EKELTRON

Kerala State Electronics Development Corporation Limited

A Government of Kerala Undertaking

Corporate Office

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Production Centres

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Keltron Equipment Complex

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Security and Surveillance Group

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Power Electronics Group

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Keltron Component Complex Ltd.

Kalliassery, Kannur 670 562 Phone: 0497 - 2780831 to 2780 834, 2780735 (dir)

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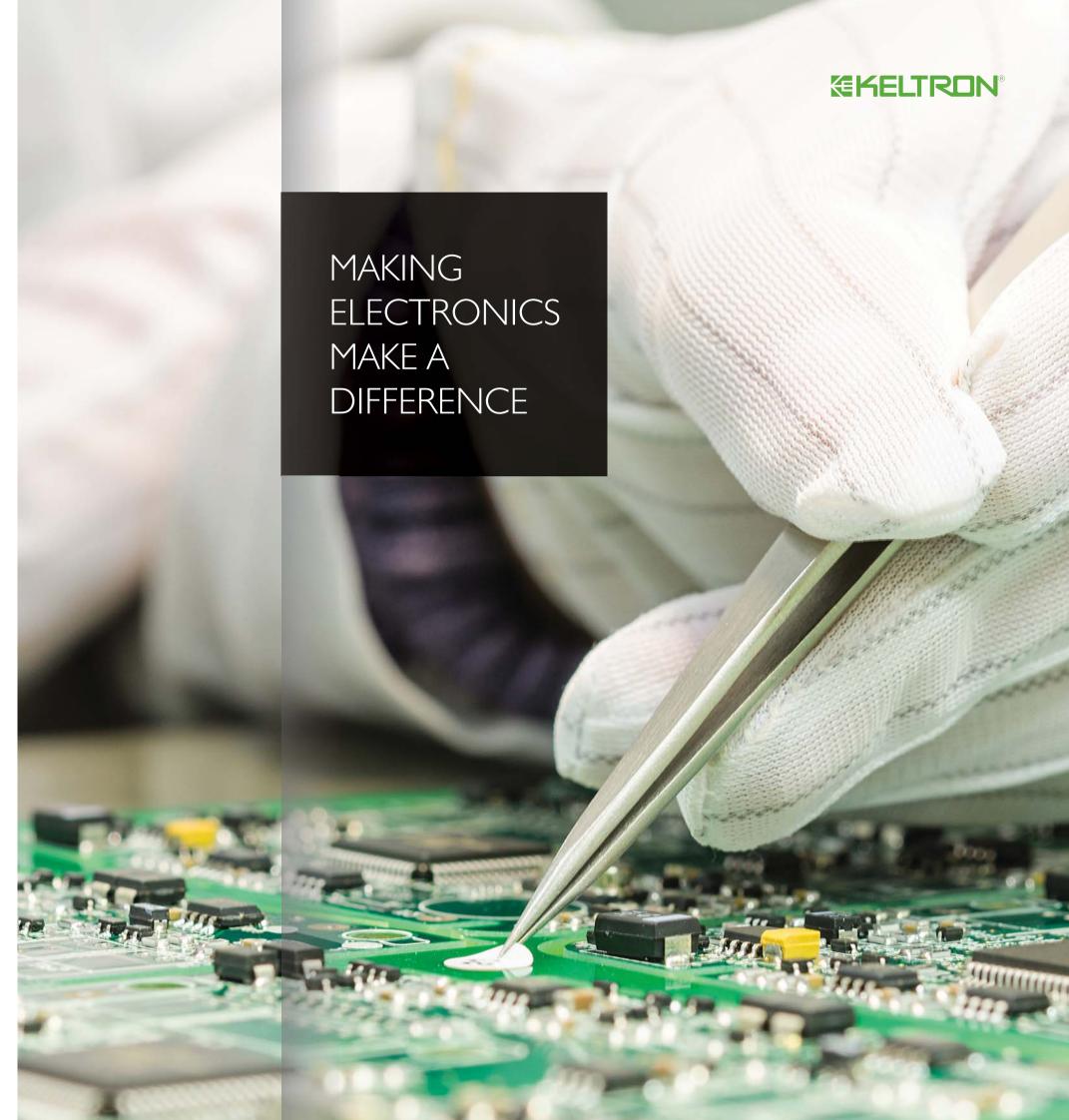
Keltron Electro Ceramics Ltd

