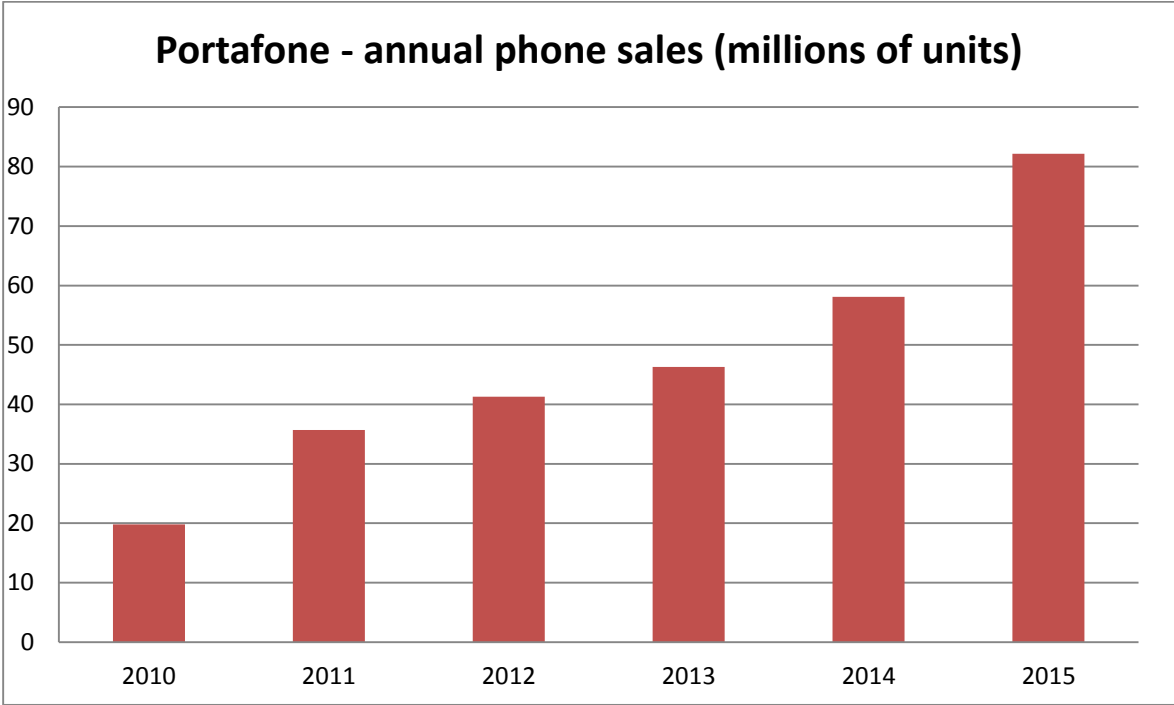
Battery life is also constrained by trends and tastes in phone styles. Users value slim phones that are easy to carry and that look sleek. Making phones slimmer leaves less internal volume for a large battery.

Mobile phone manufacturers are constantly evaluating the latest battery technology because users are often frustrated by their phones running out of charge. It is not uncommon for users to be forced to recharge their phones every night in order to obtain a full day's use next day.

Rechargeable batteries can create problems for manufacturers and users. They produce a fairly high current and the process of charging and discharging rechargeable batteries can also create a great deal of heat. That can raise safety concerns. For example, fuel stations forbid the use of mobile phones while operating fuel pumps because of the slight risk of a spark created by a rechargeable battery igniting the vapour from the car's fuel tank.

### Portafone's sales

Portafone is one of the largest manufacturers, expressed in the number of phones sold.



