



INDUSTRIAL AUTOMATION SOLUTION PROFILE

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Executive Summary

TSS Group is an engineering and contracting company established in Feb-1993. We have various divisions working to deliver a professional engineering services. Our various divisions include Civil Construction, MEP Services, Low Current System, Industrial Automation.

The highest standards of quality ethics and integrity in addition to continuous commitment to human and technical developments form the pillars upon which TSS Group conducts its business.-

We are based in Riyadh, Saudi Arabia. We provide support through out the each project, focussing engineering design, technical till handover of the project. We are deeply committed to an open transparent highly ethical team oriented work culture. We are 300+ employees working as a team to cover the wide range of requirements.

We look forward to counting you amongst our satisfied clients. With our extensive experience and focus on large power solutions succeeded in establishing a strong portfolio covering many sectors: Construction, Industrial and Residential.

TSS Group is your trusted partner to design, build, implement, and support automated system solutions for warehouses, distribution centres, and production facilities.

Process improvements, material flow automation, along with performance optimising software make up the components of each solution. To develop the ideal system configuration, Dematic uses an industrial engineering approach focused on operational excellence. The result, intralogistic system solutions that:

- Reduce space requirements, operating costs, processing time, transactions, and potential for errors
- Optimize material & information flow, processes, operations management, and activities
- Increase productivity, throughput, inventory & order accuracy, ergonomics, safety, visibility, insight, profits

We provide a complete turnkey solution for clients that facilitates cost reductions, increased efficiency and return on investment.

Our Solutions Include:

- SITUATIONAL AND PROBLEM ANALYSIS
- DESIGN
- PROTOTYPE DEVELOPMENT
- MANUFACTURE
- INSTALLATION
- SERVICE



About Us

VISION

To be the most valuable partner for our customers and suppliers and to consistently increase shareholders' value while ensuring a prosperous future for all individuals working in TSS Group Group.

MISSION

Adhering closely to our Group core values: responsibility, integrity, responsiveness, flexibility, personal customer care, co-operation, leadership.

1. Investing in our people, by encouraging lifelong learning, individuality, personal initiatives and self-achievement.
2. Creating new business standards through innovation and smart thinking, aiding our customers' leadership in their markets.
3. Providing not just products but complete & innovative solutions, tailor-made upon our customers' specific requirements and needs.
4. Acting local – being global, serving thousands of companies worldwide through strategic geographic dispersion.
5. Pursuing profitability through organic growth and strategic acquisitions.
6. Achieving competitive prices through economies of scale, vertical integration and internal synergies.
7. Combining diverse high-end technologies with a long know-how and an extensive experience in the markets we operate.
8. Adapting to the ever-changing market environment and promptly adjusting our practices to successfully meet the global trends that will shape the future of business, economy and society.
9. Deliver products of consistent quality on time and on budget
10. Commitment to profitable growth in harmony with the environment

VALUES

We commit ourselves to complete all projects within the timeline set with our clients. We use the best of technology and tools to ensure that all jobs are done quickly but also giving attention to details.

Precision

It is in our DNA.

People

You benefit from our most valuable resources our dedicated employees

Quality

Double checking everything is not exception, it is our standard

Deadlines

We are always on-time, its our heritage

Solutions

We like to blaze the simulation and trial so you can get ahead

OUR STRENGTHS

In-House Design, Engineering & Simulation

We have our own in-house design and engineering team comprised of qualified and experienced design draftspersons and certified engineers. All are equipped with licensed tools and software to develop unique solutions from the initial concept stage to completed projects and manufacturing.

Automation & Control

We develop the automation and controls integration for our own projects. Our capabilities include Electrical CAD Design, Robot Cell Integration, Servo-Motor Integration, Industrial Network Integration, Machine Safety Integration, VFD Integration, PLC Programming, HMI Programming and Industrial Computer Programming

The Team

Our installation team is made up of fully accredited and qualified specialists who have experience installing renewable energy systems in both the commercial and residential market sectors. standard

Quality Policy

QUALITY STANDARDS

At TSS Group, solving customer challenges is second only to keeping everyone safe and healthy. We don't compromise our focus on HSE for better business results. Our commitment to safety will minimize the impact on the environment, control risks to our employees, and maintain safe work practices. Our dedication will match our commitment so that each and every TSS Group employee takes personal ownership of their own safety and the safety of others.

