

# An Introduction to TR Fastenings

*"Holding the World together"*



Leading global specialists in the design, engineering, manufacture and distribution of high quality industrial and Cat C fastenings principally to major global assembly industries

[www.trfastenings.com](http://www.trfastenings.com)

Edition 4

# Introduction

## Holding the world together.

TR Fastenings Ltd (TR) is part of Trifast plc and is a global specialist in the design, engineering, manufacture and distribution of high quality industrial and Cat C fastenings principally to major global assembly industries.

The TR Group consists of 32 business locations within the UK, Asia, Europe and the USA including eight high volume, high-quality and cost-effective manufacturing sites. We supply components to over 5000 companies globally across a wide range of industries.

As a full service provider to multinational OEM's and Tier 1 companies spanning several sectors, we deliver comprehensive support to our customers across every requirement, from concept design through to technical engineering consultancy, manufacturing, supply management and global logistics.



## UK

Trifast plc HQ - Uckfield

TR Fastenings - Uckfield

TR Fastenings - Belfast

TR Fastenings - Birmingham

TR Fastenings - Blantyre

TR Fastenings - Manchester

TR Fastenings - Newton Aycliffe

TR Fastenings - Poole

Lancaster Fastener Co - Lancaster

Precision Technology Supplies Ltd - East Grinstead

## Europe

TR Fastenings - Holland

TR Fastenings - Hungary

TR Fastenings - Ireland

TR Fastenings - Norway

TR Fastenings - Poland (Representative)

TR Fastenings - Slovakia (Representative)

TR Fastenings - Sweden (Nacka & Tidaholm)

TR Fastenings España - Spain

TR VIC (Viterie Italia Centrale) - Italy

TR Kuhlmann - Germany

## USA

TR Fastenings - Houston

## Asia

TR Formac Asia Headquarters - Singapore

TR Formac - Singapore

TR SFE (Special Fasteners Engineering Co) - Taiwan

TR PSEP (Power Steel & Electro-Plating Works) - Malaysia

TR Formac - Malaysia (Penang & Kuala Lumpur)

TR Formac - China (Shanghai & Beijing)

TR Formac - India (Bangalore, Pune & Chennai)

TR Formac - Thailand

TR Formac - Philippines (Representative Office)

TR Formac - Japan (Representative)

## Technical & Innovation Centres

TR Fastenings - Gothenburg, Sweden

TR Fastenings - Birmingham, UK

TR Fastenings - CUICAR - South Carolina, USA

# Manufacturing

Dedicated to producing high volume parts specifically to customer drawings.

Our strategic partnerships with other major manufacturers allow us to offer a wide range of special parts, including:

- Cold headed products
- Complex multi stage forging
- Special parts to customer drawing
- Turned and machined parts

Our manufacturing network spans two continents and represents approximately a third of the Group's business.

We can ensure parts are made in the right part of the world to meet your quality, volumes, cost and delivery needs.

- 8 factories
- In-house heat treatment facilities
- Automated optical sorting facilities
- Specialised packing capability

Annual output approximately **8 billion parts**



**TR SFE**  
(Taiwan) x 2



**TR Formac**  
(Singapore)



**TR VIC**  
(Italy)



**TR PSEP**  
(Malaysia) x 2



**TR Formac**  
(Malaysia)



**TR Hank**  
(UK)





# Industry

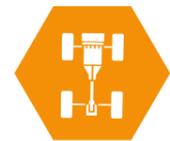
We supply components to over 5000 companies globally across a wide range of industries.

We are a major supplier to the automotive, electronics and domestic appliance sectors, and have a robust business model for large OEM's and SME's.

TR has the ability to meet customer requirements through the extent of our portfolio and scope of our quality certification.

In addition to an extensive range of standard and branded fasteners, a large part of what we supply are to customer drawings, special parts and Cat C components.

## Sectors we supply



### Automotive

Interior Trim | Seating | Braking & Steering Systems | Lighting Clusters | Chassis & Body in White (BIW) | Safety Systems | Powertrain



### Electric Vehicle

Battery Pack Modules (EVB) | Electric Vehicle Charging Units



### Electronics & Telecoms

Telecoms | Information Technology | Lighting | ATM & Retail Hardware | Consumer Electronics | Medical | Power & Energy Products | General Industrial



### Domestic Appliances

Hot | Wet | Cold | Small Appliances | Catering | Special Components



### General Industrial

Robotics | Elevator/Escalator Products | Conveyor Systems | Security & Fire Products | Sensors & Switches | Heat Pumps | Water Heaters | Energy Meters



### Aerospace & Defence

NAS/MS/BSA/SP/AGS Parts | Screws | Nuts | Washers | Turned Parts



### Sheet Metal

Self Clinch | Rivet Bushes | Cage Nuts | K Series Nuts | Weld Products | Blind Rivets & Rivet Nuts



### Other

Medical | Leisure | Distributor | Offshore | Marine | Rail



# Full Service Provider

As a full service provider we are able to assist in reducing the total cost of ownership for companies by working with them from early engineering and design stage, right through to specification, manufacturing, quality and logistics.