## The cost of manufacturing a mobile phone

The cost of manufacturing one of Portafone's most popular models is shown below:

	<b>F\$</b>
Memory	28.56
Display screen	57.40
Processor	26.60
Camera	18.20
Wireless section	44.80
User interface and sensors	21.00
Wireless connectivity	5.88
Power management	10.50
Battery	5.04
Case and buttons	39.20
Box contents (charger, earphones, etc)	9.80
Total materials	<u>266.98</u>
Manufacturing labour and overheads	11.20
	<u><u>278.18</u></u>

## Extracts from Portafone's financial statements

### Portafone consolidated statement of profit or loss

For the year ended 31 December

	<b>2015</b>	<b>2014</b>
	F\$ million	F\$ million
Revenue	39,712	34,890
Cost of sales	<u>(22,822)</u>	<u>(20,040)</u>
Gross profit	16,890	14,850
Research and development expenses	(5,755)	(5,688)
Selling and administrative expenses	<u>(6,053)</u>	<u>(5,948)</u>
Operating profit	5,082	3,214
Finance costs	<u>(399)</u>	<u>(262)</u>
Profit before tax	4,683	2,952
Tax	<u>(545)</u>	<u>(343)</u>
Profit for year	<u><u>4,138</u></u>	<u><u>2,609</u></u>

**Portafone consolidated statement of financial position**

**As at 31 December**

	<b>2015</b>	<b>2014</b>
	F\$ million	F\$ million
<b>Non-current assets</b>		
Goodwill and intangible assets	282	266
Property, plant and equipment	3,820	3,422
	<u>4,102</u>	<u>3,688</u>
<b>Current assets</b>		
Inventories	6,233	5,723
Trade receivables	9,249	8,126
Cash and cash equivalents	10,456	7,412
	<u>25,938</u>	<u>21,261</u>
<b>Total assets</b>	<u><u>30,040</u></u>	<u><u>24,949</u></u>
<b>Equity</b>		
Equity attributable to owners	20,496	17,096
Non-controlling interests	200	187
	<u>20,696</u>	<u>17,283</u>
<b>Non-current liabilities</b>		
Loans	2,614	1,717
Deferred tax	46	38
	<u>2,660</u>	<u>1,755</u>
<b>Current liabilities</b>		
Trade payables	6,133	5,408
Tax	551	503
	<u>6,684</u>	<u>5,911</u>
	<u><u>30,040</u></u>	<u><u>24,949</u></u>

**Note 1 – segmental information**

**Revenue**

	<b>2015</b>	<b>2014</b>
	F\$ million	F\$ million
Europe	12,708	10,118
Asia	9,531	9,420
America	7,148	6,629
Middle East	4,368	2,791
Other	5,957	5,932
	<u>39,712</u>	<u>34,890</u>

**Operating profit**

	<b>2015</b>	<b>2014</b>
	F\$ million	F\$ million
Europe	1,830	996
Asia	1,321	868
America	813	579
Middle East	457	321
Other	661	450
	<u>5,082</u>	<u>3,214</u>

## Note 2 – intangibles

	<b>Goodwill</b> F\$ million	<b>Development</b> F\$ million	<b>Patents</b> F\$ million	<b>Trademarks</b> F\$ million	<b>Total</b> F\$ million
<b>Cost</b>					
At 31 December 2014	160	89	78	45	372
Additions	-	30	8	4	42
Disposals	-	-	(11)	(8)	(19)
At 31 December 2015	160	119	75	41	395
<b>Amortisation</b>					
At 31 December 2014	-	55	32	19	106
Charge for year	-	11	7	5	23
Disposals	-	-	(9)	(7)	(16)
At 31 December 2015	-	66	30	17	113
<b>Net book value</b>					
At 31 December 2015	160	53	45	24	282
At 31 December 2014	160	34	46	26	266

## Note 3 – property, plant and equipment

	<b>Property</b> F\$ million	<b>Plant and equipment</b> F\$ million	<b>Total</b> F\$ million
<b>Cost</b>			
At 31 December 2014	1,232	3,901	5,133
Additions	27	722	749
Disposals	-	(267)	(267)
At 31 December 2015	1,259	4,356	5,615
<b>Amortisation</b>			
At 31 December 2014	244	1,467	1,711
Charge for year	47	286	333
Disposals	-	(249)	(249)
At 31 December 2015	291	1,504	1,795
<b>Net book value</b>			
At 31 December 2015	968	2,852	3,820
At 31 December 2014	988	2,434	3,422



## Extracts from Maltone’s financial statements

Maltone is also a major manufacturer of mobile phones. It offers a similar range of models to Portafone and is widely regarded as Portafone’s most immediate competitor.