Turning our commitments into practice is at the heart of our Journey to ZERO. Simply stated, it's a concerted effort to achieve ZERO health, safety and environmental incidents every day, all the time. There are many areas within Sashma where this is happening now. Our ZERO goal is to make it happen around the clock, everywhere.

TSS Group will continue to keep its strategic focus on these key HSE areas:

- Effective leadership and commitment
- Continuous improvement of our Management System
- Training and competency of our employee workforce
- Providing mechanisms for employees to communicate and address risk
- Continuous improvement of technology and processes to mitigate HSE impact
- Verification of performance through audits and communication of key learnings.

QUALITY POLICY

Strives to fulfill the needs and expectation of our customers by offering consistent quality in all our services. Implements its Quality Policy through QMS which is binding for all the employees. No unauthorized alterations or deviations from the QMS are permitted.

Reviews its Quality Policy through regular management review meetings to ensure that service quality is maintained in line with the customer's expectations. Provides sufficient and suitable resources to implement and maintain the Quality Management System. Provides an environment that fosters a spirit of pride in workmanship and teamwork among employees.

QUALITY OBJECTIVES

It is our objective to provide the satisfaction to our customers by providing high quality products on time, every time. We are committed to providing safe working places to all of our employees.

Our company aims to expand operation by establishing branches to closely monitor our Customer's needs. It is our objective to bring highly innovative technology machines to support the continual development.

It is our operating philosophy to do it right from the first time, all the time.



Raw Material Handling

We offer a wide range of solutions: indoor and outdoor silos (flexible fabric silos, stainless steel or fiberglass), unloaders for bags or big-bags, micro batching equipment for ingredients, mechanic and pneumatic conveyors, scales, sifter, automation and everything is necessary to design customized equipments.

Flexible Fabric Silos

Flexible fabric silos represent the most user-friendly and cheapest solution to store raw materials in bulk indoor. Fit to be used in food industry, we customize our silos designs, tailoring them to suit the application and any local site restraints. The square silos design maximizes floor area and comes in a range of sizes up to 70 m3.

Flexible fabric silos are made by means of a metal frame and a bag made of antistatic fabric, so shipment becomes cheaper and installation is very quick. The top of the bag is made of a filtering fabric and it ensures a dust free surrounding environment during pneumatic filling.

Flexible fabric silos need low maintenance and in the same time they assure long-lasting life, the flexible fabric design aids product discharge with a number of different outlet options, in fact bin activator can be coupled with both of mechanic and pneumatic conveying equipments.



Fiberglass Silos

We offer a wide range of fiberglass silos fit to store outdoor industrial and foodstuff raw materials. Fiberglass assures long-lasting resistance, even in an environment with strong chemical agents. Thanks to its features, fiberglass guarantees a very good insulation keeping safe the properties of stored products. Fiberglass silos are equipped with all the necessary safety tools according to law.

Mono - Self-bearing monolithic body made by filament winding process which assures high resistance. Extraction system is protected from bad weather conditions. Fit for hygroscopic materials. Available volume up to 80 m3.

SIAG - Fiberglass body made in two parts (upper and lower). Self-bearing frame made of galvanized carbon steel. Designed for transport by lorry.

SIE - Fiberglass body is shared in different vertical parts to make the shipment easier. Cheaper transport costs. Easy to assemble



Stainless Steel Silos

Indoor stainless steel silos have been designed for the storing of flour. Fluidized bottom allows to take the product out efficiently and a proper ventilation inside the silo.

Indoor stainless steel silos have no standard sizes but they are customized on the basis of the available space. Silos body is made by means of modular panels which are assembled on site and make the shipment easier. Their volume comes in a range of sizes up to 50 m3.

Stainless steel silos have been designed for pneumatic filling, their top is made of filtering fabric which ensures an efficient dust collection without any additional filter.



Raw Material Handling

BIG-BAGS DISCHARGER

FIBC discharger allows to handle raw materials as they were stored in silos. It can be made of painted carbon steel or stainless steel. After the FIBC is hanged onto the frame, the product is collected into a hopper and then conveyed to the dosing station.

The main frame is telescopic to manage big-bags of different sizes, an electric vibrator helps the product to go out properly from the hopper.

FIBC unloader can be equipped with electric hoist, pneumatic shaking system and other accessories.

BIG-BAGS FILLERS

Big-bags filler is an efficient system to store raw material in fibcs avoiding dust into the surrounding environment.