Thrikkannapuram, Kuttippuram, Malappuram 679 573 Phone: 0494 - 2699231, 2699232

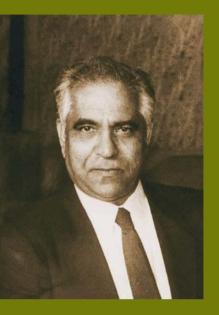
Fax: 0 494 - 2699233

Email: kozkelcera@gmail.com Website: www.keltronelcera.com









Shri K P P Nambiar, the Founder-Chairman of Keltron, is remembered as the architect of the electronics revolution in Kerala.

Understanding the vision of KPP (as he was fondly referred to by those who knew him) needs a trip to an era when 'digital' was only a small part of electronics that powered the world. KPP served as the inspiration for many a technocrat and entrepreneur, and soon India was to witness an unprecedented mushrooming of enterprises in the image of Keltron all over the country.

As a 'hands-on' researcher, KPP knew that only original research would pave the way for innovation. The ER & DC, which he conceptualised and founded, and served as the first Chairman, was the arena that molded countless researchers in the field.

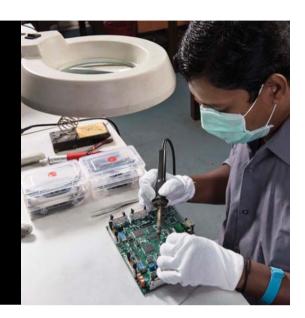
At a time when many of the digital evangelists were, so to speak, in their diapers, KPP with great perspicacity, helmed the start of the Technopark at Trivandrum, a novel initiative that worked the magical synergy of technologies that resulted in the burgeoning of all things digital in this part of the world.



Keltron House, the headquarters of Keltron

SPEARHEADING THE ELECTRONICS REVOLUTION

ADDING VALUE TO LIFE AND INDUSTRY



- Kerala Sate Electronics Development Corporation, popularly known as KELTRON, is the first State Electronics Development Corporation of India
- Fully owned by Government of Kerala
- Commenced operations in 1973
- A regular supplier of custom products to the Departments of Defence and Space, Government of India, since 1980
- Manufacturing facilities located in Kerala, India
- Manufacturing capability: Fully equipped production facilities of over 700,000 sq ft area spread across nine strategic locations in Kerala. ISO 9002 certified.
- Full-fledged Marketing Offices in eight metropolitan cities of the country: Mumbai, Delhi, Chennai, Kolkata, Bangalore, Hyderabad, Ahmedabad, and Trivandrum.
- Market Segments: Strategic electronic products for Defence and Space Applications; Information Technology products and custom solutions; IT facility management services; Power electronics systems; Security and surveillance systems; Process automation systems; Intelligent transportation systems;

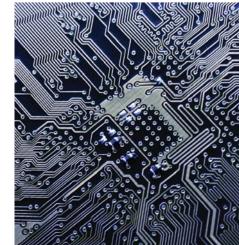
ELTRON's history is a saga of innovation in electronics. From being a pioneer in 1973, to the role of a trend-setter today, Keltron has been the catalyst for the development of electronics industry in Kerala.

Within five years since inception, Keltron had set up several production centres and engaged more than 5,000 people, directly or indirectly, for the manufacture of electronic goods.