### Maltone consolidated statement of profit or loss

For the year ended 31 December	2015	2014
	F\$ million	F\$ million
Revenue	38,248	38,418
Cost of sales	(20,771)	(18,686)
Gross profit	<u>17,477</u>	<u>19,732</u>
Research and development expenses	(5,870)	(6,047)
Selling and administrative expenses	(6,412)	(6,213)
Operating profit	<u>5,195</u>	<u>7,472</u>
Finance costs	(363)	(503)
Profit before tax	<u>4,832</u>	<u>6,969</u>
Tax	(674)	(972)
Profit for year	<u><u>4,158</u></u>	<u><u>5,997</u></u>

**Maltone consolidated statement of financial position**

**As at 31 December**

	<b>2015</b>	<b>2014</b>
	F\$ million	F\$ million
<b>Non-current assets</b>		
Goodwill and intangible assets	310	287
Property, plant and equipment	647	632
	<u>957</u>	<u>919</u>
<b>Current assets</b>		
Inventories	5,229	4,973
Trade receivables	5,636	5,516
Cash and cash equivalents	5,243	5,436
	<u>16,108</u>	<u>15,925</u>
<b>Total assets</b>	<u><u>17,065</u></u>	<u><u>16,844</u></u>
<b>Equity</b>		
Equity attributable to owners	8,513	7,603
Non-controlling interests	500	500
	<u>9,013</u>	<u>8,103</u>
<b>Non-current liabilities</b>		
Loans	2,600	3,600
Deferred tax	23	17
	<u>2,623</u>	<u>3,617</u>
<b>Current liabilities</b>		
Trade payables	4,961	4,687
Tax	468	437
	<u>5,429</u>	<u>5,124</u>
	<u><u>17,065</u></u>	<u><u>16,844</u></u>

## Acknowledgements

I would like to thank the following Portafone managers, who have all been very helpful to me when working on this project:

Leo Chan, Senior Financial Manager

Lucy Warren, Head of Research and Development

Peter Riddington, CEO

Dawn Greaves, Finance Director

Julie Legrange, Marketing Director

Nibha Yue, Production Director

## References

The following two news articles inspired me to choose the mobile phone industry for my project.

# Farland Journal

31 August 2016 | No. 3281 F\$1.90

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## Phones Cause Separation Anxiety

Shane Levan, Reporter

People have become so used to using their mobile phone for calls, texts, GPS and even watching films that they become stressed when they are forced to switch them off even for one hour, psychologists reported last week. The average person spends 40% of their time on their mobile phone. Two thirds report they feel anxious if they are apart from their phone for an hour. Communication skills have reduced with 80% of people wishing friends would spend more time talking when they are with them than looking at their phone. It doesn't look as if the market for mobile phones will decrease any time soon.



## SMARTPHONE MONTHLY – AUGUST 2016

### **Too hot to handle!**

A new and longer life battery from Diand, a new entrant to the smartphone market, has an unexpected side effect: use it for too long and it could catch fire! There have been several reported cases in recent weeks of phones catching fire and even setting people's hair on fire.

Recent surveys suggest that many people spend far too long using mobile phones, perhaps this may put them off.

Diand has recalled all phones in order to check the batteries. It seems that the problem is restricted to a small percentage of phones and the public should not panic – but it may be difficult not to when your phone and your hair could go up in flames!

## SMARTPHONE MONTHLY – AUGUST 2016