

Technical Review on Precision Components Manufacturers at Thirumudivakkam

E. Bhaskaran¹; Harikumar Pallathadka²; S.Baskara Sethupathy³

¹Doctor of Science Scholar, Mechanical Engineering, Manipur International University, Manipur, India

²Vice Chancellor, Manipur International University, Manipur, India.

³Professor and Head, Automobile Engineering, Velammal Engineering College, Chennai, India.

Publication Date: 2025/03/22

Abstract: Chennai Incubation Technology Centre registered under Section 8 of Companies Act, 2013 contains 40 SPV members where Common Facility Centre on design, product development and testing are created for precision manufacturing components at Tirumudivakkam, Chennai. The objective is to review the performance of 10 members who are using the CFC for precision manufacturing. The methodology adopted is collection of secondary data from websites of 10 manufacturers. To conclude, even though the members are having CNC, VMC, grinding machines etc. for getting precision orders they have to depend on CFC with less cost of design, produce high precision components and testing. This will lead to minimize the cost of production and maximize their profit and also to compete in the global market with better competitive prices of the automotive components.

Keywords: Common Facility Centre, Design, Production and Testing.

How to Cite: E. Bhaskaran; Harikumar Pallathadka; S.Baskara Sethupathy (2025). Technical Review on Precision Components Manufacturers at Thirumudivakkam. *International Journal of Innovative Science and Research Technology*, 10(3), 685-693. <https://doi.org/10.38124/ijisrt/25mar805>

I. INTRODUCTION

Chennai, along with the adjoining districts of Kancheepuram, Thiruvallur, and Chengalpattu, serves as a hub for precision engineering components, which are widely used in the automotive, machine building, engineering, and electronic appliance industries. The region's expertise in precision manufacturing offers a significant competitive advantage. However, the sector faces challenges due to the lack of technical infrastructure for the design and development of new products in emerging fields. Additionally, the cluster lacks advanced testing facilities required to meet international standards. Precision engineering plays a crucial role in Tamil Nadu's vision of achieving a \$1 trillion economy by 2030. To ensure sustained growth, it is essential to strengthen the cluster with capabilities in product development, high-precision machining, and advanced testing infrastructure.

II. MATERIALS AND METHODS

Chennai Incubation Technology Centre registered under Section 8 of Companies Act, 2013 contains 40 SPV members where Common Facility Centre on design, product development and testing are created for precision manufacturing components at Tirumudivakkam, Chennai. The objective is to review the performance of 10 members who are using the CFC for precision manufacturing. The

methodology adopted is collection of secondary data from websites of 10 manufacturers

III. RESULTS AND DISCUSSION

➤ *Star Pac India Ltd*

Starpac India Limited, established in 1996, is a leading manufacturer of packaging machines headquartered in Chennai, India. Over the years, Starpac has been a key contributor to the packaging needs of numerous companies worldwide.

With approximately 1,300 installations, Starpac has developed machines for a wide range of packaging applications. The company has built a strong reputation for delivering tailor-made packaging solutions across industries such as Food, Pharma, Personal Care, Home Care, and Engineering.

• *Manufacturing & Innovation*

Starpac invests a significant portion of its revenue in research and development (R&D). The company operates a state-of-the-art manufacturing facility in Chennai, known for producing high-precision, high-performance machines with unmatched quality.

Service support remains a cornerstone of Starpac's commitment to excellence. With sales and service teams positioned across various regions, the company ensures

seamless support for its customers. Starpac's machines are widely accepted not only in India but also in international markets such as Europe, Malaysia, Nepal, Saudi Arabia, UAE, Sri Lanka, Nigeria, Ghana, Malawi, Tanzania, and Kenya.

- *Infrastructure*

Starpac's manufacturing facility spans 45,000 square feet in Thirumudivakkam, located about 12 km from Chennai Airport. The company employs a skilled workforce of around 100 professionals. With an in-house R&D division, Starpac maintains a competitive edge in the industry.

- *Leadership*

The company is led by a visionary professional with extensive experience in the packaging industry. His technical expertise is highly regarded, and his introduction of Duplex technology for Multi-track machines has been widely appreciated.

- *Vision & Values*

Starpac aims to be a leading force in the packaging industry as shown in figure 1, by providing both standard and customized solutions on a global scale.



Fig 1 Single Lane Intermittent Motion Baggers

The company is committed to continuous improvement, ensuring it meets the evolving needs of the industry. Innovation is a driving force at Starpac, with a significant share of profits reinvested into R&D to maintain its leadership in packaging and automation technology.

