AUTOMATIONS

GIS Solutions

Description

To keep things running smoothly, decision makers need a flexible system to integrate design and geographic data. Project co-ordination demands the ability to acquire, manage and analyse the present geographic information in a single environment.

Rolta in partnership with Intergraph & Z/I Imaging, provide solutions that tie a customer's decision-making environment with complete Geographical Information System (GIS).

The company has the knowledge base and the experience to implement Mapping and GIS systems on a variety of software platforms such as Intergraph FRAMME, MGE, Geomedia and G/Technology, Smallworld, Autodesk VISION, EngHouse Geonet, ESRI Arc/Info, Bentley Systems Microstation and others.

Services Offerings

Solutions offered include high end workstations, specialised software and comprehensive technical services in the areas of mapping, cartography, imaging and photogrammetry. Rolta's comprehensive range of solutions includes:

- Parcel mapping and conversion
- Urban and cadastral mapping
- Road and street centre-line alignments
- Map creation
- Updation using aerial and satellite imagery
- Photogrammetric mapping
- Aerial triangulation
- Digital terrain model
- Orthophotocreation
- Image interpretation for thematic mapping

Applications

Leveraging its experience of supporting hundreds of GIS users in terms of integration, customisation and development of specific applications, Rolta offers a full complement of services for AM/FM and GIS to the global market. The company also provides a full complement of specialised services in implementing GeoEngineering Technology applications worldwide in the areas of:

- Aerotriangulation
- Planimetry
- Digital terrain/elevation models
- Digital Orthophotography
- Image analysis/interpretation
- Cadastral/ parcel mapping
- Electronic navigational charts
- GIS database design and development
- Map creation, updating and finishing
- Data conversion and format translation
- Technical support

Rolta has recently introduced GIS solution for public safety agencies like police, fire and ambulance services, e-governance solutions to address needs of state and municipal governments and architectural and civil engineering solutions for large infrastructure projects like roads, bridges, dams, water systems, city planning and development etc.

Target Countries

USA, Canada, and European Union countries

Organisation

Rolta India Ltd.

Pick and Place Robot

Description

The 'SCARA' style robot is a four degree-of-freedom robotic arm that can be used to pick and place small parts on a production line. It has been designed as an appliance; it is totally self-contained.

The user can plug the power cord into a standard AC socket and the unit is operational. In a typical application it can replace the human operator in feeding industrial presses with discrete components. Its low cost ensures early return on investment and its modular design with a minimum number of components promotes reliability.

It can be easily integrated into automation systems as it provides a wide range of auxiliary control interfaces for digital and analog inputs, digital outputs, pneumatics, and stepper control. The programming interface uses PLC style ladder logic eliminating the need to learn a programming language.

Optional user-specified or designed grippers can be attached at the wrist. Two and three jaw pneumatic or electrical grippers interfaced with the connectors at the wrist can be supplied with the arm on request.

Advantages

The robot has the following key features:

- Compact and totally self-contained to minimise installation and redeployment effort and cost
- Modular intelligent joint actuators, each powered by a fixed point DSP controller
- PLC-style programming interface to minimise training and technical support
- Auxiliary control interfaces for system integration and user customization
- Optional integrated Web Server to connect the robot to the world wide web

Applications

The robot finds application in press feeding of small components, palletising, bead application etc.

Target countries

USA, Europe and South East Asia

Systemantics holds Patent for this product.

Collaboration Options

The product has been released in the market. It is being ruggdised for shop floor operation. Systemantics is interested in Marketing, Service and Support Agreements.

Organisation

Systemantics India Pvt. Ltd.

Specifications

Specifications:*

Axis	**Shoulder**	**Elbow**	**Wrist Rotation**	**Wrist Up/Down**
Joint	Rotary	Rotary	Rotary	Prismatic
Actuator	AC Servomotor	AC Servomotor	AC Servomotor	Stepper motor
Stroke	330 deg	178 deg	180 deg	80 mm
Speed (Max.)	120 deg/sec	120 deg/sec	180 deg/sec	80 mm/sec
Acceleration(Max)	380 deg/sec^2	360 deg/sec^2	360 deg/sec^2	100 mm/sec^2
Stroke Cycle time (sec)	2.5	1.5	0.5	1
Payload location	X	Y	Ø	Z
Resolution	0.025 mm	0.025 mm	0.002 deg	0.05 mm
Repeatability	0.1 mm	0.1 mm	0.01 deg	0.1 mm

Reach	600 mm (reach of a typical human hand)
Stroke	475 mm (from closest to body to reach furthest from body)
Payload	500 grams
Power supply	Universal 110V/230V AC 50/60 Hz
Power consumption	500 watts
MTBF -MTTR	
1 hour to replace malfunctioning joint	

* Subject to Change

Automation

Moulds for Injection Moulding

Applications

Engineered tooling solutions has experience and expertise in design and manufacture of a wide range of tools. The excellence in quality and reliability in tooling flows through various product lines serves by the tool room. The services find application in:

- Thermoset and thermoplastic moulds
  - Injection moulds
  - Compression moulds
  - Transfer moulds
- Press tools
  - Progressive dies
  - Lamination tools
  - Carbide insert tools
- Pressure die casting dies

Target Countries

USA, Europe, South Africa, Iran and Middle East

L&T holds patents for some of their processes and products.

Organisation

Larsen and Toubro Limited, Engineered Tooling Solutions

Description

Supreme's state-of-the-art technology centre at Mumbai is the largest mould development facility in India. It is also the most advanced unit of its kind in the country featuring new generation equipment and sophisticated quality assurance systems.

The centre is equipped to handle the entire gamut of mould production operations of a turnkey basis: from product design to prototype making, to mould development, manufacture, proving and trial.

The centre also offers moulding facilities to its clients, if they so desire. The company's state-of-art plants offers the best moulding facilities. An array of moulding machines with locking tonnage ranging from 80 to 250T stand ready to handle the most challenging projects including moulds weighing upto 12 kg a piece.

Process from concept to finished moulds

The journey from concept to finished moulds is:

- New Generation CAD systems are employed to create 3D Models of both the cavity and core - speedily and accurately matched to specifications
- These designs are then brought to life at the centre's sophisticated machine shop. The world's most advanced intricate form machining equipments shapes the mould into reality using powerful 3D software. CNC machines deliver precision that is measurable in microns
- Mould proving and trial are undertaken on an intensive and extensive basis
- Internationally certified quality control systems and procedures are employed throughout to ensure flawless, uncompromising excellence
- To enhance the centre's formidable capabilities even further, electronic digitising equipment and large die-spotting machine will join the existing fleet of sophisticated hardware

Application

The products made from Supreme moulds are:

- Automotive Components
  - 4 wheelers: Radiator grills, interior trim, scuff plates, mudguards, mud-flaps, corner bumpers, bezels, instrument panels, glow boxes and lids, water deflectors, body protectors etc
  - 2 wheelers: Handlebar covers, seat trim, mudguards, shields, seat bases, etc
- Electronic Appliance parts
  - Washing machine bases, balancer cases, door windows, door bezels, lids. Cabinet for TVs, computer and audio systems. Water heat exteriors
- Air conditioner and Refrigerator components
  - Front grills, kick plates, chill trays etc
- Moulded Furniture
  - Garden furniture, mass seating systems, children's furniture
- Crates
  - Industrial crates, special purpose and custom developed crates
- PVC pipe fittings
  - Fittings for agricultural, SWV, SWR, ASTM and plumbing pipes
- Food serviceware
- Thermoforming tools

(cntd...)

Engineering & Manufacturing Services