



Terminal Technologies (I) Pvt. Ltd

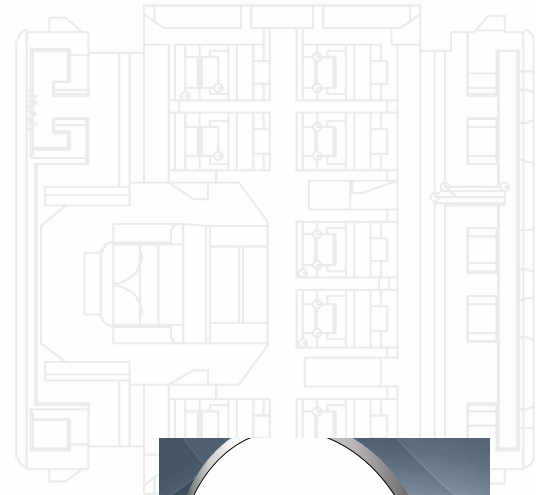


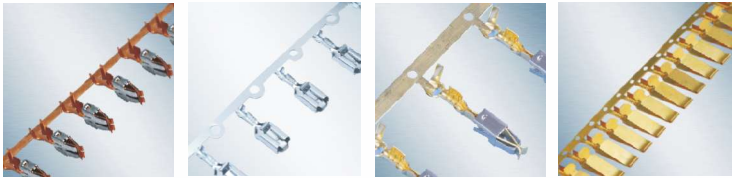
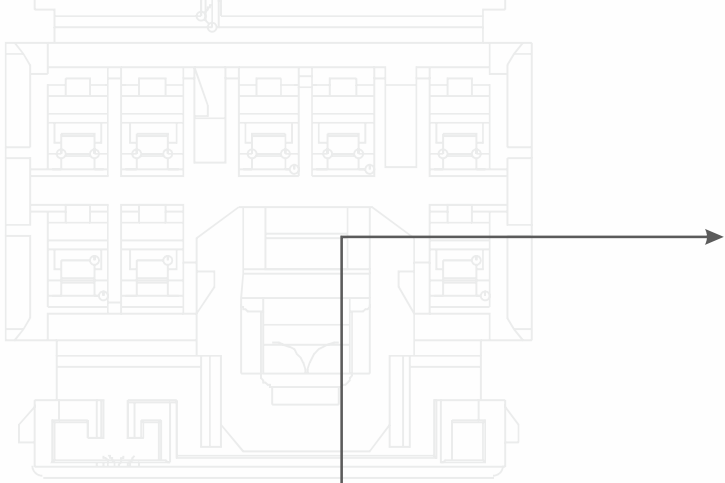
Making the right connections

