**Special Purpose Machines- Dosa making machine**

It is a commercial usage machine for large scale production of dosa in a continuous process. The thickness of the dosa and oil content in dosa can be adjust as per the requirements. Extra ingredients to the dosa can be added easily

**Special Purpose Machines- Vending machine**

An automated machine which is intended to provide the users with a diverse range of products: snacks, beverages, pizzas, cupcakes, newspapers, tickets, etc. A vending machine dispenses a product to the users based on the amount of money inserted and selection of the product.

**Special Purpose Machines- Roti making machine**

Rotimatic cooks rotis, pizza base, puris, and tortillas in 90 seconds each. Just add flour mixture, water, oil and press a button. The robot measures, mixes, kneads flour, makes dough balls, flattens into discs and then roasts it to dispense hot, puffed steaming rotis.

**Special Purpose Machines- Vada making machine**

Known for their seamless finish, sturdy construction and minimum electricity consumption, these machines are used for Delicious Vada with precise shape and size.

**Special Purpose Machines- Automatic bike washing machine**

A technology that saves water. A service that saves time! The Bike Cleanse Automatic Bike Wash Machine was designed and developed with the awareness that the number of two wheelers are increasing on the roads today.

**Special Purpose Machines- Brick cutting machine**

It consists of heavy slitter and heavy cutter. It's suitable for product line of middle and big scale, hard plasticity and semihard plasticity. It aims to realize automatic and semi-automatic operate. Usually, it works together with auto stacking machine.

**Special Purpose Machines- Packing machine**

Packaging machinery is used throughout all packaging operations, involving primary packages to distribution packs. This includes many packaging processes: fabrication, cleaning, filling, sealing, combining, labeling, overwrapping, palletizing.

**Special Purpose Machines- Vision sensor based robotic process machine**

Machine vision system is a sensor used in the robots for viewing and recognizing an object with the help of a computer. It is mostly used in the industrial robots for inspection purposes. This system is also known as artificial vision or computer vision.

**Guided vehicle - Manual guided vehicle**

Manually Guided Vehicles (MGV) & Automatic Guided Vehicles (AGV Systems). The manually guided vehicle is feature-rich and designed for the advanced manufacturing sector who are focused on continuous improvement and can easily and cost-effectively be upgraded to an automated guided vehicle system.

**Guided vehicle - Semiautomatic guided vehicle**

AGVs are used to transport and load pallets of finished goods directly into standard, over-the-road trailers without any special dock equipment.

**Guided vehicle - AGV (LFR or Magnetic tape)**

AGVs reduce operational costs and hazards of forklift trucks by increasing the safety of the facility with precise and controlled movements. Magnetic – AGVs are guided by magnetic tape or bars adhered to the floor, which are detected by a sensor underneath the vehicle.

**Robotics- Cartesian type**

A Cartesian robot can be defined as an industrial robot whose three principal axes of control are linear and are at right angles to each other. Using their rigid structure, they can carry high payloads. They can perform some functions such as pick and place, loading and unloading, material handling, and so on.

**Robotics- 6-axis Robots- Rotary type**

Articulated robots, or 6-axis robots, are easier to align to multiple planes, simple to operate and maintain, and easily redeployed for plastic injection molding automation applications on various types and sizes of plastic injection molding machines and for a wide range of upstream and downstream applications

**Biomedical Device- CT scan**

CT can be performed if you have an implanted medical device of any kind, unlike MRI. CT imaging provides real-time imaging, making it a good tool for guiding minimally invasive procedures such as needle biopsies and needle aspirations of many areas of the body, particularly the lungs, abdomen, pelvis and bones.

**Biomedical Device- MRI scan**

This technology is important because MRI scans illustrate more clearly than ever before, the difference between healthy and diseased tissue, and can provide important information about the brain, spine, joints and internal organs. It can lead to early detection and treatment of disease and has no known side effects.

**Biomedical Device- X-ray machine**

Medical x-rays are used to generate images of tissues and structures inside the body. If x-rays travelling through the body also pass through an x-ray detector on the other side of the patient, an image will be formed that represents the “shadows” formed by the objects inside the body.

**Biomedical Device- Water bath**

A water bath is a device used in the laboratories to incubate samples in water maintained at a constant temperature. Temperature may be controlled digitally or by a dial and once set, the water bath cycles on and off to ensure constancy of the temperature.