- *New Tech Industries*

Established in 2002, NEW TECH INDUSTRIES specializes in manufacturing precision-machined components. With a workforce of approximately 250 employees, the company comprises 30 qualified engineers and 220 skilled & semi-skilled workers.

The NEW TECH INDUSTRIES Group operates two manufacturing plants located in SIDCO Industrial Estate, Thirumudivakkam, Chennai—20 km southwest of Padi and 15 km from the airport.

- Plant 1: 20,000 sq. ft.

- Plant 2 (NEWTECH PRECISION PRODUCTS): 25,000 sq. ft.

- *Mission*

To become a leader in precision component manufacturing through innovation and excellence.

- *Vision*

They are committed to delivering high-quality products and exceptional customer service while upholding the highest standards of ethics and integrity. Through a robust Quality Management System (QMS), they continuously strive for excellence.

- *Aims*

- Ensure consistent product quality and customer satisfaction.
- Foster a culture of continuous improvement through technology and skill development.

- Uphold ethical business practices and maintain strong relationships with stakeholders.

- *Products & Capabilities*

Their advanced manufacturing facilities house a diverse range of high-precision machinery, including:

- CNC Turning Centers – 50 machines
- Vertical Machining Centers – 20 machines
- Vertical Turning Centers – 4 machines
- 5-Axis Mazak Multitasking Machine – 1 unit as shown in figure 2.



Fig 2 Multi-Tasking Machine

By leveraging cutting-edge technology and a highly skilled workforce, NEW TECH INDUSTRIES remains committed to delivering superior precision components to various industries.

➤ *Precitek Exports: Moulding Innovation into Precision*

Precitek Exports is a leading manufacturer and exporter of high-precision injection-moulded components and sub-assemblies, serving diverse industries including Automotive, Electric Vehicles (EV), Electrical, Electronics, FMCG, Earth Movers, and other Engineering Sectors.

They specialize in delivering high-quality injection-moulded parts with value-added solutions, ensuring superior performance and reliability.

- *Our Commitment*

At Precitek Exports, they are dedicated to:

- ✓ Delivering Quality Products – On time, every time, at a competitive cost.
- ✓ Leveraging Cutting-Edge Technology – Backed by experienced professionals and world-class infrastructure.
- ✓ Fostering Innovation – A passionate, dynamic team committed to moulding perfection.

Their state-of-the-art moulding facility features advanced injection moulding machines ranging from 100 to 550 tons from Ferromatik Milacron and Toshiba. They also employ Multiplast vertical injection moulding with robotic support and auxiliary equipment, including:

- Mould Temperature Controllers
- Chillers & Dehumidifiers
- Auto Loaders & Hot Runner Controllers

➤ *Materials Process*

They specialize in a wide range of engineering plastics, including:

- PC (Polycarbonate), PMMA (Polymethyl Methacrylate), PC+ASA
- ABS (Acrylonitrile Butadiene Styrene) – Plating & Painting Grade
- ASA (Acrylonitrile Styrene Acrylate), PS (Polystyrene), AES (Acrylonitrile Ethylene Styrene)
- HDPE (High-Density Polyethylene), LDPE (Low-Density Polyethylene)
- POM (Polyoxymethylene), TPU (Thermoplastic Polyurethane), TPE (Thermoplastic Elastomer), TPC (Thermoplastic Copolyester)
- PA6, PA66 – Glass-Filled (10% to 50%), Talc-Filled (10% to 20%) PP (Polypropylene) for automotive and high-precision engineering applications

➤ *Certifications & Quality Assurance*

They are IATF 16949:2016 certified by TÜV and hold Supplier Quality (SQ) 9001:2015 certification for the manufacturing of plastic injection-moulded parts and sub-assemblies.

- *Vision*

To become a World-Class Automotive Products Manufacturing Company.

- *Our Mission*

Drive profitable growth through superior customer service, innovation, quality, and commitment.

- *Customers*

They proudly serve renowned clients such as Instruments India, Nissan, Cummins, Honda, Hyundai, and Tata as shown in figure 3.



Fig 3 Multi-Tasking Machine

At Precitek Exports, they don't just mould plastics—they shape the future with innovation and excellence.

- *Sivaramakrishna Forgings Private Limited*

Established in 1995, Sivaramakrishna Forgings Pvt. Ltd. (SRKF) is a closely associated firm of Super Auto Forge Limited and has grown into a leading manufacturer of hot-forged closed-die, upset forgings, and fully machined components. They specialize in closed-die forgings up to 5 kg, catering to diverse industrial applications.

