



# EV FASTENERS COMPONENTS VMI

MAXIMISING MANUFACTURING EFFICIENCIES

<https://international.optimas.com>



# LEADING THE CHARGE

## **Optimas Solutions are a major manufacturer and distributor of fasteners and components to the EV and wider automotive industry.**

Whether you need parts for a chassis, drive system, battery mounting (with additional thermal/conductivity demands) or a more robust solution with protection against environmental factors and the demands of an external application, we're sure to have a high-quality fastening solution to meet your requirements.

Relied upon and trusted by thousands of automotive OEMs and Tier 1 companies globally, our fasteners (and components) are available in a wide range of sizes, materials and finishes.

In addition, as a full service provider and partner in manufacturing, Optimas can provide you with a cutting-edge inventory management system that will increase efficiency, drastically reduce the time spent reordering, and ensure that stock is delivered on time, every time... leaving you to concentrate on what you do best!

## SMALL PART **BIG IMPACT**



The world of automotive and EV construction, from vehicles to infrastructure, is a minefield of technical performance challenges, including the very smallest of parts.

Performance is key, even down to the nuts and bolts that fasten the vehicles together. Light weighting, insulation and material choice are considerations that carry more importance than ever before, directly affecting vehicle performance, range, and overall cost.



# KEY FINDINGS & INSIGHT

Growing at an exponential rate, the widespread adoption of electric vehicles, both consumer and fleet, is not one without challenges. Battery lifecycles, charging infrastructure and range anxiety are just a few complex issues for manufacturers to overcome.



Global EV Market Size and Growth/Vehicles Manufactured.



Projected EV global sales by 2025.

Increase from 10% sold in 2021.



Percentage of consumers who consider range anxiety a barrier to entry when considering an electric vehicle.



Fasteners and components can account for up to 50% of SKUs in the manufacture of any product. Part selection can play a key role in weight and performance.



# FASTENERS



Appliances and white goods, transportation that gets us from A to B, furniture we relax on at the end of the day, to power generation by the way of wind turbines, they all share a common thread: nuts, bolts, screws and rivets.

Fasteners are an essential and critical part in almost every manufactured product, by every sector of industry.

Trusted by over 5000 manufacturers across the globe, you can rely on Optimas to provide the nuts and bolts for your next project, whatever the application.

There are hundreds of thousands of fastener styles and finishes - it can be hard to know what fasteners are best for your electrification project. There are six key areas of consideration:

### 1. Size

Smaller fasteners can provide opportunities for weight reduction. By decreasing the body diameter of fasteners, the volume of material needed for production is reduced, which can lead to significant weight savings.

### 2. Insulation

With greater electrification comes a greater need for insulation. Thermal insulation should be considered part of the initial electrical design due to the enormous heat generation inside battery cells.

### 3. Geometry

Geometry matters because a shallower head can enable manufacturers to save weight per fastener, leading to significant efficiency gains in aerospace, automotive and other high-end industries.

### 4. Materials

Much like size and geometry considerations, material selection is key. Using materials like aluminium, magnesium and titanium within the fastener selection process can help reduce weight and increase your distances.

### 5. Non-Ferrous

Improve the efficiency of your electrified vehicle or machinery by incorporating non-ferrous, anti-magnetic fasteners that do not interrupt electric current.

### 6. Assortment & Availability

It can take up to 56 weeks to get a fastener from one end of the supply chain to the other. EV projects that require specialty fasteners can be even further delayed. Optimas can cut down lead times with a robust portfolio of parts and the buying power to meet the many challenges of your project.



Source it. Make it. Design it. You can rely on Optimas to supply high-quality fastenings to meet the exact standards of your EV project.

## Standard Fastening Solutions

### Bolts

- Anchor
- Carriage
- Elevator
- Flange
- Heavy Hex
- Hex
- Hex Lag
- Shoulder
- Structural
- Tap

