

Address by Honourable Deepak Balgobin

**Minister of Information Technology,
Communication and Innovation**

**Circular Economy in the ICT Sector
(inc. electronic / electrical equipment)**

Le Meridien Ile Maurice, Village Hall Lane, Pointe aux Piments

25th May 2022 at 14.45hrs

- **Honourable Kavydass Ramano, Minister of Environment, Solid Waste Management and Climate Change**
- **Mrs Moheenee Nathoo, Permanent Secretary, Ministry of Environment, Solid Waste Management and Climate Change**
- **Ms Sandrine Valere, Permanent Secretary of my Ministry**
- **Heads of Ministries and Departments,**
- **Dear participants,**
- **Members of the Press,**
- **Ladies and Gentlemen,**

A very good afternoon to you all.

It is my pleasure to be among you today on the occasion of this important event on the Circular Economy. I would like to thank the Ministry of Environment, Solid Waste Management and Climate Change and the United Nations Environment Programme (UNEP) for hosting this Conference which is of critical importance to pursue our journey for a resilient and sustainable economy.

I am told that the previous sessions have been quite captivating and the coming ones will cover broad sectors of our economy. I am pleased to address the role of ICT in Circular Economy, which relates to the mission of my Ministry.

As we all know, the Circular Economy is a solution framework that addresses global challenges like climate change, biodiversity loss, waste and pollution.

It involves industrial processes and economic activities that enable resources to be used in such a way as to maintain their effective and efficient use for as

long as possible, and aim for the elimination of waste through smart design of materials, products, and systems.

During the whole conversion process, there is an intelligent use of energy to reach the end products or services. Ultimately, a Circular Economy calls for the optimization of business processes (or any process) to make them more effective and efficient, and less energy intensive.

Ladies and Gentlemen,

As the world population continues to grow, enormous stress is put on our environment and our natural resources which are becoming more and more scarce. The traditional way of producing and consuming has created the Linear Economy where products are merely used and then discarded as waste.

If we pursue on this track, we can imagine reaching a point where our resources will certainly deplete to such an extent that production will stop completely. Business as usual would mean a serious threat to the very existence of mankind in the near future, as climate change has already started to take its toll.

One serious consequence which the Linear Economy has generated in the electronics industry is electronic waste or e-waste. E-waste is any electrical or electronic equipment or parts that have been discarded. And this is particularly dangerous due to toxic chemicals contained in the e-waste materials that naturally comes out when thrown away in nature.

As technology evolves, the electronics industry continues to produce devices to make our lives easier and more convenient, and it is good that it is like that.

However, such devices are not built to be repaired. Businesses have to keep pace with technology by investing in new technology to remain competitive.

The adverse effect of this is that it causes drastic problems with overconsumption of raw materials. This is a vicious cycle: as tech use increases within society, there is more need for raw material use to support that tech. In addition, due to their easy shopper nature, humans are susceptible to quickly discarding the products they already have, thus leading to e-waste pollution.

According to figures published by the International Telecommunication Union (ITU) in 2020, approximately, 53.6 metric tons of e-waste are discarded yearly around the world. Yet, only 17.4% is formally collected and recycled. In 2019, the fate of 44.3 metric tons generated e-waste was unknown – this waste was either not documented, being discarded in landfill, burned or illegally traded and treated in a sub-standard way.

E-waste contains substances that can be hazardous to human health and the environment if not dealt with properly – including mercury, cadmium and lead. Improper e-waste management not only puts the health and lives of people at risk, by exposing them to toxins and poisoning but also contributes to global warming, especially since refrigerants in some temperature exchange equipment are potent greenhouse gases.

Still according to the ITU, a total of 98 metric tons of CO₂- equivalents were potentially released into the atmosphere globally in 2019 from discarded fridges and air conditioners that were not managed in an environmentally sound manner.

For these reasons, a proper recycling process or a smarter consumer paradigm is required to save our environmental health rather than sending e-waste to a landfill.

Besides causing pollution, e-waste can also result in data theft and data security issues. And this can even entail legal liability. A discarded smartphone or laptop can still contain critical information like credit card details, customers or employees' data, or other sensitive information.

More seriously, these devices contain invaluable materials which have been extracted from nature at high environmental costs. We are presently witnessing the havoc in the production and supply chain due to shortages of microchips. We cannot afford to not take the call. Circular economy globally across all sectors is indeed the panacea.

In order to set our economy back on a path of sustainable growth, a shift from a linear to a circular economy is needed. The Circular Economy is, in fact, inspired from Mother Nature where waste does not exist and everything is reused in a never-ending cycle. As a matter of fact, re-use and refurbishment of materials, resources and products are key to the adoption of the Circular Economy in all industrial sectors.