CATALOGUE

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ABOUT US

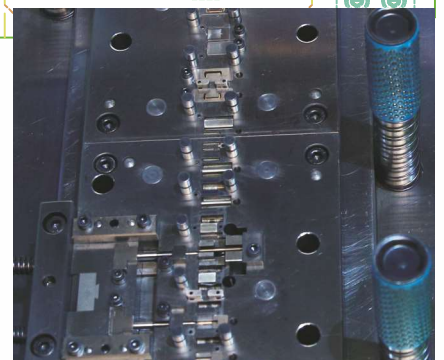
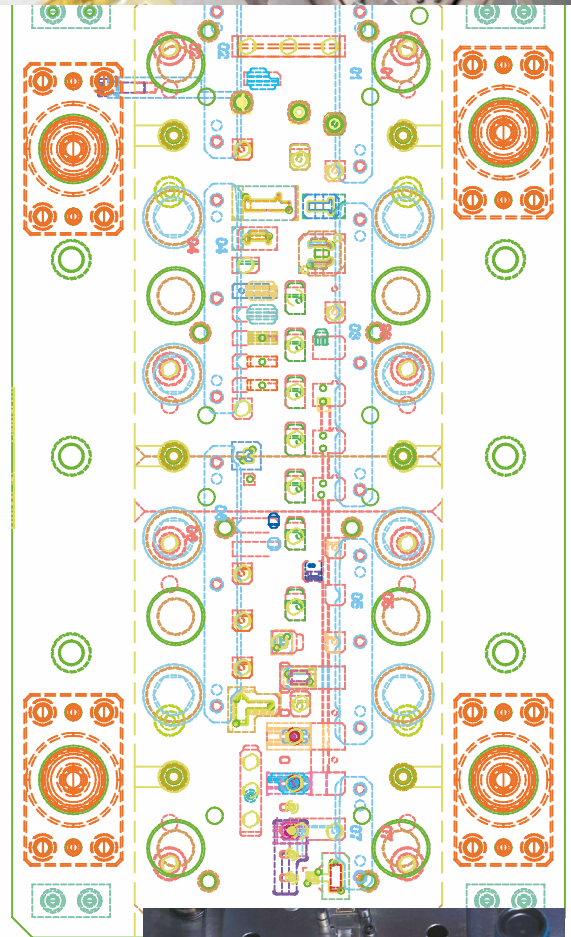
Established in 1993, TT "Connect & Grow" is entering the 25th year of providing interconnection solutions for the Auto, Appliance, Electrical, Electronics and connected world. With over a billion connections executed every year, TT is in a position to offer a single stop solution for intricate and complicated connection systems for the space starved and cost competitive industry. Leading from the front, TT has been bringing the latest technologies to the country and currently occupies the pole position as a solution provider. With design, tool/mold execution, production centers and full-fledged testing facilities, TT can execute a range of catalogue parts and custom-built solutions with ease in a very tight development cycle. TT works with OEMs and Tier 1 manufacturers to convert ideas to part deployment with cost competitiveness and Short timelines.





CAPABILITIES

With the aim of providing the latest connecting solutions to customers, TT has heavily invested in design and tool room activities which is the back bone for new product development. Over 20 designers with more than 100 years of collective experience can find solutions for tricky situations where space and maneuverability can be challenging. TT regularly uses 3D, RPT and mold flow analysis prior to actual mold manufacturing to make the T0 trials as accurate as the final sample submission. Often, parts with over 500 dimensions in tolerance of less than 0.02 mm are designed and executed with ease, meeting all customer requirements and stringent international testing and validation standards. All design is supported with a range of wire EDMs and Spark EDMs with a host of precise grinding machines to achieve the desired output meeting exact inspection requirements. TT can produce precise stamped parts, complex insert molded parts and assemblies with special fixtures giving a single window solution for any new part introduction by customers.





HIGH SPEED STAMPING LINE

Equipped with Bruderer and Yamada Dobby lines, TT has over 30 high speed stamping lines with speeds of up to 1000 SPM. Tonnage range is between 25 and 80 and length of tool handled crosses over a meter. With progressive stage tooling with 25 stages, TT can process complex bending parts meeting precise inspection requirements. With an insistence to improve quality, TT is introducing Dual camera online inspection systems with many press lines to make reliability the keyword. Needless to say, TT has the capacity to produce over 5 million parts a day to meet all demand.



PRECISION STAMPINGS

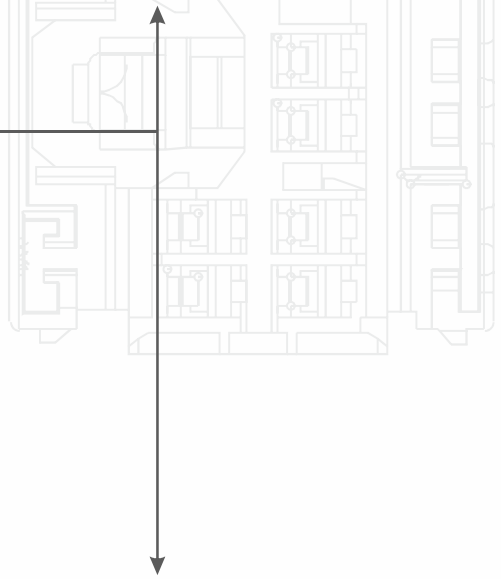
A wide range of Terminals include 070, 090, 110, 187, 205, 250, 312, 350 & 375 and LA Series Terminals. Also varieties of Fuse Terminals to suit Blade, Mini, Glass, Maxi and MIDI fuses are available. The latest capabilities include multi-metal stamping for meeting the most advanced requirements of high-end connections.