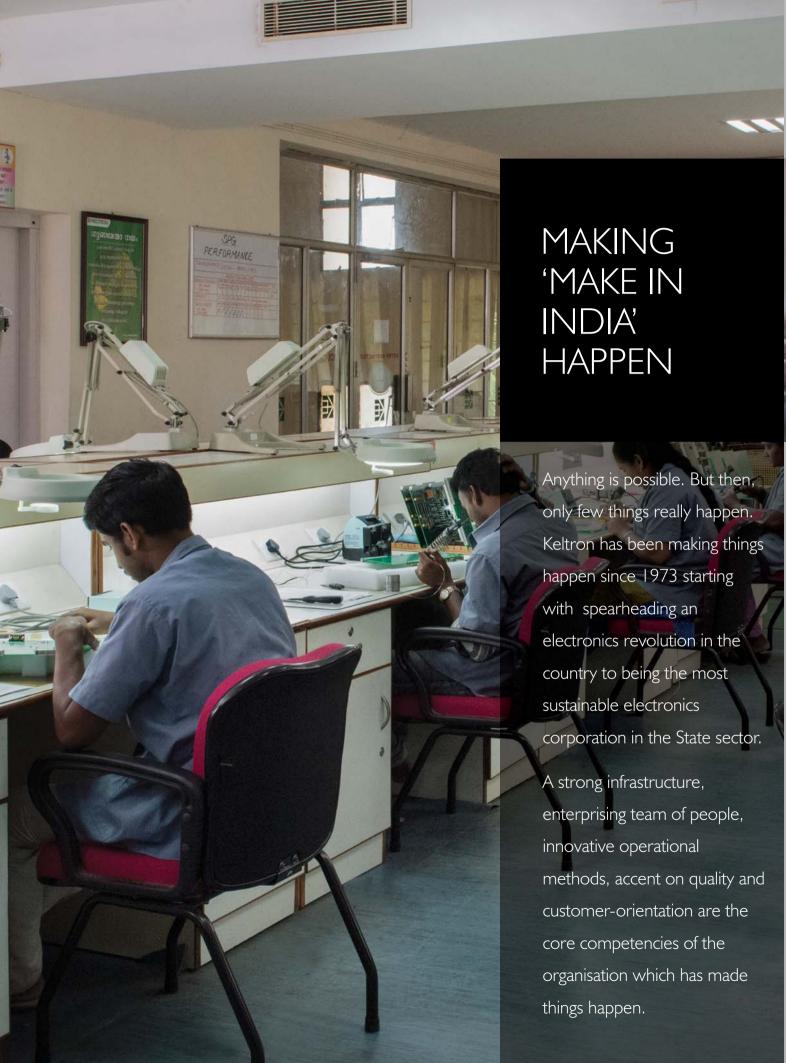
A quarter century later, Keltron set about transforming Trivandrum, the capital city of Kerala, into one of the major electronics hubs of the country.

Today, the city is home to Technopark, the internationally known technology park where thousands of talented young men and women participate in the development of a burgeoning information technology industry.

Keltron has, in effect, triggered a revolution that still keeps churning out its benefits to individuals and institutions the world over, continuing in its quest to innovate products and processes that would add value to life and to the industry.









ELTRON's capabilities
lie mainly in the large pool of
experienced technical manpower
specialized in the assimilation, adoption
and integration of technology for creating
innovative solutions, its strong
infrastructure, and a fierce obsession to
quality.

LARGE POOL
OF EXPERIENCED
TECHNICAL
MANPOWER

ELTRON's expertise in high quality manufacturing is the direct result of the highly skilled, multi-disciplinary team of graduate engineers, project managers and a skilled workforce with a proven track record in complex precision manufacturing.

Currently, Keltron employs a work force of over 1,500 of which about 30% are engineers who possess extensive hands-on experience in technology adoption and integration, and in managing high-tech manufacturing operations.

Manpower at Space Electronics section has been specially trained at Indian Space Research Organization (ISRO) in high-reliability soldering, harnessing and QC.

Keltron also provides technical manpower to major organizations like ONGC, VSSC, NPOL, the Election Commission among others.

A STRONG COMMITMENT TO QUALITY NSURING quality is an on-going process at all production units of Keltron. Each facility has a Quality Department whose business is to see that all quality norms are strictly adhered to in the manufacturing process. Products manufactured by these centres conform to international standards such as IEC 62040 Part 2&3, IEC 146, IEEE 944, IEEE 344 and IS 4540 among several other product-specific standards.

All production centres and business units of Keltron are ISO 9000 certified

Inspectorate of Naval Armament (SINA-T) has implemented their customised quality systems at Keltron Equipment Complex, Trivandrum.