It is made by a telescopic frame with four stretchers to hang the big-bag and a bags filling unit with an inflatable seal.

BAGS DISCHARGER

Bags unloader let you to discharge bags easily, safely and with less dust into the surrounding environment. It is made of stainless steel and it is provided with safety net. You can choose between models with or without filter with dust fan.

MICRO-BATCHING SYSTEM

Our micro batching machine for ingredients assures their automatic handling with a very high accuracy.

The machine is equipped with its own hopper for the dosing of selected ingredients. This hopper can be fixed or belt-driven to move itself under each storing tank. Product level into the tanks is monitored by means of level sensors.

CONVEYING SYSTEM

We can propose 2 different conveying systems:

- Mechanical**, through screw conveyor (tubular or flexible)
- Pneumatic**, we convey product by means of air blower (negative or positive pressure).

MIXERS

We offer Horizontal Single Shaft Mixers, ribbon Blenders, Twin Shaft Paddle Mixers, Dust Conditioners, and Laboratory Mixers.

SIFTERS / SIEVING

Many times the sieving of the product is very important to avoid problems, for this reason we have a wide range of sifter which assure good results.



Primary Packaging

We supply a wide range of primary packaging solutions, ranging from simple filling equipment over blister and pouch packs to inspection equipment and Track & Trace solutions. We work together with a number of different suppliers, enabling us to find the solution best fitted for your requirements.

Blister Packing

- Blister sealing machine
- Tray sealer, fill & seal, Tray thermoform, fill & seal
- Cup thermoform,
- Blister thermoform,
- Blow mould, form, (eye drop doses)



Bottle Filling

- Aerosol Filling, Aseptic Filling, Bottle Filling
- Cup Filling, Capsule Filling, Tube Filling
- Sterile and non sterile Filling, Parenterals Filling

High-quality solutions to serve many industries such as Dairy, Food, Home Care, Personal Care and Chemicals.



Tube Filling

In Tube Filling, there is a wide range of packaging solutions, from low to super-high speed. serves different industries, such as Personal Care (mainly Toothpaste and Cosmetics), Pharma, Home Care and Food.

Pouch & Sachet Filling

Continuous or intermittent solutions for flat and stand up pouches for a wide range of industries, such as Beverage, Dairy, Food, Personal Care, Tea, Coffee, Dry Fruits, Dates,, etc. and Pet Care.

Cup Filling

These machine are compact machine consolidated all process from providing cups, air cleaning, filling, sealing, trimming and discharging. System has high productivity because of its consolidation process.



Capsule Filling

We offer capsule filling solutions to Tea & Coffee Industry. We can handle speed upto 700 cpm We are also offering capsule filling solution for pharmaceutical industry and we can handle speed upto 25000 cpm.

Cosmetic Filling

We offer capsule filling solutions to Tea & Coffee Industry. We can handle speed upto 700 cpm We are also offering capsule filling solution for pharmaceutical industry and we can handle speed upto 25000 cpm.



Secondary Packaging

Our commitment to customers is to provide a fully integrated, automated solution for every packaging requirement. For this reason we have extended our comprehensive line of offerings to secondary packaging systems. Our expertise in secondary packaging capabilities includes top loading packaging lines composed of forming and closing machines; side loading horizontal cartoning machines, either intermittent or continuous motion; and case erectors.

Cartoning Machine

Our range of horizontal cartoning machines, intermittent or continuous motion, is suitable to pack products into boxes with automatic side loading and closure of the lateral flaps by means of hot melt or tuck-in flap. Products can be loaded into the machine infeed manually by the operator or automatically by means of a mechanical or electronic synchronization unit. The horizontal cartoning machines are particularly used to package food products like frozen pizzas, cakes, cereals, rice, coffee packs, etc.

Carton Forming

Carton Forming machines are suitable for erecting carton trays or boxes, starting from flat blank, with bottom closure obtained by means of standard mechanical locks, turn over end walls, hot melt or hot air. A wide range is available and configured according to customer requests: mechanical or pneumatic, with direct or indirect carton feeding.

Closing Machines

Closing machines are suitable for closing the lid of erected and filled carton boxes, by means of hot melt or tuck in flap systems. The wide range includes inline or angular closing machines, mechanical or lugless type, suitable for closing box lids on 1 or 3 flaps. Usually supplied together with the forming machines in order to provide complete solutions, they are suitable for packing food products (ice creams, frozen food, snacks, dairy products, etc.)