### Nuts

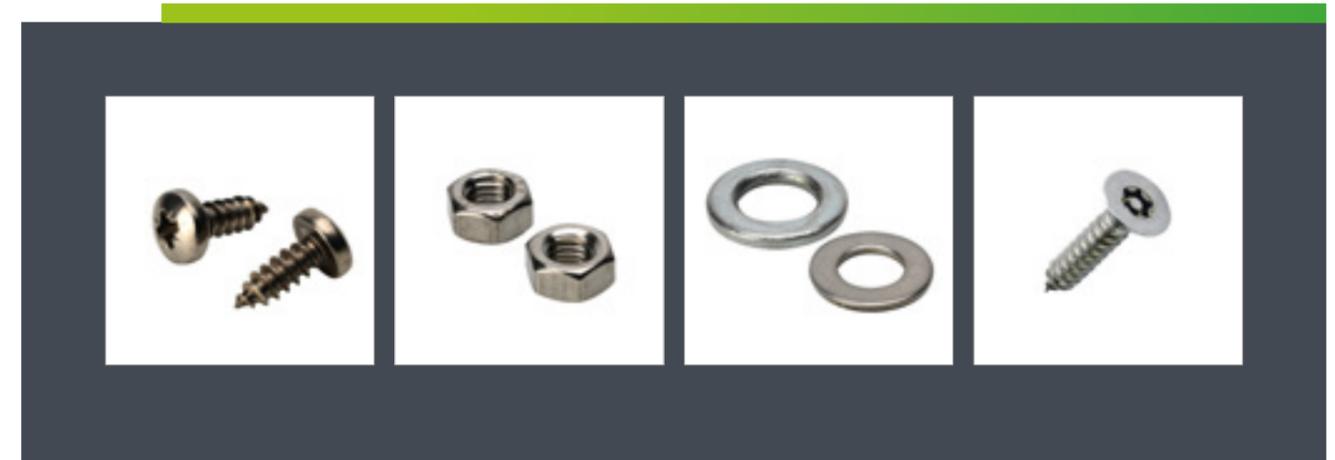
- Flange
- Heavy Hex
- Hex
- Jam
- Keps
- Locknuts
- Rivet
- Square
- Structural
- Weld

### Washers

- Beveled
- Fender
- Finishing
- Flat
- Lock
- Sealing
- Shoulder
- Square
- Structural
- Wave

### Screws & Other Fasteners

- Cap
- Drywall
- Lag
- Machine
- Self Drilling
- Self Taping
- Shoulder
- Socket Cap
- Thread Cutting
- Thread Forming
- Anchors
- Clamps
- Inserts
- Pins
- Pipe Fittings
- Rings
- Rivets
- Sockets
- Spacers



## Engineered Fastening Solutions

- Custom Designed Parts
- Heavy and Light Duty Clamps
- Hydraulic and Pneumatic Fittings
- Pins, Lanyards and Pin Assemblies
- Powder Metal and Metal Injection
- Molding Products
- Stampings, Assemblies and Kitting
- Finishes and Secondary Operations
- Exotic Materials

# FASTENER MANUFACTURING

Our integrated engineering, rapid prototyping and testing capabilities result in superior quality bolts, screws, nuts, rivets and other fastening solutions.

Housed in our advanced facility in Droitwich (UK), utilising state-of-the-art machinery and cold forging processes, Optimas has the expertise and capacity to meet your specific fastening requirements.

Through a programme of continued investment, Optimas boasts world class production facilities ready to support your manufacturing needs and exceed the demands of industry.

## Capabilities

- Cold Forming:
  - Length 6 - 175mm
  - Diameter 2 - 18mm
- Bar Turning:
  - Max length 140mm
  - Diameter 6 - 42mm
- Variety of drive types
- Rapid prototyping
- Plastics (Bar Turning)
- Laser measuring & SPC

## Processes

- Turning
- Milling
- Screw cutting
- Drilling
- Boring
- Tapping
- Broaching
- Engraving
- Superpositional machining
- Assembly

## Licensed Brands

- Taptite 2000®
- High Torque®
- Remform®
- MORTORQ Super
- Powerlok®
- Internal / External 6-Lobular
- Crosshead
- Mathread®
- Matpoint®



# COMPONENTS

Much more than just nuts and bolts, Optimas can supply manufacturers of electric vehicles and charge points with a wide array of high-quality plastic and rubber C-Class components.

From cable routing and management, strain relief and seals, these parts can play a critical role in controlling thermal conductivity and insulation in the production of EVs and supporting equipment.



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## Quality & Accreditations

- IATF 16949 certified
- Advanced inspection, measuring and test capabilities
- Best-in-class PPM (Parts-per-million)
- ISO 9001 and 14001 certified
- PPAP certification
- 100% audit approval
- Industry-leading validation equipment
- Partner performance management strategies

## C-Class Components

- Assortment Kits
- Cable Management
- Caps and Plugs
- Fuses and Indicators
- Mechanical Hardware
- PCB and LED Accessories
- Security Seals
- Wire and Cable
- Wire Termination



# OPTITECH INVENTORY MANAGEMENT SOLUTIONS

Forming a huge part of many production builds, and in none more so than automotive and the rapidly growing EV sector, fasteners can be subject to varying rates of consumption, with excess stock negatively affecting cash flow. The ability to easily identify demand vs capacity and highlight potential production bottlenecks via Kanban is of the utmost importance.

Our innovative OptiTech Inventory Management Solutions use the latest technology to automate inventory replenishment, saving you time and money.