MAKING 'MAKE IN INDIA' HAPPEN



WORLD-CLASS
INFRASTRUCTURE
AND
MANUFACTURING
EXPERIENCE

ELTRON's forte has always been high quality manufacturing of electronic products. For more than 40 years, Keltron has been churning out a whole range of electronic products, electromechanical and high precision modules and sub assemblies for different industry segments. In the process, Keltron has built up a strong infrastructure spread over 700,000 sq ft of built-up area. Equipped with computer-based system design & engineering facilities and related software development tools, Keltron today is fully geared to offer highend integrated manufacturing solutions.

In addition to the manufacturing facilities for critical segments, the following test facilities also complement the production environment.

- Towed array testing facility
- ET/ESS Test facility

TECHNOLOGY SUPPORT ELTRON's technology base is built up on the foundation of technical collaborations with world leaders like Contrôle Bailey, GEC Alsthom, Hitachi, Asea Brown Boveri, and Dassault. Right from the days of its inception, Keltron had a clear vision of the role of technology in the development process and set up a large infrastructure for this purpose in the form of Electronic Research & Development Centre (ER&DC) in the same campus. In course of time this establishment was taken over by the Government of India, as the Centre for Development of Advanced Computing(C-DAC). Keltron has an arrangement with C-DAC, for technology development and adaptation.

Other sources of technology are DRDO labs like NPOL and NSTL for Defence products, NIOT for marine applications and ISRO for aerospace related activities. Need-based foreign tie ups are also undertaken.

EKELTRON



SELLER

MS/KELTRON SPECIAL PRODUCT GROUP KELTRON EQUIPMEN

COMPLEX, KARAKULAN

TVM . 695564.KERALA



44 UWACS

◆ Processor Based Ground Mine

SIGNIFICANT ACHIEVEMENTS

SELLER:

KARAKULAM, TVM 695564 KERALA

CONTRACT NO: AS/8601/IHQ-MOD(N/ DATED 28 APRIL 200

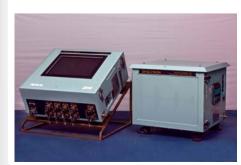
M/S KELTRON

SPECIAL PRODUCTS GA KELTRON EQUIPMENT COMPLEX,

- Manufactured, installed and commissioned Underwater Telephone System-V1 on board 30 Indian Naval Ships, which includes six Talwar Class ships, built in Russia.
- Manufactured and supplied 150 Processor Based Ground Mines (PBGM) to Ministry of Defence.
- Manufactured and commissioned Radar Interface Unit on board the prestigious aircraft carrier INS Viraat, INS Delhi, INS Mumbai and INS Mysore.
- Developed, manufactured and commissioned more than 120 Electro Magnetic Log and Re-Transmission Unit in different ships of Indian Navy.
- Developed manufactured and commissioned 80 Echosounder-V1 in different ships of Indian Navy.
- Underwater Telephone System for INS Vikramadithya.
- Successfully completed the overhauling of shipborne equipment during the refit of INS Viraat at Cochin Shipyard.
- Associated with the Indian Navy in the Dhanush Missile Project
- Developed and delivered the 3G Underwater Wireless Acoustic Communication System with the TOT from NPOL.
- Manufactured and supplied two sets of Active Towed Array System (ATAS) using DRDO technology.
- Manufactured and supplied 6 sets of Sea Bed Arrays using DRDO technology.
- Manufactured and supplied six sets of Advanced Torpedo Defence System Arrays (ATDS) and installed 2 sets in Naval ships INS Ganga and INS Gomathi.

PRODUCTS

- Electromagnetic Log and Re-Trasmission Unit (EM Log & RTU)
- Echo Sounder (ES)
- Under Water Telephone (UWT)
- Processor Based Ground Mine (PBGM)
- Underwater Wireless Acoustic Communication System (UWACS)
- Distress Sonar for Submarines
- Data Distribution Units for Ring Laser Gyro (DDU)
- Towed Array System
- Sonar Simulator
- Own Noise Analysis System (ONA)
- EM Actuator for LFDS
- Transducers / Hydrophones
- Search and Rescue Beacon (SRB)
- Expendable Bathy Thermograph (XBT)



ELTRON is identified as one of the reliable suppliers of strategic electronic products and systems for the Department of Defence, especially for the Indian Navy.

