

**ADDRESS BY THIRU BANWARILAL PUROHIT, HON'BLE GOVERNOR OF
TAMIL NADU AT THE INAUGURAL FUNCTION OF THE CENTENARY
CELEBRATIONS OF THE INSTITUTION OF ENGINEERS (INDIA) AT HOTEL LE
ROYAL MERIDIAN, CHENNAI ON 13.09.2019 AT 10.15 A.M**

Anaivarukkum Kaalai Vanakkam

Thiru. K. Pandiarajan,

Minister for Tamil Official Language, Tamil Culture and
Archaeology

Dr. T.M. Gunaraja,

President,
The Institution of Engineers (India)

**Prof. Anil D. Sahasrabudhe,
Chairman, AICTE**

Padma Bhushan Dr. E. Sreedharan

Maj Gen (Dr) S. Bhattacharya,

VSM (Retd.),
Secretary & Director General,
The Institution of Engineers (India)

Thiru. R.Ramdoss,

Chairman,
Tamil Nadu State Centre,
The Institution of Engineers (India)

Distinguished Invitees

Ladies & Gentlemen

I am happy to be here at the inaugural function of the Centenary Celebrations of the Institution of Engineers (India). I congratulate the Institution of Engineers (India) who are entering their centenary year of glorious service to the nation.

Science and technology serve as the beacon lights for economic prosperity. They enable us to harness the resources provided by the nature so as to benefit mankind. Technological prowess, management, forecasting and innovation are vital for a nation's progress. The desire to excel and attain perfection have to become keener for us to be able to cope-up with the challenges of a changing global scenario. The skills acquired by

our engineers need to be constantly honed and updated.

An Engineer in society plays a very responsible role. The earlier notion of engineers building bridges and dams and of operating power stations and of designing machines has undergone a drastic change. People now look at engineers as playing a more versatile role. Engineers have pioneered the Indian Software revolution. They have been trained to become managers of public sector undertakings and even banks. Many of the candidates who clear the Civil Services are engineers. They are in the forefront of environmental management and developing viable alternatives to combat climate change. By

virtue of their ability to analyze and critically examine issues there are engineers who have also diversified into fields such as economics, planning and financial management.

There has been considerable effort to modify the engineering curriculum. The Govt. of India has launched many digital learning platforms such as NPTEL (National Program on Technology Enhanced Learning) and SWAYAM (Study Webs of Active learning for Young Aspiring Minds) designed to achieve the three cardinal principles of access, equity and quality.

The frontiers of technology are fast advancing Barriers are being broken down and new areas of technology are fast emerging. An example is 3D

printing or additive manufacturing which has caught the attention of everybody – from school going children to researchers in research organizations throughout the world. Through a process of making three dimensional solid objects from a digital file laying successive layers of material one after another until the object is created, 3D printing enables to produce simple to complex shapes using less material than traditional manufacturing methods.

Research in the area of polymers, powder metals and processing techniques such as Fusion Deposition machining, Laser Sintering, UV Curing etc. has made this revolution possible.

3D printing is primarily used in medical, architecture, automotive, industrial, aerospace & military and other applications. Entrepreneurs and consumers alike can use 3D printers to create useful products ranging from jewellery and light fixtures to replicas of human tissue. This revolutionary manufacturing process allows startups to create fast, affordable prototypes to attract investors and set ideas in motion.

The Internet of Things, or IoT, is one another example. It refers to billions of physical devices around the world that are now connected to the internet, collecting and sharing data. IoT connects computing devices, mechanical and digital machines, objects, animals or people and the

enables data transfer over network without requiring human-to-human or human-to-computer interaction.

This is the concept of basically connecting any device with an on and off switch and includes everything from cellphones, coffee makers, washing machines, headphones, lamps and even a jet engine of an airplane or the drill of an oil rig etc.

The analysis firm Gartner has said that by 2020 there will be over 26 billion connected devices... Some even estimate this number to be much higher - over 100 billion. The IoT is a giant network of connected "things" (which also includes people). The relationship will be between people-

people, people-things, and things-things. In short we are moving into a phygital world – physical + digital.

In India, the IoT market is poised to touch \$15 Bn by 2020, according to NASSCOM. Fueled by a \$1 Bn investment from the Indian government every year for building 100 smart cities, the trade association also predicts that by 2020, India will account for nearly 5% of the global IoT market.

While I congratulate the Institution of Engineers (India) for bridging the gap between industries and engineering graduates by substantially synchronizing the needs of industry with the curriculum in the engineering colleges and universities it is important that being the largest

multidisciplinary professional body having over 2 lakhs members and encompassing 15 engineering disciplines the Institution of Engineers (India) should take note of emerging technologies and actively push for their inclusion in the curriculum.

I am happy that the Institution of Engineers (India) has been instrumental in inaugurating a large number of Student Chapters in the engineering colleges of Tamil Nadu and for organizing seminars, industrial visits, group discussions, technical quiz competitions, workshops, model-poster competitions and film shows throughout the year so as to equip the students with greater skills enabling them to become more productive.

The Institution was formally registered in Madras in 1920 and now conducts its activities through 123 centres in the country and overseas.

You have an important role in deciding the course of science and technology in the coming years. In all your endeavours it is important for you to follow the path which India has been following for several centuries. That is the path of sustainability. It has been the sustainable nature of science, art and culture that has resulted in the civilisation flourishing for thousands of years without any interruption.

I, therefore, wish to conclude by sounding this note of optimism and caution simultaneously. Let us advance in science and technology and

outpace the world in pursuit of the latest innovative practices. At the same time, let our roots be Indian and our instincts be guided by spirituality.

Nandri Vanakkam.....

Jai Tamil Nadu.....

Jai Hind.....