HORIZONTAL INJECTION MOLDING LINES

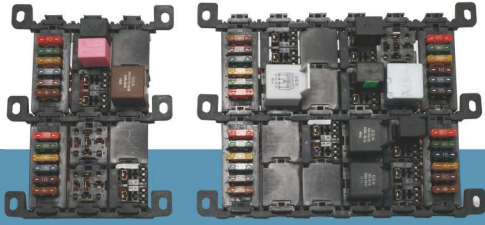
Precise connector parts and custom-built parts are produced with over 30 high accuracy molding lines following a TS certified production process. Multi cavity molds are run meeting the high precision required for connectors under controlled conditions. TT is gradually switching over the molding lines to all electric to boost the process capabilities and conserve energy. An in-house team of maintenance engineers keep the molds in a pristine condition to produce parts as per original prints.



INSERT (OVER) MOLDED LINES

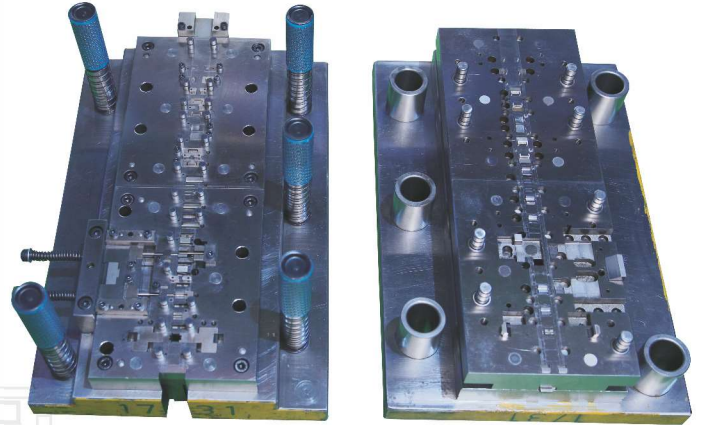
This has been a challenging field for Indian industries and TT is at the right space to offer solutions for the precision demanded from new parts. TT employs over 8 insert molded lines, some equipped with camera inspection for the continuous production of parts required for Automobile, Appliance and Electronics applications. Testimonies by clients and a regular flow of fresh requirements from existing clients are satisfying for TT, and TT is eager to expand capabilities in the field to meet the ever-growing demand.





PRECISION PLASTIC PARTS

TT produces over five hundred thousand standard connectors per day in the 070, 090, 110, 250, 312, & 375 series. A wide range of Relay Base & Fuse Boxes are available to meet various automotive electrical requirements. Over 30 Modern Injection Molding Machines gives versatility in production to meet the challenges posed by ever demanding automotive customers.