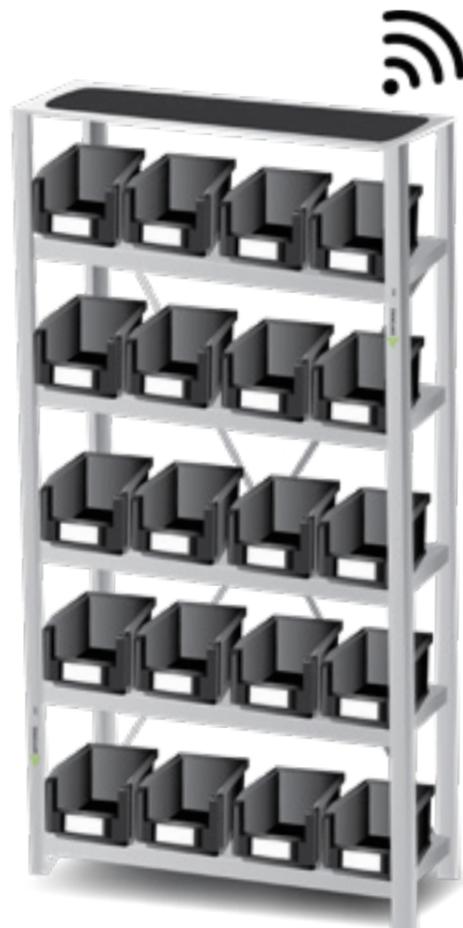


## OptiBeam

OptiBeam uses the latest in scanning and barcode technology for easy inventory replenishment. Our scanners allow Optimas - or the customer - to check inventory levels and send orders instantly. The scanner includes auditing software so you can search parts, validate bin location and set optimal re-order/unit pack sizes.

## OptiRack

OptiRack uses advanced radio-frequency identification (RFID) technology to automate inventory replenishment. When empty bins are placed on an RFID mat on the rack shelf, it detects the RFID chip embedded in the bin label and then wirelessly triggers an order. OptiRack can be set up in any designated area - a supermarket, area rack or at the point of use.



## OptiDrop

OptiDrop uses advanced RFID technology to automate inventory replenishment. Each bin has a unique card with an RFID embedded chip. When the bin is empty or low, simply remove the card and place it inside the OptiDrop box to wirelessly trigger an order. OptiDrop can be placed at any location inside the plant.

## OptiScale

OptiScale uses the latest weighing technology to measure real-time inventory status down to the part quantity level in a bin. Embedded sensors monitor the weight capacity and then automatically trigger orders based on pre-defined min/max levels and re-order unit pack sizes. Stock levels can be accessed 24/7/365. OptiScale can be configured in a bin, shelf or container.



## OptiZone

OptiZone uses advanced RFID technology to automate inventory replenishment. An RFID antenna points to a designated area, whether that be a pallet, cage, container or bulk area, and when an empty bin is placed in that area, the antenna detects the RFID chip embedded in the bin label and then wirelessly triggers an order.

## MORE WITH LESS

From analysing fastener and component usage patterns and quantities to inventory cost-saving methods, we can help identify areas of improvement, allowing you to work smarter and do more with less.