Since the strategic electronic products demand extensive application of a wide range of state-of-the-art technologies, Keltron has built sustainable relationships with DRDO Labs such as NSTL, NPOL, RCI, and other research organisations like WESEE and C-DAC to acquire such technologies. Keltron has recently augmented its infrastructure and developed local vendors in order to realize the indigenisation effort of the Indian Navy for achieving self-reliance in Defence production. Keltron is recognised by DQAN as an approved vendor for manufacture of Navigational equipment and classified items for the Ministry of Defence.



∢ EM Log

Echosounder





Solar Power
Conditioning Units

SIGNIFICANT ACHIEVEMENTS

- First in the country to design and develop a 90 KVA UPS.
- First in the country to design and develop 600 KVA UPS qualifying seismic parameters for NPCIL.
- Completed 2 MWp off-grid projects with battery backup and 1 MWp grid-tie projects without battery backup.

CAPABILITIES

- Design, manufacturing and installation of seismic qualified UPS Systems of up to 1000 KVA capacity
- Design and execution of solar power projects. Includes site survey, project design and sizing to suit customer needs.
- Design of grid-tied / off-grid systems or a combination of both.
- MNRE approved Channel Partner and empanelled manufacturer of Solar

 PCLI
- Nodal agency for implementation of solar power projects of the Government of Kerala

PRODUCTS

- Industrial UPS Systems & Inverters
- Battery Chargers & Rectifiers
- Active Filters
- Voltage Stabilizers
- Solar Power Conditioning Units

HE Power Electronics Group (PEG) of Keltron is a pioneer in the field of UPS Systems in the country, designing and manufacturing for a diverse range of applications. Keltron provides seismicqualified UPS Systems of up to 1000 KVA capacity based on state-of-theart technology.

Bolstered by the immense success in Power Electronics during the past 30 years in the design, manufacture, testing, installation, commissioning and maintenance of UPS Systems, Battery Chargers, and related power equipment, Keltron has now embarked into the renewable energy sector. The Government of Kerala, by a Government Order, has identified Keltron as a nodal agency for implementation of solar power projects in Government Offices, Industries Department and LSGD.

Since entering this segment, PEG has designed, supplied, installed, tested and commissioned more than three MWp Solar PV power plants all over Kerala. Keltron has also been maintaining these projects for the last two years. The Solar Power Conditioning Unit (PCU) developed by PEG has undergone successful testing and approval at TUV, Banglore.





INTELLIGENT TRAFFIC SYSTEM

TRAFFIC ENFORCEMENT SYSTEM

HE Traffic Signals Division of KELTRON provides state-of-the-art traffic controllers and offer Intelligent Transportation System (ITS) solutions for traffic management. During the past 25 years, the Traffic Signals Division has executed several turn-key projects in major cities of the country.

ELTRON offers Traffic
Management Solutions
comprising a Traffic
Enforcement System which
includes Speed Limit Violation
Detection System (SLVD), Red
Light Violation Detection System
(RLVD) and All Vehicle Automatic
Number Plate Recognition (ANPR)
System, and related hardware.

The Keltron Intelligent Transportation System (ITS) Solutions include:

- Area Traffic Control System
- Fully Solar Powered Traffic Signal System
- Fixed Time Traffic Signal System
- Vehicle Actuated Traffic Signal System
- Solar Powered LED based Street Lighting
- Public Place Surveillance System
- Red Light Violation Detection System
- Speed Limit Violation Detection System
- Vehicle Tracking and Fleet Monitoring System
- Passenger Information System for Buses
- Distress Call Management System
- Automatic Fare Collection System

These systems have been effectively implemented in all major cities of Kerala resulting in substantial reduction in the number of accidents and traffic violations. This has also helped revenue generation to the State in the form of penalties paid by the offenders, since the entire process from the recording of the incidents of violation to the generation of payment challans for penalties is fully automated and managed by the system.

MAJOR INSTALLATIONS

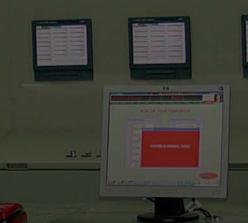
- Implementation of City CCTV Security Solution in Thiruvananthapuram, Kochi, Kozhikode, Thrissur and Kollam linking more than 500 cameras through a dedicated OFC I aid for the Police Department.
- Installation of more than 60 Over-speed Enforcement Systems in Kerala.
- Implementation of 100 Over-speed Detection Systems in National Highway for Kerala Police, on BOOT basis.