Multipack Machines

The multipack machines are suitable for wrapping products like yogurt cups, cans, trays, etc. with a solid carton board sleeve in single or multiple packs. Sleeves are closed on the bottom with hot melt applied by means of a gun spraying unit.

Compact Machines

The multipack machines are suitable for wrapping products like yogurt cups, cans, trays, etc. with a solid carton board sleeve in single or multiple packs. Sleeves are closed on the bottom with hot melt applied by means of a gun spraying unit.

Case Erector

Our case erectors for extra small to extra tall cases with a wide range of speed and capabilities. Our case erectors can also be integrated with case loaders, providing ultra-compact systems for loading products into corrugated cases.

Case Loaders

We can supply either a customer specific designed manual packing station, or a fully automatic pick and place solution. Each system is specifically designed to suit the application, product weight, budget, and speed requirements. With both low and high speed solutions available, We have the flexibility to combine any of its case erecting or case sealing machinery with a case loading system to offer customers a fully integrated service.

Case Sealer

Our case sealers are a must have in all operations that are looking to gain efficiencies and throughput. We can go speeds upto 40 cases a minute. Efficiency and throughput is only half of the value, one of the best features of our case sealers that often gets overlooked is the consistency.



Final Packaging

Many transport or case packages are also the sales packages and thus must be attractive and of high quality as well as robust and easy to handle. High package diversity needs to be taken in account. A large variation is achieved with the final packaging machines.

Labelling and Printing

Our Printing and Labelling Solution Includes the following :

- Occasional printing
- Limited batch printing
- Bottle cap printing
- Digital, Flexo printing
- Laser Engraving



Monitoring & Inspection

We are a reliable partner for high performance, process and customer-orientated weighing and inspection solutions

- Temperature sensing
- Metal Detection
- X-Ray Inspection
- Check Weighing Machines
- Track and Trace Solution
- Integrated Combined Systems



Palletising Systems

Our Various Solutions on Palletizing shall include the following :

- Robot Palletisers
- Collaborative Palletisers
- Case / Tote Conveyors
- Pallet Conveyors
- Pallet accumulators
- Bulk container
- Partition Inserters
- Pallet shrink wrapping (Semi & Automatic)



Automatic Guided Vehicle (AGV) Systems

AGVs are the ideal solution for warehouse and distribution areas.

They can be used for a wide range of applications:

- Moving loads from receiving to production/warehouse
- Warehousing (narrow aisle, deep-lane stacking, block storage, racking)
- Buffer storage
- End-of-line handling
- Picking from conveyors, palletizers, stretch wrappers
- Trailer loading/unloading
- Transport between production and warehouse