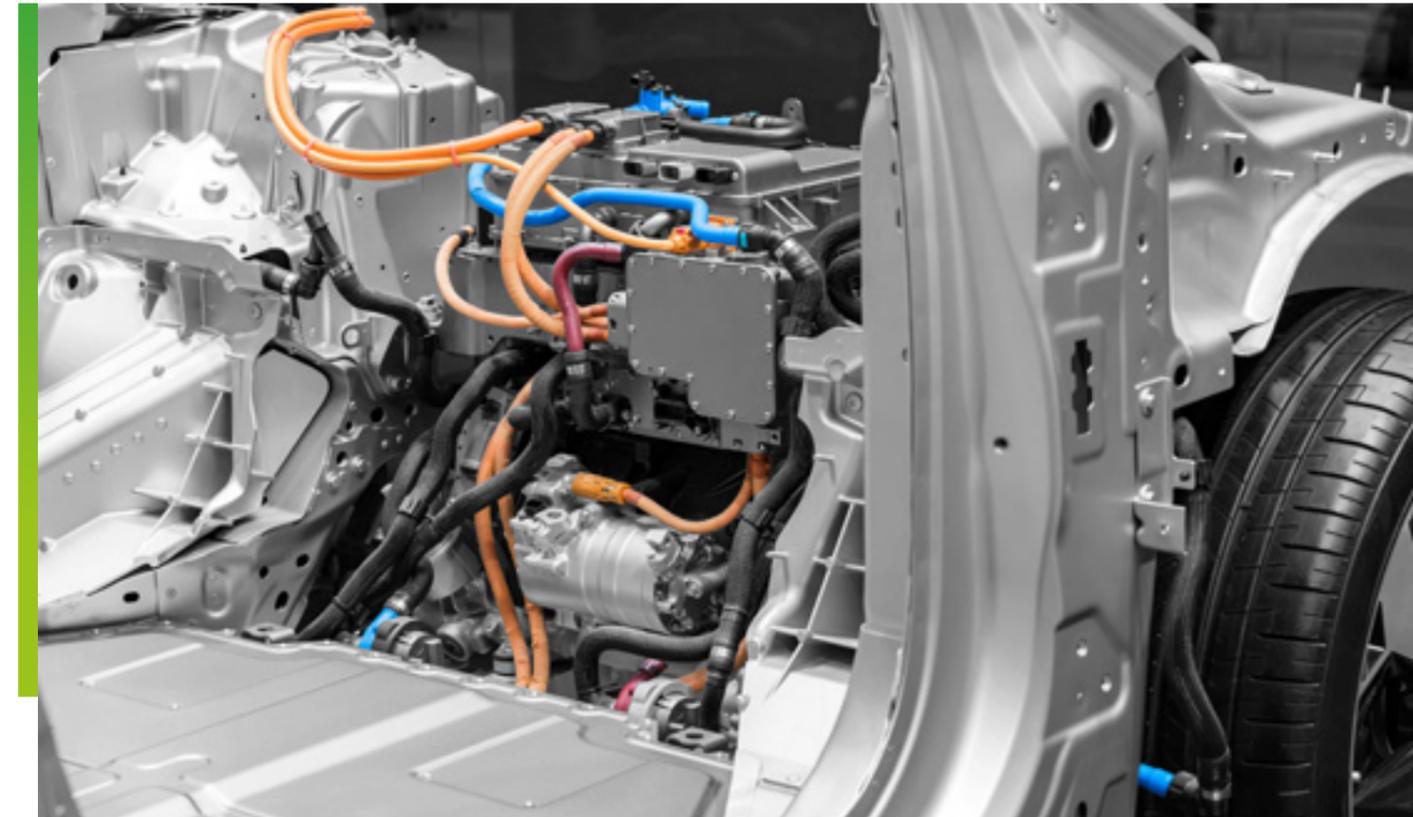
The Optimas part standardisation program not only reduced our piece part costs, but it also enabled us to launch new products quicker, decrease inventory obsolescence, improve product quality and increase customer satisfaction.

We started the journey with Optimas in our automotive Interior Systems Division, and have since expanded this effort to our Seating and Clean Mobility business units.

Rainer Schulze  
Global Commodity Director,  
Metals & Mechatronics  
Faurecia



## ENGINEERING



Fasteners form the basis of many of the goods we rely upon every day, although they're often the smallest component in a build they can account for a large percentage of a product's construction.

This is especially true of electrification, where fasteners can account for up to 50% of SKUs in the manufacturing of any product, proving that, although small, fasteners are an important part of every manufacturing strategy.

Fastener selection, if not refined and optimised, can inherently pose unnecessary roadblocks that can start from the very first set of designs. Part proliferation is one by-product of the design process that increases complexity and can rapidly bloat a bill of materials, particularly for start-ups. Through a programme of rationalisation, these parts could be unified, saving money.

Though fasteners and components are the core of everything we do, it's our "above and beyond" company ethos that truly sets us apart.

Engineering support is on-hand from design stage to production, allowing you to analyse and streamline your bill of materials through part assortment analysis, consolidation of SKUs and product re-engineering so you can find the right solutions to save costs.

Through a transparent partnership approach, not only can we help by providing clear advice on our products and services, but you'll also benefit from our data-driven decisions, best-in-class technology, and access to our team of industry experts.



# SUSTAINABILITY

Sustainability awareness is quite rightly at an all-time high and is playing a key role in the way all companies operate.

The focus is firmly on industry to play a crucial role in addressing ways of protecting our natural environment and human and ecological health.

By investing in innovation and a greener future for generations, Optimas is setting the standard.



**100%** of Optimas UK facilities (6 sites for manufacturing and distribution) are powered by renewable energy.



**89%** of cold forming waste material is recycled with **0%** sent to landfill.



**100%** of additive manufacturing waste is recycled.



We source PPE from manufacturers who produce eco-friendly solutions, for example safety gloves, made from **50%** recycled materials.

Partner with Optimas to achieve your sustainability targets.



Promoting manufacturing sustainability

# Why Optimas?

For over **100 years**, we've been at the very forefront of **fastener manufacture and distribution**. Our extensive technical heritage, engineering flair and partnership approach is what sets us apart. Understanding our customers and adapting to meet their needs is what we do best.

**Get in touch to find out how we can exceed your requirements.**

**9.1 Billion**

parts from over

**150,000**

SKUs delivered annually

**4,000**

global suppliers

**1 Billion**

parts manufactured annually

**5,000**

customers worldwide



**MAXIMISING MANUFACTURING PRODUCTIVITY**

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