**Biomedical Device- Ventilators**

A ventilator is a machine that provides [mechanical ventilation](https://en.wikipedia.org/wiki/Mechanical_ventilation) by moving breathable air into and out of the [lungs](https://en.wikipedia.org/wiki/Lungs), to deliver breaths to a patient who is physically unable to breathe, or breathing insufficiently. Modern ventilators are [computerized](https://en.wikipedia.org/wiki/Computer) [microprocessor-controlled](https://en.wikipedia.org/wiki/Microprocessor_control) machines, but patients can also be ventilated with a simple, hand-operated [bag valve mask](https://en.wikipedia.org/wiki/Bag_valve_mask). Ventilators are chiefly used in [intensive-care medicine](https://en.wikipedia.org/wiki/Intensive-care_medicine), [home care](https://en.wikipedia.org/wiki/Home_care), and [emergency medicine](https://en.wikipedia.org/wiki/Emergency_medicine) (as standalone units) and in [anesthesiology](https://en.wikipedia.org/wiki/Anesthesiology) (as a component of an [anesthesia machine](https://en.wikipedia.org/wiki/Anesthesia_machine)).

**Biomedical Device- Temperature controlling devices**

[Medical](https://www.boydcorp.com/markets/medical.html) devices are trending toward miniaturization, driven by portability, performance and safety factors. As instruments get smaller, design engineers face new challenges in meeting their project’s performance, size, weight, operating temperature, noise and budget requirements. Each of these factors also impacts [thermal management](https://www.boydcorp.com/aavid.html) technology choices. The right thermal management solution can play an important role in helping engineers meet all project requirements and design the best medical device.

**Biomedical Device- Smart wheel chair**

The smart wheelchair system was designed using artificial intelligence technology to enable the system to adapt to dynamic environments and to intelligently complete operations. With a BCI system, users operate the wheelchair in a simple and intuitive manner.

**Biomedical Device- Smart bed system**

Smart hospitals beds have a remote monitoring system which keeps a track of the patient. Smart hospital beds contain sensors for body temperature, heartbeat, blood, oxygen and pressure sensors, among others. All of these signals are required and necessary for the doctors to monitor the health of the patients.

**Biomedical Device- Respiratory system**

Respiratory devices. Respiratory devices supply respiratory gas mechanically to patients with impaired respiratory function. The respiratory gas is usually enriched with oxygen and conveyed into the lung with a positive pressure generated by the device.

**Industrial automation- PLC, HMI panel**

The integration of a human machine interface (HMI) and programmable logic controller (PLC) provides a lean automation solution. Lean manufacturing is a proven, powerful method to boost efficiencies in production processes.

**Industrial automation- Rework present PLC programming**

PLC is an industrial computer that monitors inputs and outputs to make decisions based on based on the program stored to the PLC's memory. The use of PLC's help to reduce human decision-making efforts to gain higher efficiency

**Industrial automation- Adding different concepts in present panel**

Industrial automation is the use of control systems, such as computers or ... different processes and machineries in an industry to replace a human being. ... Earlier the purpose of automation was to increase productivity (since automated systems ... Adding automated data collection, can allow you to collect key production Industrial automation- Sensor replacing

**Industrial automation- Industrial wiring**

By integrating critical systems onto a single common infrastructure, Panduit Industrial Automation Solutions help customers improve network performance and operational efficiency, reduce operating costs, and increase productivity.

**Electrical service - House wiring (NEW & RETROFIT)**

Residential electrical wiring is always completely covered within sheath insulation. This is meant to protect residents from electrical shock. From a technical aspect, most residential wiring are single phase and 120 Volts, consisting of three wires, positive, negative, and neutral. For some more demanding appliances, such as air conditioning units, refrigerators, washers, and dryers use a two-phase circuit of 240 Volts. In commercial applications this wiring is normally run through conduits or ceiling rafters where it is easily accessible to service. For residential applications, the wiring is normally hidden from view within walls and attic crawl spaces

**Electrical service - Company wiring (NEW& RETROFIT)**

Commercial electrical wiring normally uses a three-phase design. In three phase electrical systems, there are two smaller legs running 120 Volts each and I wider leg running 208 Volts. This setup allows each wireless workload, while creating a higher output when they work together. This leads to greater efficiency and longer lasting equipment. The higher voltage requirements are due to the increased power demands in an office environment. Commercial wiring often has a higher level of insulation, known as TTHT (Thermoplastic, high-heat resistant, nylon coated). This helps to protect the electrical wiring from corrosive gases and liquids. In some cases, special outlets may be installed for power-hungry or especially sensitive equipment.

**Electrical service - Control panel for all kind of industries**

Electrical control panels are an integral part of the system that controls various pieces of equipment, as they provide power, operator devices, and proper control over the machinery/appliances.