- *Expertise & Capabilities*

SRKF has extensive experience in manufacturing intricate hot-forged components for industries such as:

- ✓ Automotive
- ✓ Valve Manufacturing
- ✓ Agriculture

With a highly skilled technical team and in-house capabilities, they ensure that their customers receive precisely engineered components that meet the highest quality standards as per figure 4.

- *Trusted Supplier for Critical Components*

They are a key supplier to:

- Super Auto Forge Limited – Supporting their export requirements.
- Brakes India – Providing safety-critical brake components.

- *Legal & Financial Overview*

- Turnover: ₹100 - ₹500 Crores
- Legal Status: Private Limited Company

- *Annual Valued Clients*

They proudly serve leading industry players, including:

- ✓ Super Auto Forge Ltd
- ✓ Brakes India Ltd
- ✓ Aztec Auto Ltd
- ✓ Natesan Precision Components Pvt Ltd
- ✓ Sivasakthy Engineers Pvt Ltd
- ✓ Capitol Industries – Bombay
- ✓ LUK India Pvt Ltd – Hosur
- ✓ Automotive Axles Ltd – Mysore
- ✓ IM Gears Pvt Ltd



Fig 4 Precision Components

At Sivaramakrishna Forgings Pvt. Ltd., they are committed to delivering precision, reliability, and excellence in hot forging technology.

➤ *Arostar – Excellence in HVAC & Electrical Solutions*

Established in 2008 in Chennai, Arostar specializes in commercial and industrial HVAC systems and the manufacturing of electrical panels. They also offer Testing, Adjustment, and Balancing (TAB) services for HVAC systems, ensuring optimal performance and efficiency.

Our state-of-the-art manufacturing facility, spans 9,500 sq. ft. and produces over 25 product lines. Equipped with advanced testing capabilities and a skilled workforce, they guarantee consistent quality and reliability in every product they deliver.

➤ *Kwality Electroplaters – Pioneers in Electroplating Excellence*

Founded in 1984 by a highly skilled professional with extensive hands-on experience in electroplating on ABS and metals, Kwality Electroplaters has been a leader in the industry for over 28 years. Originally established in Alandur, Chennai, the company focused on meeting the growing demand for metal plating solutions. In 2003, they relocated to SIDCO Industrial Estate, Thirumudivakkam (near Chennai Airport), expanding our expertise to become specialists in ABS plating.

• *Company Overview*

Location: SIDCO Industrial Estate, Thirumudivakkam, Chennai (12 km from Chennai Airport)
Total Land Area: 12,500 sq. ft.

• *Facility:*

- ✓ Production Area: 10,000 sq. ft.
- ✓ Office Space: 3,000 sq. ft.
- ✓ Effluent Treatment Plant (ETP): 3,000 sq. ft.

• *Power Capacity:*

- ✓ TNEB Power: 80 HP
- ✓ DG Backup: 100 kVA

• *Our Expertise*

Kwality Electroplaters specializes in high-quality electroplating solutions, including:

- ✓ Duplex Nickel-Chrome Plating on ABS
- ✓ Duplex Barrel Nickel Plating on Metals
- ✓ Silver Plating
- ✓ Tin Plating

• *Certifications & Compliance*

- ✓ ISO 9001:2008 Certified Organization
- ✓ Approved by Tamil Nadu Pollution Control Board
- ✓ Member of Industrial Website Management

• *Mission*

To be a trusted and consistent electroplating supplier by leveraging advanced technology and innovative techniques.

• *Vision*

To become a leading supplier in high-quality ABS electroplating, setting new benchmarks in the industry.



Fig 5 Duplex Nickel-Chrome Plating

At Kwaliti Electroplaters, they combine expertise, innovation, and quality to deliver exceptional electroplating solutions.

➤ *SAP Industries – Powering Excellence in Electrical Solutions*

M/s. SAP Industries, an ISO 9001:2000 certified company, was established by the founders of I.P.L Products Group. With a strong commitment to quality and innovation, they specialize in manufacturing high-performance electrical products for power distribution and transmission.

• *Product Range*

- ✓ Distribution & Power Transformers – Up to 25 MVA, 110KV Class (One of only six manufacturers in Tamil Nadu)
- ✓ Air Break Switches (Isolators) – Up to 110KV, 2000 Amps
- ✓ HRC Feeder Pillar Boxes

• *Trusted by Tamil Nadu Electricity Board (TNEB)*

Products are TNEB-approved and supplied to various divisions of the Tamil Nadu Electricity Board. They are performing reliably in transmission and distribution networks, ensuring uninterrupted power supply.