Robotic Solutions

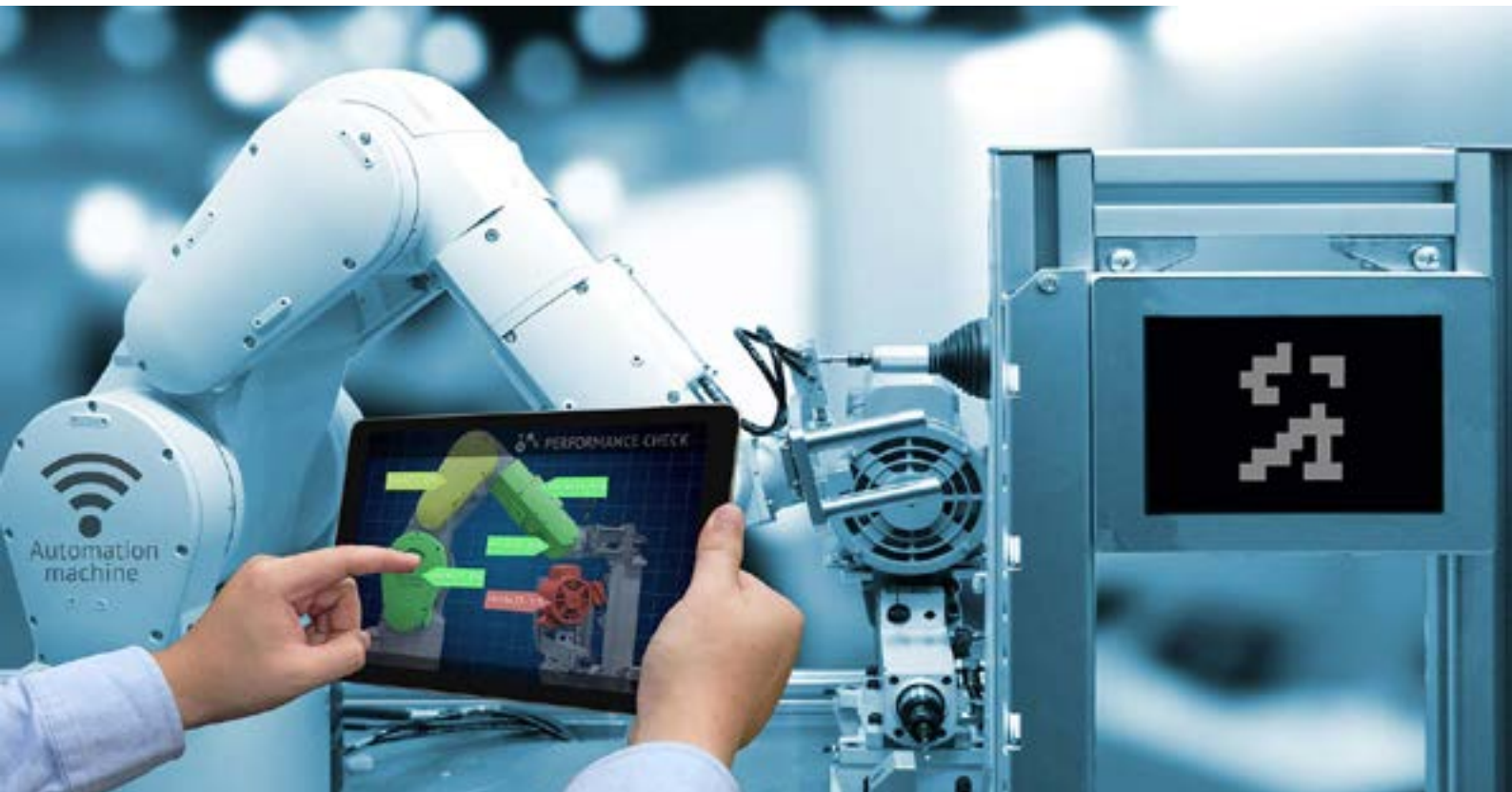
Our Packaging Systems offer a range of robotic packaging systems, which provide customers with future-proof packaging automation and a firm step towards Industry 4.0. The use of robotics within the industrial sector is continuing to grow at a steady rate. As companies look to reduce labour and increase efficiency, automation and robotics are providing the solution.

Robots are a flexible solution that can offer a fully automated or Cobot packaging systems. They allow companies to introduce increased efficiency through automation with the possibility to upgrade left open. We work with various Robotic and Gripper Manufacturers to provide the solutions. Due to our in-house automation team, they can make our robots flexibly perform multiple movements with both speed and exact precision.

Robotic packaging systems improve both efficiency and performance within the packaging and warehouse distribution industries, providing you with sustainable, future-proof solutions.

Our range of robotic packaging machines include:

- Robotic De-Palletisers
- Packaging Robotic Tray Packers
- Packaging Robotic Case Packers
- Packaging Robotic Palletisers
- Packaging Robotic Tray Loaders
- Packaging Robotic Case Loaders
- Industry 4.0



Turn Key Conveyor Systems

Products that are handled have a weight from a few grams up to 30 kg using Chain Conveyors and up to 1400 kg using roller and belt conveyors.

Chain Link Conveyors

We are Authorised Systems Builder of FlexLink conveyor systems in Middle East . FlexLink has conveyor systems to handle, divert, rotate, push, or accumulate products during the manufacturing process. With FlexLink, you gain enhanced production efficiency from our conveyor systems, process expertise, and advanced software. FlexLink conveyors are durable, practically maintenance free and offer huge reliability benefits to our customers.

The Flexlink conveyors are based on an aluminium conveyor beam with low friction slide rails guiding a plastic multi-flexing chain. Products to be conveyed travel directly on the Flexlink conveyor, or on pallets or carriers. The proven virtual maintenance free qualities of FlexLink mean that in 24 hour 7 day week operations, production is kept at maximum efficiencies.

With Chain Conveyor, we can do the following :

- Horizontal Product Transfers
- Vertical Product Transfers
- Spiral Elevators
- Wedge Elevators
- Dynamic Product accumuloes
- Alpine Vertical Product Accumulators
- Enclosures

Belt Conveyors

The selection of components from the PVC and modular range of belt conveyors meets the demands of industry and can be added to, or exchanged for components in existing modules and other installations, thus providing new transport and handling configurations for a minimum investment requirement.

