

# Electronics: Emerging from IT's shadow, finally



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► *The Electronics Policy seeks to correct years of policy neglect, focusing on self reliance in view of rising imports.*

On May 18, this year, the Electronics Corporation of India Ltd, unveiled a home-grown technology product called the Programmable Logic Controller (PLC). It is a significant achievement; the public sector undertaking has come up with a rare first in the imports-dominated electronics space. Incidentally, on the same day in 1974, India successfully conducted Pokhran-1, a peaceful nuclear test.

Launching the product in Hyderabad, Dr Anil Kakodkar said it was a strong expression of India's self-reliance, especially in an inter-dependent world.

## RISING IMPORTS

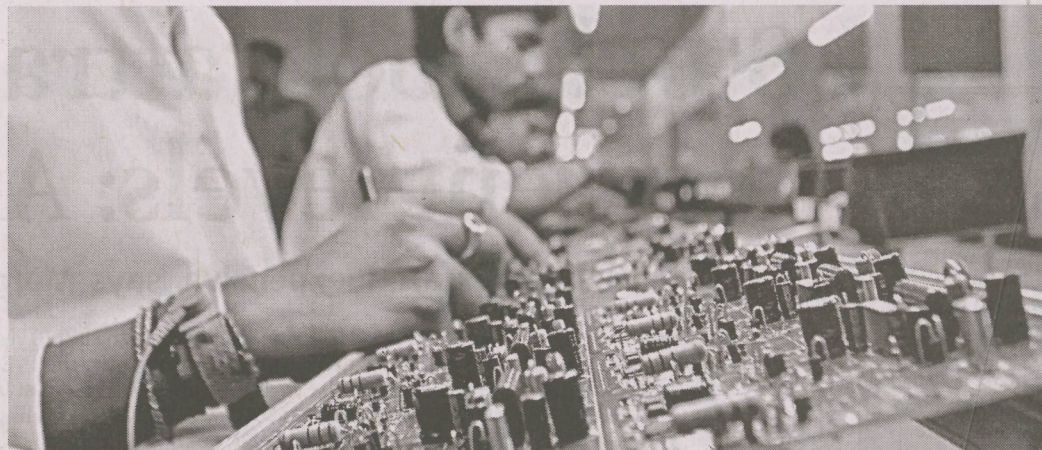
He hastened to add that self-reliance does not mean we build an iron curtain around us. It means protecting ourselves from being vulnerable. The PLC, which has a

wide range of applications in industrial automation, is an example of a technology that marks a key step towards making our cyberspace secure. At present, the PLC market is pre-dominantly crowded by foreign products. They are not amenable to Indian security systems, and hence the vulnerability to bugs, design flaws, malware, traps, etc.

At the same platform Dr Kakodkar, who was part of Pokhran-1 and Pokhran-2 (1998), also raised serious questions on the ramifications of India's escalating electronics imports. Unless altered, these imports are all set to overtake the ballooning oil import bill in the next few years. The huge oil bill has become a cause of concern for both balance of payments and energy security reasons.

The rising payout for imports of electronic goods will impact the balance of payments and pose a serious threat to the security of Indian cyberspace, warned Dr Anil Kakodkar. In recent times, there have been any number of cases of cyber-security breaches. Cyber crimes and hacking of websites of Government departments and corporates are on the rise.

Echoing similar views on the need for indigenous development in the electronics sector, especially the creation of domestic infrastructure, Dr V.K. Saraswat, Chief of the Defence Research and Development Organisation (DRDO), stated that electronics and sensors were a weak link in defence research. There was an urgent need to devel-



By 2020, three-fourth of our electronics demand may well be met by imports.

op and manufacture electronic components and systems to meet the demands of the strategic sector.

## WEAK LOCAL BASE

In the commercial space, that includes consumer electronics, scientific instruments, medical gadgets and industrial electronics products, the lion's share comes from global players from Korea, Taiwan, the US, the UK, Europe and China. Homes and offices in the country are full of imported goods. Even among products that are manufactured in India, more than 60 per cent is imported. Our own value addition is small, as our local base is not strong, and over the years hardware engineering has considerably weakened.

The DRDO is building systems for cyber security. In hardware, ef-

forts are on to develop routers, sensors and other critical components. However, a practical approach would be to have public-private partnerships in the electronics sector, Dr Saraswat feels. Product engineering is rather weak in several areas of electronics such as sensors, microwave, communication and robotics.

## POOR GROWTH

The gravity of the situation can well be perceived when one views these remarks by top scientists along with the comments of the Union Minister for IT and Communications, Mr Kapil Sibal, who released the draft National Electronics Policy a few months ago. He said at the current rate of growth, domestic electronics production can supply goods worth only \$100 billion in 2020

against a demand of \$400 billion. The rest has to be met by imports.

Unless the situation is corrected, it is likely that by 2020 electronics import may far exceed oil imports, Mr Sibal had said. According to estimates, the import bill for electronic goods at present is around \$40 billion. Import of oil and petroleum products would be around \$102 billion.

It is, therefore, imperative that a strong infrastructure base of electronics is built and focused research and development projects undertaken to make the country self-sufficient in key electronics areas. We have to address the information and communication technology needs of the strategically important domains on an urgent basis, Dr Kakodkar argued.

At the end of 2011, India came up

with a draft national policy on electronics. It envisaged a turnover of \$400 billion by 2020, with an investment of \$100 billion. It also aims to generate around 28 million jobs.

There are plans to set up over 200 electronic manufacturing clusters. The proposed policy envisions creating a globally competitive electronics systems and design manufacturing industry, including nano-electronics, to meet the country's needs and serve the international market.

In the last few decades, electronics has got a raw deal. The liberalisation of the economy in the early 1990s saw a free flow of electronic goods. The large multinationals quickly captured the market. The drift towards information technology, which has given the country a global presence and garnered huge export earnings, played a part in the decline of the electronics sector, both in terms of manpower and product development.

The increasing strides in IT also saw the once-vibrant Department of Electronics (DoE) being merged with the Department of IT (DIT). The DoE was born out of the vision of Homi Bhabha in early days of India's independence. The formation of the DIT and the Ministry of IT, which were preceded by a decade of bureaucratic control, in a way have diminished the focus on electronics in the last two decades.

Public sector undertakings and research labs such as ECIL, Bharat

Electronics Ltd, Central Electronics Ltd, Central Electronics Engineering Research Institute and SAMEER Electronics, to name a few, have made major contributions in the decades immediately following Independence. However, the intense competition, Government policies and funding issues, along with shortage of qualified professionals, have taken their toll on some of these organisations.

The proposed electronics policy promises to create the necessary technological and infrastructure base. A first step has been renaming the DIT as the Department of Electronics and Information Technology to reflect the renewed focus on electronics.

Realising that critical technologies in electronics, semi-conductors, very large-scale integration, electronic design and cyber security cannot be easily obtained, the policy aims to focus on these areas. It's well known that attempts to have a large enough foundry within the country have not made much headway, either in the public or the private sector, in recent times. Though, the Semiconductor Complex at Chandigarh has a facility, there is an urgent need for a few more.

While the intent is spelt out well in the draft policy, it has to be seen how the private and public sectors will respond and take on the challenges, as the road ahead is full of intense competition and hurdles.

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