• *State-of-the-Art Infrastructure*

Our well-equipped manufacturing facility includes:

- ✓ Cranes, Ovens, and Vacuum Pumps – Capable of handling power transformers up to 50 MVA, 110KV Class
- ✓ In-House Testing Laboratory – Conducting routine tests as per IS standards
- ✓ NABL-Accredited Testing – Ensuring superior quality for transformers and isolators

➤ *Teknovate Plastics Excellence in Plastics Molding & Tooling*

The plastics molding and tooling industry in India is well-established, with numerous players operating for decades. However, what truly differentiates us is our commitment to precision, efficiency, and innovation.

- Expert Team – Skilled professionals with deep industry expertise
- State-of-the-Art Machinery & Equipment – Advanced technology for superior production
- Positive Work Attitude & Efficiency – A culture of excellence and accountability
- Responsibility & Ownership – Complete dedication to quality and process control
- Robust Work Processes & Project Management – Ensuring smooth execution and timely delivery
- Quality Assurance & First-Time-Right Approach – Precision-driven manufacturing
- Strict Adherence to Schedules & Delivery Commitments – Reliability you can trust
- Optimized Costing – Competitive pricing without compromising quality
- Experience with Multinational Clients – Meeting global standards and expectations

➤ *Product Expertise*

As a leading manufacturer based in Chennai, India, they specialize in:

- Lenses for Automotive Lighting
- Reflectors for Automotive Lighting
- Automotive Safety Parts
- General Automotive Components
- Electrical Appliance Parts
- Medical Plastic Components

• *Company Overview*

Annual Turnover: ₹5 - ₹25 Crores



Fig 6 Plastic Components

With a strong focus on innovation, quality, and efficiency, they continue to deliver cutting-edge plastic solutions for the automotive, electrical, and medical industries.

➤ *Throne Venture Tech*

• *Throne Venture Tech LLP – Innovating in Plastic & Rubber Manufacturing*

Throne Venture Tech LLP is a leading manufacturer of plastic and rubber products, dedicated to delivering high-quality solutions through innovation, precision, and sustainability.

• *Journey & Achievements*

- ✓ 2019 – Founded with a vision to revolutionize the plastics and rubber industry
- ✓ 2020 – Achieved ISO 9001:2015 certification, ensuring world-class quality standards
- ✓ 2024 – Honored with the prestigious Skoch Award for excellence in manufacturing
- ✓ 2024 – Attained ZED Gold Certification, reinforcing our commitment to sustainable and efficient production
- ✓ PETC Membership – Recognized as an industry leader in quality and innovation

