FROM THE PRESS:

THE 'WIRELESS' REVOLUTION

A recent survey in 'The Economist' argues that the falling cost, size and power requirements of wireless functions are slowly creating a new industry that is likely to transform our lives and the way society manages its social and natural environment in a profound way.

The enthusiasm for new wireless technologies in parts of Asia is mirrored in Europe and America. Mobile operators are investing billions of dollars in building new networks that provide fast internet access. 3G systems are being upgraded and an upstart technology called WiMax is being explored. Many executives hope that this will connect not just people and their phones but also gadgets, machines, cars and homes.

New Opportunities

These developments may improve future farming systems: tiny sensors on the ground could monitor water availability, as well as pest and disease infestation and make irrigation and spraying more efficient. Irrigation systems could be switched on and off remotely. Apart from improvements in precision farming, wireless could also become a source of new revenue from services such as traffic information. Consumers could download maps, restaurant information and media content. It may also help to lease cars to people with poor credit histories. The wireless device allows to switch off the ignition if payments are missed, and to find the car if it is stolen or has to be repossessed. Around half a million cars are already equipped with the system.

The growing importance of "personal-area network" or PAN technologies is likely to have the biggest impact on daily lives. An example is Bluetooth, which is used to link mobile phones with earpieces. The last is near-field communications (NFC), where contact needs to be close, as in passes for buildings and public transport. A variant is radio-frequency identification (RFID) tags, used by retailers and others. When passed in front of a reader, the tags send back data stored on them.

The most ubiquitous accessory for wireless devices is the wire used to power them. Much of the research on wireless energy transfer lay fallow for a century. It was difficult and dangerous, and there was no immediate need. But the proliferation of small wireless devices has sparked new interest in the idea. There are several kinds of wireless energy transfer. One, dubbed "radiative", involves generating an electromagnetic field. A special receiver picks up a bit that has not naturally dissipated in the air and converts it to electricity. The energy can travel nearly three metres (ten feet) to keep a small battery charged. A second technique relies on magnetic fields. It is still at an experimental stage and works using resonance. When two objects resonate at the same frequency, they transfer energy well—just as a child easily maintains momentum on a swing when he uses his legs to move in synch.

"Inductive coupling", is not so much wireless as plugless. Power is sent on almost direct contact, for example, with a mat on which gadgets can be placed to recharge. Another method is to "harvest" energy from the environment, converting heat, light or vibrations that occur naturally. For example, sensors in a skyscraper could be powered by the normal sway of the structure. And certain materials are "piezoelectric", meaning that they naturally become deformed by heat or vibrations, generating an electrical current that can be captured and stored. The technology is young but advancing fast.

New Challenges:

Dealing with lots of wireless gadgets everywhere is an unpractised art. Security must be assured and privacy protected. All those radio waves raise health worries. There may not be enough radio spectrum to go around as demand grows. And in the longer term disparate systems may converge and become interconnected, bringing up a whole host of new questions.

What is already clear is that the infrastructure required to support wireless communications will have to be massive. Already, tens of billions of e-mails, mobile text messages and instant messages are being sent through the world's public networks each day, not to mention quasi-closed networks used by stock exchanges, flight-reservation systems and the like. Each CDMA mobile phone communicates with a cell tower 800 times a second just for its power management.

There is also the issue of privacy: Mobile phones should be able to pick up the presence of sensors. People should be able to read basic RFID tags—and destroy them too to preserve their privacy. Such rights will become more important as wireless technologies become small enough to be invisible. Yet the technology cuts both ways. Prisons in America are experimenting with bracelets that have wireless chips embedded in them to keep track of inmates. It sounds Big Brotherish, but prison officials say that violence among prisoners has decreased. Guards are also tagged, so prisoners may feel safer from abuse.