Nowadays, the world is calling for an innovation of products and services we consume. One of the ways of improving processes is through digitalisation which in itself can lead to many opportunities for innovation. And digitalisation necessitates employment of resources, people, machines, energy, to deliver outputs, which are products and services. There are numerous reasons for digitalising services.

First, when business processes are automated through digitalisation, there is a gain in efficiency, which allows for optimised usage and redeployment of the resources being employed for other business activities.

Secondly, the adoption of digital solutions gives rise to new products and new lines of businesses for a more flourishing economy. Additionally, digitalisation prolongs business and social activities in periods of crisis as witnessed during the pandemic.

Ladies and Gentlemen,

The industry is aware of the need to encourage the Circular Economy. Products are being designed in such a way that they are reusable and easy to repair. Manufacturers of servers, computers, tablets, printing and network devices have been manufacturing products designed for optimised energy consumption.

With the advancement in the electronics industry, equipment nowadays uses components with low energy consumption. Furthermore, those equipments automatically enter into sleep or off mode after prolonged inactivity.

As users of those facilities, we also have to be responsible when producing outputs. For instance, it is now getting enshrined in our culture that printing on paper has to be done when there is really a need to. We can still view a document on our phone. The tendency today is to go for a paperless or, at least, a less paper environment.

Also, virtual machines are now more common in our data centres as compared to discreet servers in old days. As data centres are known to be high-energy consumers, renewable energy sources are being ventured into for enhanced

energy efficiency. Deep seawater cooling is a new area which is being tapped today for managing data centre temperatures.

Speaking of data centre, my Ministry has embarked on a new project to migrate the facilities of our current data centre at the Government Online Centre (the GOC) to a Tier IV data centre complying with new standards including those required for Circular Economy. The new Tier IV data centre will be more resilient and secure with high availability of Government services and is in line with our Government Programme for business continuity.

On a similar note, a Tier IV disaster recovery site of the required standards will be set up to take up critical systems hosted at the current GOC data centre and the proposed Tier IV data centre in the event of failure.

On the front of education, my Ministry is in the process of deploying high-speed connectivity in all secondary schools with wifi access in all classes. With such facilities, e-learning will be facilitated. Students will be able to access school contents in digital formats from their devices from anywhere. This mode of education is appropriate in time of crisis such as lockdowns. Again, we see that the e-learning mode advocates for a paperless environment.

If paper does not end up as waste it will, no doubt, occupy a lot of space. In that spirit, my Ministry introduced the innovative Mokloud platform last year. This platform provides a digital safe for citizens for the safekeeping of their official documents in digital format.

Citizens may now use their mobile phones to present their official documents to authorities or other institutions for verification. To date, birth and marriage certificates and digital vaccination passes have been ported on MoKloud. In

the near future, other documents like proofs of address, digital driving licences, vehicle registration cards, and others, will also be available on this platform.

With the recent lockdowns across the world due to the Covid-19 pandemic, work from home has gained in immense popularity, thanks to innovative IT means. This brings enormous savings in energy consumption, transport cost and, more importantly, the carbon footprint.

All this to tell you that the ICT sector is more than ever poised to adopt new methods to make of the Circular Economy the basis of future development. For instance, software architecture is seeing new techniques for the easy and rapid development, and deployment of software solutions with the low-code and no-code features. Low-code-no-code makes use of special engines which allow the systematic re-use of resources like apps or program codes already available in an enterprise, for which no re-development from scratch is required.

Ladies and Gentlemen,

The API economy (Application Programming Interface) is another area of software engineering, which reflects the philosophy of the Circular Economy. The idea is for other teams to tap into open APIs already developed and optimised for use on various platforms, including mobile and cloud. One popular example is open banking which is a system based on APIs and intended for accessing financial information necessary for the development of financial products and services.

The open banking system, in this way, allows non-banks to offer banking functionality through trusted apps, following the consent of the customer. In order to access customer account information or financial information, these

apps use the technology of open banking API. Mobile payments through third party service providers would not have been possible without this technology.

Dear Friends,

The Circular Economy is now and foremost very determinant for the advancement of all sectors of our economy, including the sector of ICT. This forum is crucial for us to identify and capitalise on all opportunities that will warrant sustainable development for our country.

Before I conclude, I would like to thank once again the organisers of this conference for the setting up of such a platform for discussions.

I wish all panellists and participants fruitful deliberations and thank you all for your kind attention.