**Solar service- Solar panel installation**

A solar PV system uses sunlight to generate electricity which you can use to power your home or office that can reduce your carbon footprint and impact on the environment. Solar energy is created using the energy which has been generated by the sun.

**Solar service- Solar bike and solar car**

Solar cars. Solar cars depend on PV cells to convert sunlight into electricity to drive electric motors. Unlike solar thermal energy which converts solar energy to heat, PV cells directly convert the sun into electricity. ... The PV panels on the car would generate electricity to charge the batteries in the car.

**Solar service- Smart solar panel cleaning machine**

This unit comprises of sensors to sense light intensity, dust density, temperature/humidity and output power in order to generate automatic cleaning signal and display the condition of solar panels/farm.

**Solar service- Solar water heater**

Solar water heating (SWH) is the conversion of sunlight into heat for water heating using a solar thermal collector. A sun-facing collector heats a working fluid that passes into a storage system for later use. SWH are active (pumped) and passive (convection-driven).

**Solar service- Solar tracking system**

Solar trackers are devices used to orient photovoltaic panels, reflectors, lenses or other optical devices toward the sun. Since the sun's position in the sky changes with the seasons and the time of day, trackers are used to align the collection system to maximize energy production.

**Solar service- Solar panel testing**

Testing is used to determine the maximum exposure temperature that can be reached before degradation or equipment failure occurs. For this type of testing, temperature-only simulation is considered imperfect, as it does not take into account the differential heating effects caused by solar radiation.

**Electrical Equipment’s- Air conditioner**

Electrical enclosures are generally designed to allow cooling by natural ventilation, supplemented sometimes by forced ventilation. This usually works well, but there are situations when overheating of electrical panels occurs due to internal heat load, environmental, ventilation, and air flow capacity constraints.

**Electrical Equipment’s- Washing machine**

A washing machine is a home appliance used to wash laundry. The term is mostly applied to ... The "inventor" of the electric washing machine remains unknown. ... type washing machine with "Air Wash" function (i.e.: using ozone as disinfectant). ... Home automation · Laundry washing equipment

**Electrical Equipment’s- Motor or Generator windings**

An AC generator converts mechanical energy into alternating current electricity. Because power transferred into the field circuit is much less than power transferred into the armature circuit, AC generators nearly always have the field winding on the rotor and the armature winding on the stator.

**Electrical Equipment’s- Battery management system**

The main goal of BMS is to keep the battery within the safety operation region in terms of voltage, current, and temperature during the charge, the discharge, and in certain cases at open circuit.

**Electrical Equipment’s- Inverter installation for both Domestic & industries**

Not only do solar inverters play a pivotal role in making eco-friendly energy applicable for the majority of electrical appliances, but they also help in ... home appliances like refrigerators, TVs and microwaves to huge industrial equipment. ... used solar inverters, for both business and household purposes.

**Electrical Equipment’s- UPS installation for both Domestic & industries**

A large data-center-scale UPS being installed by electricians. An uninterruptible power supply or uninterruptible power source (UPS) is an electrical ... The primary role of any UPS is to provide short-term power when the input power ... on its internal DC-AC inverter circuitry, which is powered from an internal storage battery

**Electrical Equipment’s- Home appliances**

The domestic electrical appliance industry is responsible for the manufacture of a wide-ranging variety of equipment including appliances designed for audio-visual, cooking, heating, food preparation and storage (refrigeration) uses. The production and manufacture of such appliances involve many highly-automated processes which can have associated health hazards and disease patterns.

**Computer Numerical Control (CNC)- Laser cutting machine**

Laser cutting is a technology that uses a laser to cut materials and is typically used for industrial manufacturing applications, but is also starting to be used by schools, small businesses and hobbyists. ... Industrial laser cutters are used to cut flat sheet material as well as structural and piping materials.

**Computer Numerical Control (CNC)- Laser engraving machine**

Laser Engraving (or Laser Etching) is a Subtractive Manufacturing method, that uses a laser beam to change the surface of an object. This process is mostly used to create images on the material, that may be seen at eye level. ... It is using the laser for marking the surface of an item

**Computer Numerical Control (CNC)- 3D printer**

3D printing is an innovative technology that lets you create a physical object from a digital model. All you need to do is make a design, transfer the file to a 3D printer, then bring your object to life. The 3D printing process was devised in the 1980s and was initially called 'rapid prototyping.

**Computer Numerical Control (CNC)- 3D scanner**

3D scanning is the process of analyzing a real-world object or environment to collect data on its shape and possibly its appearance (e.g. color). The collected data can then be used to construct digital 3D models