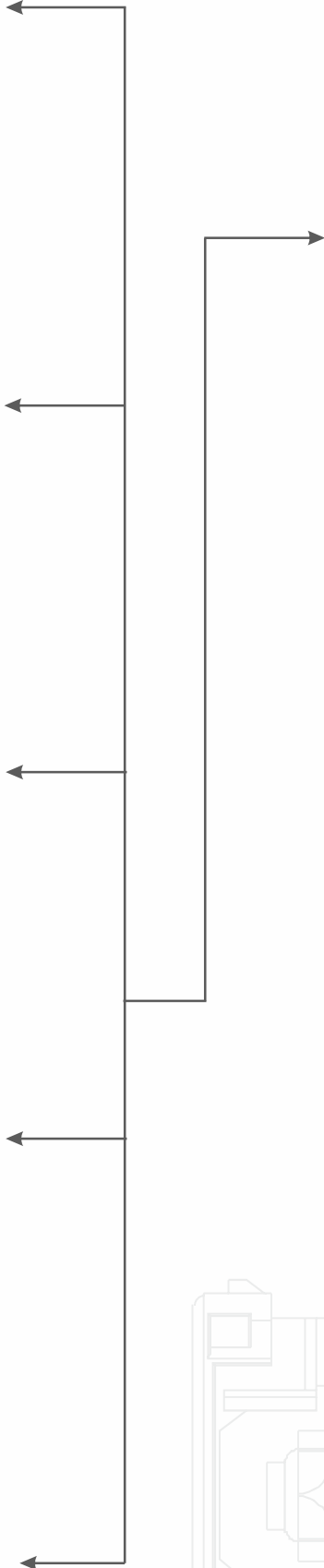
DIE, MOLD & TOOLING

Employing a variety of design software, designers at TT with over 100 years of collective experience can design sophisticated tools / molds for production with timelines that are better than the industry average. Over 25 staged progressive tooling with over 1000 mm tool length are designed and executed within short timelines. TT has also already started double metal stamping to meet this requirement. Multi cavity Injection Molds with over 500 inserts are well executed in our modern tool room. Complex insert molds are routinely made for challenging part requirements of the growing auto electronics sector.



AUTOMATIC WIRE FORMING

Wire forming multi-slides help TT to design and manufacture stamped & formed parts, which reduces tooling investment and minimizes the scrap generation in production of such parts hence maximizing the material yield.



STATE-OF-THE-ART TOOL ROOM

Realizing the need for speedy development of new parts, TT has been investing heavily and has built 2 tool room facilities with capabilities for stamping tools, injection molded parts and over molded parts. Latest machinery sourced from all over the world ensure speed and accuracy of the tool room, enabling TT to meet the shortest lead time for challenging developments. Complex programs involving dozens of tools/molds are developed on time, meeting inspection criteria. With tool room back up, designers from TT, using the latest software, can offer solutions to suit the most demanding requirements. This is verified through RPT parts and design validation data. Precise tool room equipment is supported by the latest inspection equipment including CMM and Vision Scope.

- 17 Wire EDM Stations
- 15 Spark EDM Stations
- 20 Surface Grinders
- 20 Design Stations

QUALITY POLICY

The company will strive to achieve complete customer satisfaction by producing and delivering products that match specifications for performance parameters by total involvement of human input and continual improvement of procedures and resources.