Following the path of technological evolution

Scholars in the field argue that the highly speculative markets and the great challenges are characteristic for the early stages of the creation of a new industry. It is reminiscent of computing in the early 1970s when companies began to adopt it in earnest. There was plenty of resistance. The systems were difficult to operate and seemed to be set up for nerds. The economic benefits were questioned. There were privacy and regulatory worries. Yet over time the rough edges were smoothed and everybody benefited. Technology rarely evolves in the way that people think it will. When Marconi invented his wireless telegraph, he never imagined broadcast radio.

A decade earlier, Heinrich Hertz declared: "I do not think that the wireless waves that I have discovered will have any practical application." To the men at Bell Labs in 1947 the transistor was simply an efficient replacement for vacuum tubes; they had no inkling of its use in computers. Today these technologies are omnipresent: televisions, computers, phones and radios etc.

Read more http://www.economist.com/surveys/displaystory.cfm?story_id=9032088

In the News

Mobile TV: The next big thing in Africa?

It is estimated that mobile TV viewers will grow from the current 60 million to about 488 million by 2010. Developed countries, led by Japan, Europe and the United States will lead the way.

The lion's share will be delivered over cellular networks - about 356 million by 2010
Most of the consumers are expected to receive mobile TV as part of their subscription as many consumers do not wish to watch TV on the move. Thus, it will be driven by operators bundling it together with other services to appear as though it is free.

In Africa, mobile TV could change the lives of many that either do not have access to a television, energy and coverage or are travelling over the breadth and depth of the continent.

With Celtel, MTN and Vodacom all gearing up to offer or offering the service already in their prime markets (Vodacom and MTN), the question is perhaps not if but when will it reach all their customers?

Africa's call centres on the rise?

You speak perfect main foreign language, technologically aware, well educated and can manage a business - run a call centre.

Internet-based call centers in West Africa are providing telephone marketing and customer service for companies around the world and it is a growing industry. Well you,may have to change your name from Moustapha Diallo to a more business like "Frédérique Maillard" when online to make customers, say in France, feel more comfortable. But who does not have an imaginary online name.

With low internet telephones costs and inexpensive labour, one should compete favourably. Morocco, Mauritius and Senegal account for a large share of the French offshore call centres. Some Senegalese call centres employ up to 500 workers although the majority are small. Other countries in the region, such as Benin and Mali, are also beginning to offer the service.

Call centers provide business opportunity and employment. It may reduce unemployment and migration. What will be more interesting that making money abroad without actually leaving your country? Perhaps, governments should provide support to facilitate growth of the sector.

Source: http://www.voanews.com/

Creating an institutional setting for ASIF

The African Science and Innovation Fund (ASIF) — proposed by the African Ministerial Council on Science and Technology (AMCOST) in 2005 — could implement Africa's consolidated plan of action for science and technology and related African Union (AU) programmes.

Given the disadvantages other options, AMCOST has decided ASIF should be developed and managed through existing intergovernmental bodies. But how to legally establish the fund remains undecided — until AMCOST meets in Nairobi, Kenya later this year.

John Mugabe, advisor on science and technology to NEPAD and former executive director of the African Centre for Technology Studies in Nairobi, argues that an incremental approach is needed, beginning with a 3-5 year pilot phase where the AU Commission, AfDB and NEPAD jointly manage ASIF. At this stage, the fund should be governed by AMCOST and supported by an international scientific and technical advisory panel to review and provide independent advice on how programmes are developed and implemented.

The AU Commission could build African political leadership and leverage contributions. The AfDB could manage the funds — receiving and dispersing contributions to centres implementing the science and technology plan of action. NEPAD could mobilise research institutes and private companies to develop and implement specific research and innovation programmes, and could also give administrative support to the advisory panel.

At the end of the pilot phase an independent evaluation — sanctioned by the AU Summit — would make specific recommendations on whether, and how, ASIF should continue to operate.

Mugabe however suggests that ASIF will never become a success unless African governments are more strongly committed. They will need to supported it through voluntary contributions as well as develop and use a coherent mix of national policy, administrative and legal instruments such as intellectual property protection to invest in regional science and technology development programmes.