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IT INFRA-STRUCTURE



SERVICES

- Execution of Turn-Key C&I Projects
- System Design and Engineering
- Development of Application Software

- Integration and Testing
- Field Erection & Commissioning
- Technical manpower supply in India and abroad

CAPABILITIES

- Expertise in Process Control systems & Plant Automation Systems.
- Total capability to execute C&I and Automation projects on Turnkey basis.
- Infrastructure to handle large projects including manufacturing facilities.
- Experienced & trained System Design, Software and Application engineers.
- Design & Mechanical fabrication of Control Panels & System Cabinets.
- Integration of subsystems & System simulation and testing.
- E&C set up comprising of competent Installation& Commissioning Engineers.
- AMC for Control & Instrumentation systems.

PRODUCTS

- Modules for Control System
- E P Convertors
- Wired control panels/desks with racks and accessories
- Field instrument enclosures and racks
- Analog Control Systems(ACS)
- Sequential Events Recorder(SER) System
- Annunciation Systems
- Pneumatic Actuators
- Specific design for Burner Tilt, SADC, FAN control PA/FD/ID, Scoop control applications
- Pneumatic Positioner
- Position Feedback Transmitter
- Limit Switch Assembly
- Electro Pneumatic Converter
- Air Lock Relay

ELTRON has proven capabilities and experience for providing Instrumentation solutions for various applications. Since 1979, Keltron has executed C&I packages for more than 50 power plants in the range of 60MW to 500MW on turnkey basis.

Several plant automation projects for coal-fired, oil & gas, and petrochemical power plants have also been undertaken. The Keltron product portfolio includes Analog Control System, DCS, PLC, SCADA, Data Acquisition Systems, analysers and all types of field instrumentation.

The Keltron Analog control systems manufactured in technical collaboration with Contrôle Bailey, France, and installed at several power plants continue to work flawlessly for more than 35 years.

ELTRON entered the IT arena way back in the late 70s with the manufacture of computers and accessories, and microprocessor based products such as attendance monitoring and recording systems. Today, Keltron has widened its IT horizon by entering other IT domains such as software development, training and support services. Being a Public Sector organization, Keltron has a focused interest in catering to the IT needs of the Government of Kerala, configuring solutions for all the key departments of the State administration. Keltron computers are in use in all Government Departments and schools of the State. The entire IT infrastructure of the Government Secretariat is planned, implemented and maintained by Keltron. Keltron computers are manufactured at Keltron Communication Complex at Monvila inTrivandrum.

PRODUCTS

- IT and networking hardware
- Support Services: Networking solutions, technical support for high-end servers and projects, facility management services, AMC, and document management services.

STATE DATA CENTRE (SDC)

Keltron manages the entire services of State Data Centre and related Networking Operating Centres of Government of Kerala.



SOFTWARE DEVELOPMENT

ID CARDS

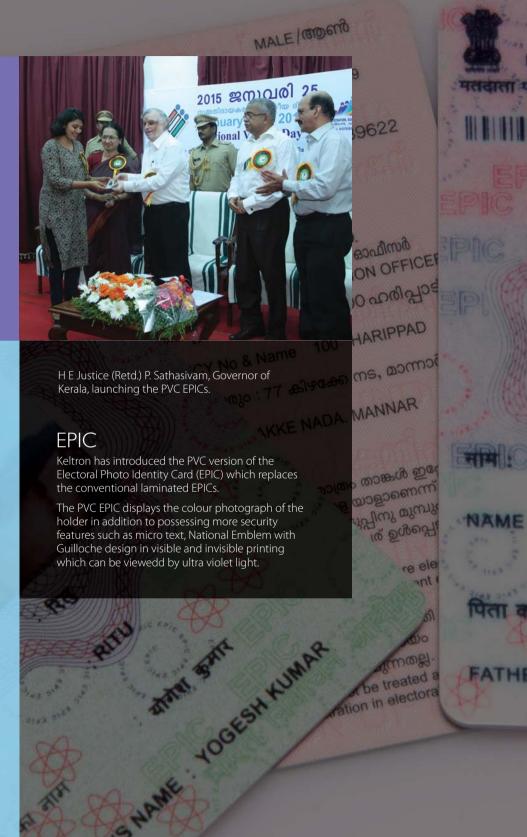
ELTRON started its software development business in 1999 to develop bespoke software solutions.