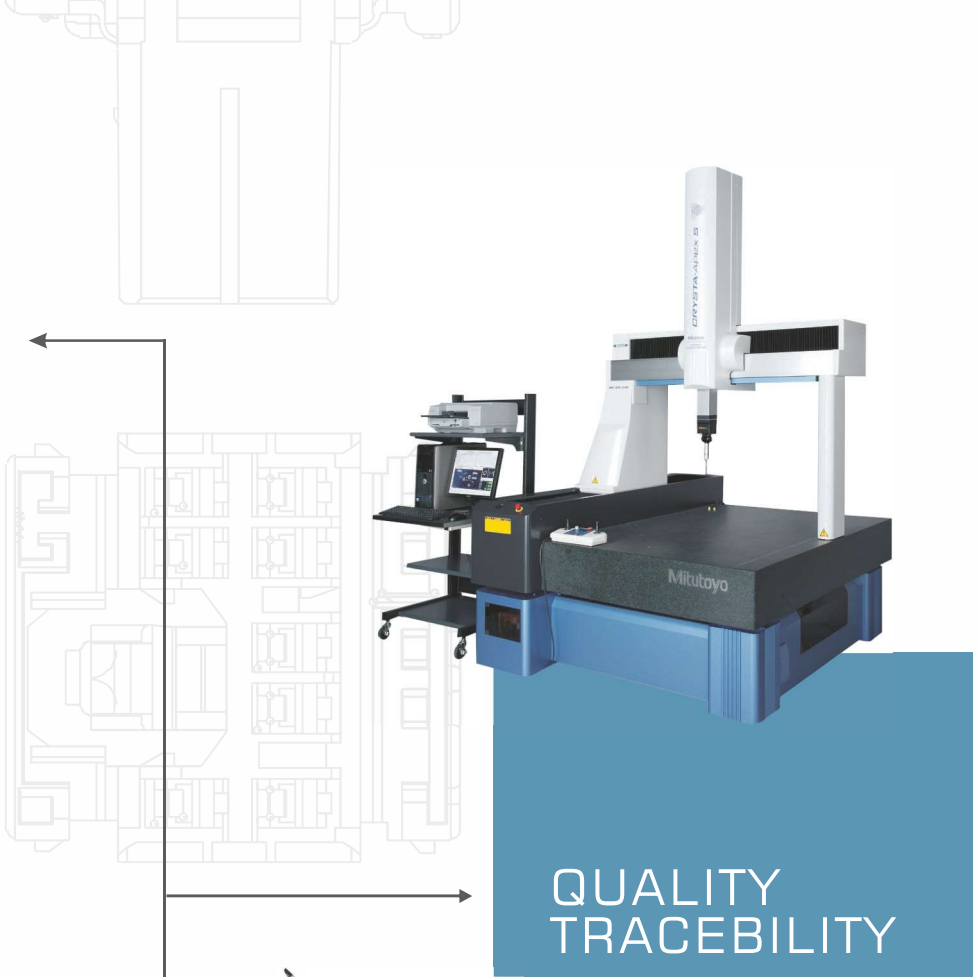
QUALITY OBJECTIVES

To maintain the quality levels of incoming raw material and output at prescribed levels by proper controls and systems.

To involve the employees fully into quality systems, to develop a quality culture for continuous quality output through training and suggestions for improvement.

To strive to minimize the customer complaints about quality and services.

To ensure that the company's products are meeting the necessary national/ international/ customer specification to performance parameters.



QUALITY TRACEABILITY

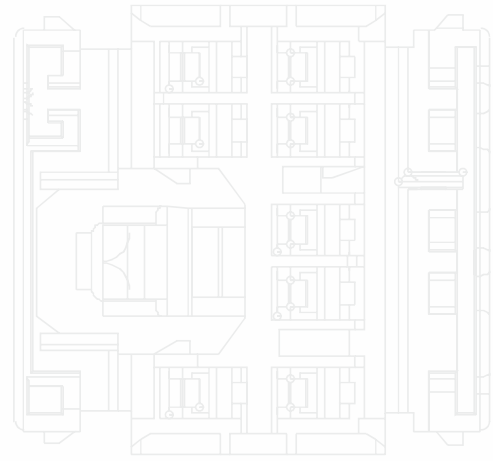
Traceability @ TT is paramount to critical quality, and systems developed in-house has the capability to track every product from supplier to customers. Unique OCC records have covered entire raw material, processes and QA parameters of every product produced at TT.



- Vision Measuring Machine - 7 Stations
- Micro Hardness Tester - 2 Stations
- Mitutoyo CNC CMM - 1 Station
- Fischer scope XRAY XAN 250 - 1 Station
- Vibration Test Chamber with Hot & Cold condition
- Thermal Shock Chamber
- Environmental Test Chamber
- Dust Chamber
- Water Test Chamber

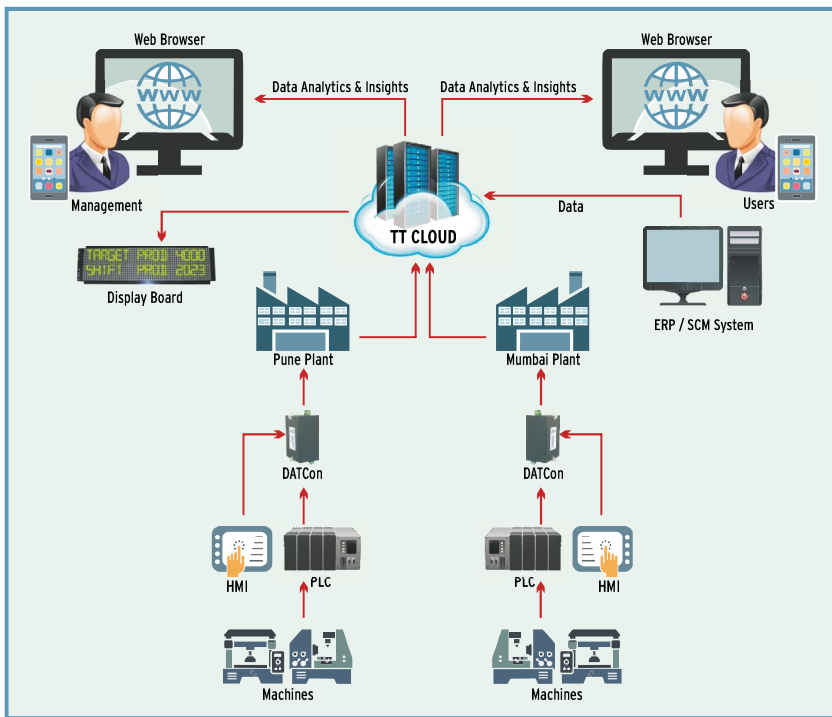


IOT @ TT



With the connected world offering solutions on a palm, TT is investing in a solution to connect most of the production and tool room machinery for key parameter monitoring.