Roller Conveyors

We provide a variety of roller conveyors including, gravity rollers, driven rollers, accumulating roller conveyors and zero pressure roller conveyors.

GRAVITY ROLLERS

Gravity roller conveyors are the basis of most package handling installations because of simplicity, economy and negligible maintenance requirements.

DRIVEN ROLLERS

Powered roller conveyors are widely used for the continuous transport of goods.

ACCUMULATING ROLLER

Accumulating roller conveyors are used for linking manufacturing equipment or assembly points with various assembly tasks as well as for buffer storage.



Automation & Control

We recommend an approach based on the development of a wide range of control and automation systems that prioritize performance and quality through optimization of production processes. We also stand out by offering the industry innovative solutions that contribute to improving the safety of employees in their work environment.

Electrical CAD Design

A good technical documentation is the basis for the success of a project and the efficiency for troubleshooting and maintenance work. The design of automated systems and control panels poses challenges due to the complexity of the details and standards to be respected. Our service is complete and our experienced and competent team ensures that you meet the standards, the quality and the budget of your projects.

For the manufacture of control panels or automated systems, we do Layout Drawing, Terminal Block Design, Equipment List, Transcription of Drawings, Survey of Existing Control Systems and System Documentation.

Robot Cell Palletization

Industrial robotization for customers wants to be productive and competitive. We integrate robots in production to improve productivity, increase profitability, increase versatility and to enhance reliability and safety.

Our various applications include : Cobot integration | Transfer (pick and place) | Delta: High-speed food canning | Palletiser / Depalletiser | Boxing | Grinding / Deburring | Welding | Robot Cell Security

Servo-motor Integration

To maximize the efficiency of your operations, the integration of positioning systems with servo motors to production lines is a very advantageous solution. The latest positioning technologies allow us to quickly and consistently achieve high return on investment. Positioning systems formerly reserved for numerical controls and machining applications are now available in all stages of manufacturing, assembling or handling your products.

Industrial Network Integration

To increase the productivity, reliability and flexibility of plant production, communication between computer systems and processors used in production equipment has become essential. Industrial automation networks benefit from the standards developed on computer architectures. The most common networks supported by us : Ethernet TCP/IP | ControlNet : Control Network | DeviceNet | DH+ | Remote IO | Modbus Plus | CANopen | EtherCat | Profibus | AS-i .

Machine Safety Integration

We shall be able to comply a recommendation from your health and safety committee or an employee. We can help you achieve your goals.

Equipment to be secured Custom automated production line, Conveyor line, Robotic Cell, Wrapping machine, Hydraulic press, Machine tool

Variable Frequency Drive Integration (VFD)

Variable frequency drives have become a must in many industrial applications for motor control: Coil winder: Speed control, tension control | Process control loop open, closed | Variable constant torque control | Control of pumps flow, water hammer | Control of ventilators | Integrated security machinery | Integration of industrial networks: Ethernet / IP, Modbus | Handling | Load sharing | Conveyor system | Speed control.

PLC Programming

Companies are constantly adapting to new markets, new products and new productivity challenges. Production lines need to be more flexible and versatile. Our Services include : Integration of new PLCs : selection, set up of new programmable logic controller (PLC), program |

Optimization of existing PLCs : Add new functionalities to existing equipment to make new products, to increase productivity | Networking : Networking with servers or other controllers | Upgrade : obsolete PLCs that need to be replaced by newer ones

HMI Programming

The integration of operator interfaces with production equipment ensures flexibility and versatility. In recent years a large amount of operator interface has been introduced to the market. The operator interfaces are offered by several manufacturers in several countries in several formats.

The use of HMI includes : Integration: Integrate new interfaces into new systems or into existing systems | Optimization: Make production lines more efficient and flexible by optimizing the screen pages of existing systems | Change: Add or modify screen pages to allow for new functions |

Update: Replace obsolete operator interfaces with newer or more powerful models | Ergonomic: Make interfaces easier to use.

TSS Group delivers end to end business services which help organizations in the public and private sectors to operate more efficiently and profitably. By combining in-depth understanding of our clients' businesses with expertise in engineering knowledge, we take on our clients' challenges and develop innovative solutions to address them.

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