We adopt a three-tier approach that includes local, national and international teams. TR understands that a global solution creates some challenges; including communication, culture and security.

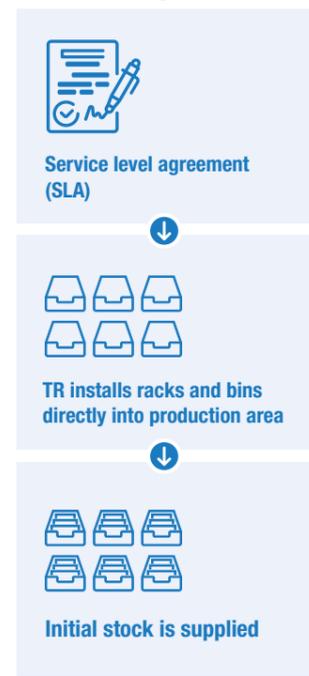
TR's global delivery model has been designed from the ground up to address these challenges. Most importantly, our global delivery operations provide customers with both the quality and economic advantages that they require.

Locations in **18** countries  
Supply into **c.75** countries

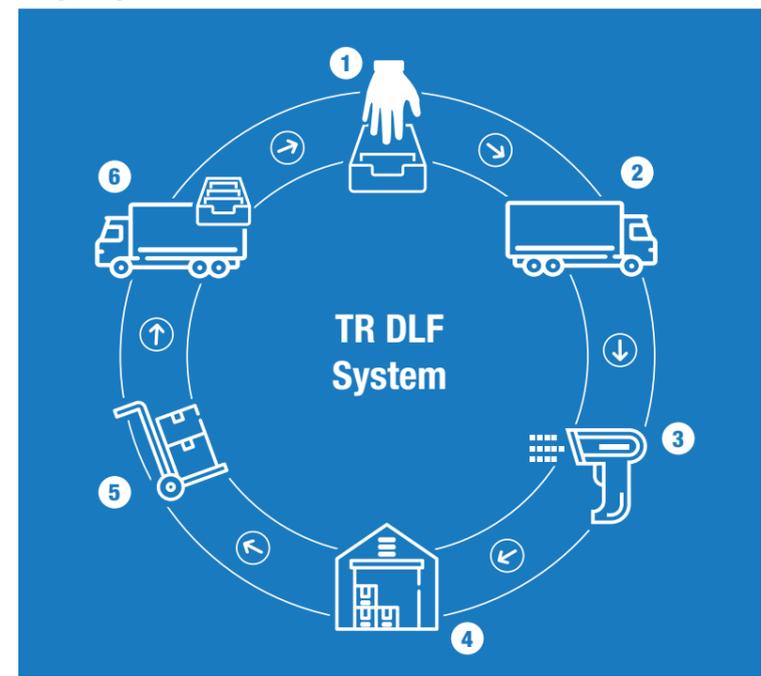


## A Typical TR DLF System

### Initial setup



### Ongoing



1. Production takes stock from bins
2. On agreed day, TR DLF operator visits customer
3. TR DLF operator scans all bins that need replenishing
4. TR DLF operator downloads information to TR location
5. TR removes empty bins off site and returns to TR location
6. TR DLF operator delivers stock and replenishes bins

## Benefits:

- Dramatically reduced vendor base and associated administration costs.
- TCO - Total Cost of Ownership visible.
- Inspection costs reduced as quality approved parts can be shipped direct to the production line.
- Reduced cost of stockholding and storage as only a few days' stock is held on the production line.
- Production is allowed to focus on its core function as parts are always available at the point of use.



# Design, Engineering & Quality

## Design and engineering

Our research and engineering capabilities encompass specific engineering disciplines, supporting both our own network and customer application solutions. Our fastener testing capabilities can be summarised into four categories:

- Mechanical
- Dimensional
- Installation
- Plating and finishes

Desktop engineering in 2D and 3D industry standard CAD software:

- CAD system
- 3D mechanical design solutions
- 3D modelling
- Analysis tools
- Data management solutions
- Drawing and specification, creation and control

## Quality

Our aim is to provide a level of product quality that prevents the production of non-conforming fasteners, with the objective of approaching zero defects for specified characteristics.

Customer specific quality standards can also be provided as required. The means of achieving these higher quality standards include: electronic PPAP, supplier development, strategic sourcing as well as camera, laser and roller sorting.



**Research & Development**  
(Including patents)



**CAD Design & Development**  
(Including 3D modelling)



**Prototype & Testing**  
(Including 3D printing)



**Innovative Manufacturing Processes**



**Technical & Innovation Centres**

## TR Quality

Quality Management System  
**ISO 9001**  
**IATF 16949**

Environmental Standards  
**ISO 14001**





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