All of those machines will be connected and monitored for OEE, availability, target achievement and efficiency monitoring. All data is available to the senior team for timely actions based on real-time data. Many online inspection cameras are being installed on high speed stamping & molding lines to monitor the key parameters based on 24 hours real-time data.



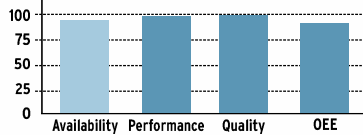
SYSTEMS

Backed by TS 16949 (Upgrading to IATF 16949:2016) for more than a decade, TT has developed a quality culture to meet the customer requirement of Zero PPM. TT is investing heavily on Lean, Six Sigma and TPM activities to develop processes and culture to ensure customer satisfaction for all supplies and services.

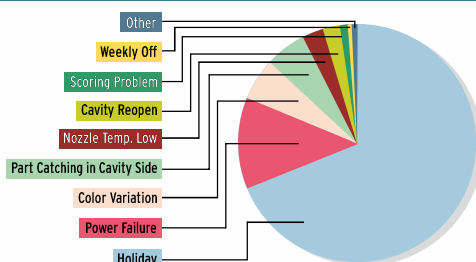
The customer voice is the driving force within the organization at all levels and TT strives hard to be the preferred choice for all OEMs operating in its lines of business.

ASCENT INTELLIMATION Machine Performance Report - TT Plant - Injection MC 4

PRODUCTION DETAILS				
DETAILS	CRITERIA	EXPECTED	ACTUAL	%
Availability	Planned Vs Operating Time	32952	30957	93.95
Performance	Planned Vs Actual Count	288715	283206	98.09
Quality	Good Vs Rejected Parts	282315	891	99.69
OEE	A * P * Q	0	0	91.86



AVAILABILITY LOSS	
DOWN TIME REASON	TIME LOSS (MINS)
Holiday	4320.0
Power Failure	779.0
Color Variation	369.0
Part Catching in Cavity Side	354.0
Nozzle Temp. Low	183.0
Cavity Reopen	151.0
Scoring Problem	48.0
Weekly Off	39.0
Other	33.0



CONNECTING FROM THE HEART@TT

Connecting the world with interconnection solutions, TT has not forgotten about the less fortunate of society. Working closely with the Palghar District administration, TT has designed and renovated 8 anganwadis which house more than 400 children. The dilapidated structures were pulled down and made afresh with all-weather sheds which will easily last for another 10 years without any repairs. This was done in areas such as, Jadhav Pada, Mauli Pada, Birari Pada and many such villages under Vikramgad taluka which are completely cut off from the mainstream and infamous for malnutrition affected children. TT thanks the district administration and Savali Trust for their cooperation in executing the project.



The inauguration of anganwadis by Mrs. Nidhi Chaudhari, IAS (CEO, Palghar Dist.) along with the management from TT



Taking CSR @TT further, in the 25th year of our establishment, TT has donated a fully equipped mobile clinic with doctor, nurse and pathology lab to the NGO Savali Trust for deployment in areas such as Zaap, Pawar Pada, Phanas Pada, Kegwa, Vehle Pada, Karhe, Kardhan, Kundacha Pada under Vikramgad taluka. This mobile clinic will touch the lives of over 60,000 people a year by travelling to inaccessible rural areas and providing health care solutions. NGO Savali Trust is responsible for the day-to-day running of the clinic and TT will continue to extend full support for this venture.



Funded by Terminal Technologies, Harness Techniques and Royal Arc Electrodes



AWARDS & HONORS

TT has been a preferred choice for most customers and awards flow all through the year from appreciative clients. We are proud to have an array of such honours and will work closely with all our customers for total customer satisfaction.