Drawing inspiration from the success of over four decades of expertise as a pioneer in Control and Instrumentation techniques and Embedded Systems programming, KELTRON's Software Group is now fully geared up to meet the challenges and demands of today's IT Industry.

Keltron is fully equipped to deliver end-to-end solutions to discerning customers. The nimble organisational structure of KELTRON provides for a flexible and accommodating environment which makes customer engagement synergetic and productive, and ensure total customer satisfaction.

ELTRON ID Card Project
(IDCP) is identified as the
State Level Agency by the
Election Department, Government of
Kerala for the preparation of Electoral
Photo Identity Cards, and for the
following services:

- Providing hardware and manpower support to the Election Department.
- Printing of Electoral rolls of 140 LA constituencies in the State.
- Installation and maintenance of Touch Screen Kiosks in District Head Quarters and Taluk Offices for online verification of electoral roll by the public.
- Implementation of Electoral
 Registration Management System
 (ERMS) and upgradation of Central
 Database with Electoral Roll
 Database using open-source web
 architecture.
- Implementation and maintenance of IT based activities of the Election Commission of India.



WHY CHOOSE KELTRON

- ISO Certified facility
 - ISO 9001:2008 Certified for Quality Management System
- ISO 27001 for Information Security Management System (ISMS), and
- ISO 20000 for IT Service Management.
- Long standing in electronics
- Long term Customer commitment
- Expertise in e-Governance
- Quick delivery
- Agile organisation
- Responsive customer service



LED LIGHTING

ELECTRONIC COMPONENTS

ELTRON presents a range of LED lighting systems for various applications.

These lighting systems are manufactured by Keltron Lighting Division, a state-of-the-art facility at Mudadi, Kozhikode, that integrates advanced LED sources, driver technologies, optics and design to produce world-class luminaires. The R&D effort has been focused on reducing energy consumption, extending life and maximising illumination performance.

Keltron LED aspects are EN-12368-2000 Certified. ELTRON entered the electronic components industry by setting up India's largest Aluminium Electrolytic Capacitor plant in technical collaboration with Sprague Electromag, Belgium, in 1976 at Kannur, Kerala.

Over the years, Keltron has added on several other types of components, enlarging its range to cater to the needs of the Indian market.

Today, Keltron is identified as a reputed supplier of electronic components for professional, industrial and consumer electronics applications.



Bulbs



Tube Lights Retrofit Tubelights



Down Lights



Street Lights

Lanterns



PRODUCTS

The current range of components manufactured by Keltron includes:

- Aluminium DC Electrolytic Capacitors
- Motor Start Capacitors
- Motor Run (SH) Capacitors
- MPP Capacitors
- KVR Power Capacitors
- Carbon / Metal Film Resistors
- Piezoelectric Crystals
- High CV large Can Capacitors



ORGANOGRAM

EKELTRON

Business Units

Keltron Equipment Complex Karakulam, Trivandrum

Manufacturing facility with a built up area of about 150,000 sq. ft.

Currently houses for major Business Units of the Company.

Complex Kulathur,

Strategic Electronics Group

Electronics Group

Security & Surveillance Group

ID Cards & **Smart Cards** Group

Control Instrumentation Group

Pneumatic Products Group

IT Products

Software

Knowledge

Services

Electronics

Components Group

ransportation ystems Group

Space Electronics

Keltron Controls Aroor, Alleppey

Manufacturing facility with a built up area of 115,000 sa ft. producing Control Instrumentation products.

Keltron House Trivandrum

with a built up area of about 25,000 sq ft. for software development and IT services.

Electronic Components

Manufacturing facilities at Kannui and Kuttippuram with a total built up area of 1,184,750,000 sq. ft

Sales Network

Sales network covering the entire country with branch offices located at Mumbai, Delhi, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad and Thiruvananthapuram.