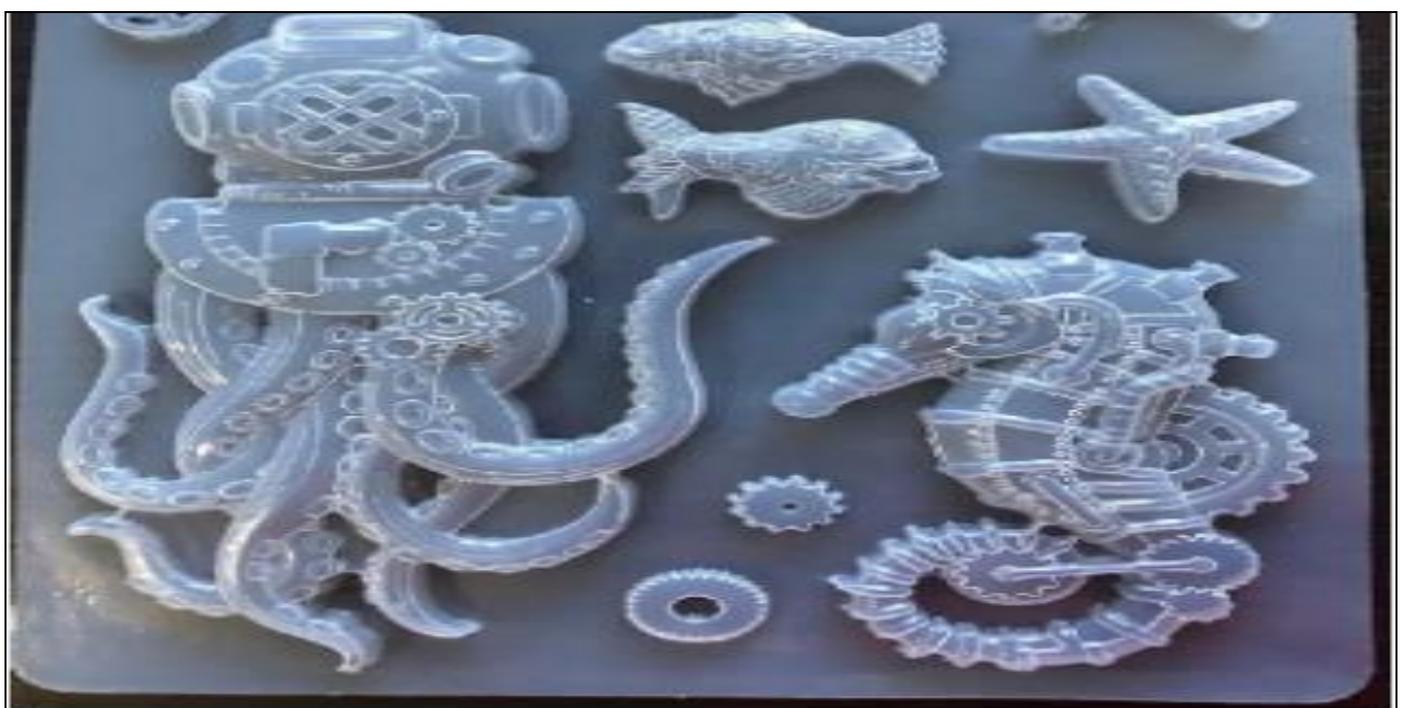


Fig 7 Soft Moulds

With a strong foundation in advanced manufacturing techniques as shown in figure 7, they continue to push boundaries in plastics and rubber technology, catering to diverse industries

➤ *Eucare Pharmaceuticals – Advancing Wound Care with Innovation & Science*

Eucare Pharmaceuticals operates a world-class GMP-compliant manufacturing facility that meets ISO 13485:2016 standards and adheres to the Indian Medical Devices Regulations-2017. The facility features Class 10,000 and Class 100,000 clean room systems and is certified by DNV Business Assurance AS (CE 2460) for CE-marked medical devices. Eucare specializes in biological medical devices, including collagen membranes, sheets, sponges, particles, gelatin hemostats, and scar management products. The company boasts a robust in-house R&D division, recognized by the Department of Scientific & Industrial Research (DSIR), Government of India, and holds HALAL certification.

Eucare Pharmaceuticals is a technology-driven company with a dedicated in-house R&D division, pioneering collagen technology and drug delivery systems for burns, wounds, hemostats, and scar management. With an ambition to expand globally, Eucare collaborates

internationally with the Urgo Group, bringing world-class wound care solutions to patients.

➤ *Pioneers in Wound Care & Drug Delivery*

- Innovative & Cost-Effective Treatments – Delivering Made-in-India dressings alongside advanced, evidence-based solutions imported from France
- Commitment to Science – Leading research-driven wound care solutions for healthcare professionals (HCPs) and patients
- Global Collaboration – Strengthening expertise through partnerships with Urgo Group
- “Advanced wound care is an exciting space, and with our portfolio of products, they are proud to lead with science, providing best-in-class solutions for HCPs and patients.”

➤ *Managing Director, Eucare Pharmaceuticals*

- *World-Class Manufacturing & Quality Standards*
- State-of-the-Art Facility – 15,000 sq. ft. manufacturing unit dedicated to wound care and hemostatic solutions
- CE-Mark Certified – Meeting international quality and safety standards
- *Commitment to People & Society*



Fig 8 Sterile Collagen Particles

IV. CONCLUSION

Chennai Incubation Technology Centre contains 40 SPV members where Common Facility Centre is created for precision manufacturing components. 10 members who are using the CFC for precision manufacturing are studied. To conclude, even though the members are having CNC, VMC, grinding machines etc for getting precision orders they have to depend on CFC with less cost of design, produce high precision components and testing to compete in Global Market with cost minimization and profit maximization with better precision components.

REFERENCES

- [1]. <http://starpacindia.com/the-company/>
- [2]. <https://www.newtechgroup.co.in/newtech/index.html>
- [3]. <https://precitekexports.com/client.html>
- [4]. <https://www.indiamart.com/sivaramakrishna-forgings/aboutus.html>
- [5]. <https://www.indiamart.com/aerostar-enterprises-erode/products.html>
- [6]. <https://www.indiamart.com/kwality-electroplaters/enquiry.html>

- [7]. <https://www.msmemart.com/member/aboutus/23538/sap-industries>
- [8]. <https://www.indiamart.com/teknovateplastics/products.html#8899273355>
- [9]. <https://throneventure.com/>
- [10]. <https://eucareindia.com/about-the-company/>