2005

Best Vendor Award

Best Vendor Award from M/s. Tata Yazaki Autocomp. Ltd. in appreciation of Excellence in Cost Innovation during the year 2004-05



2006

Best Performance

Best Performance in Terminal and Press part Technology from M/s. Tyco Electronics Corporation.



2007

Best of Best Supplier

Best of Best Supplier Award from M/s. Tyco Electronics Corporation. 2nd Annual Supplier Meet.



2012

Best Supplier Award

Best Sheet Metal Supplier Award from M/s. Tata Yazaki Autocomp Ltd.



2012

Win-Win Relationship

Participated and successfully demonstrated the Win-Win relationship with our Tier 1 customer - Yazaki India Ltd.



2012

SME Quality Award

Participated in IEEMA SME Quality Award ISQA 2012 and Awarded SME Quality Certificate



2013

SME Quality Award

Participated in IEEMA SME Quality Award ISQA 2013 and Awarded SME Quality Commendation



2014

Best NPD Award

Best New Development Award from M/s. Magneti Marelli Motherson Auto Systems Ltd.



2015

Best Supporting Supplier

Best Supporting Supplier Award from M/s. Schneider Electric India Pvt. Ltd.



2016

Award of Appreciation

In recognition of outstanding contribution and support to Rotex Automobile Business in financial year 2015-16



2017

Best Performance Award

Received Best Performance Award from Luminous Power Technologies for Category - Innovation Year 2016



2017

Siemens Award

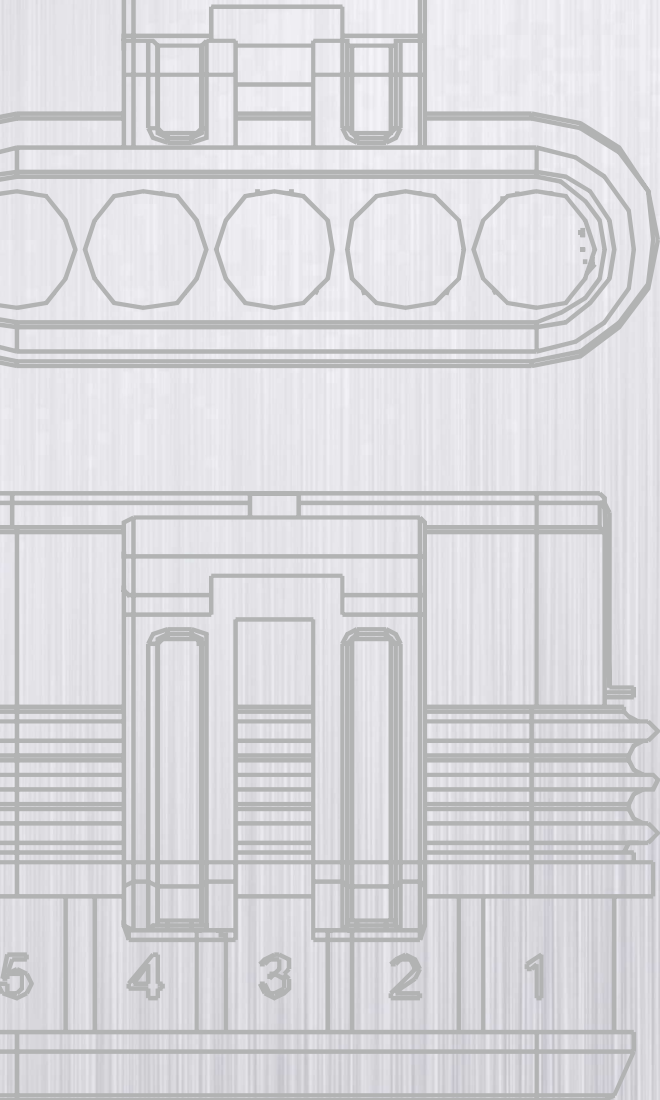
Special Recognition from Siemens for Custom Built New Development

CUSTOM BUILT STAMPED PARTS

Any ideas from the customer can be converted to parts with ease by the excellent team @TT. We can offer solutions right from part design, tooling and production in close interaction with clients. Major progressive tools are made for complicated parts that fit precise molding applications.







Terminal Technologies (I) Pvt. Ltd

CATALOGUE 2018

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