

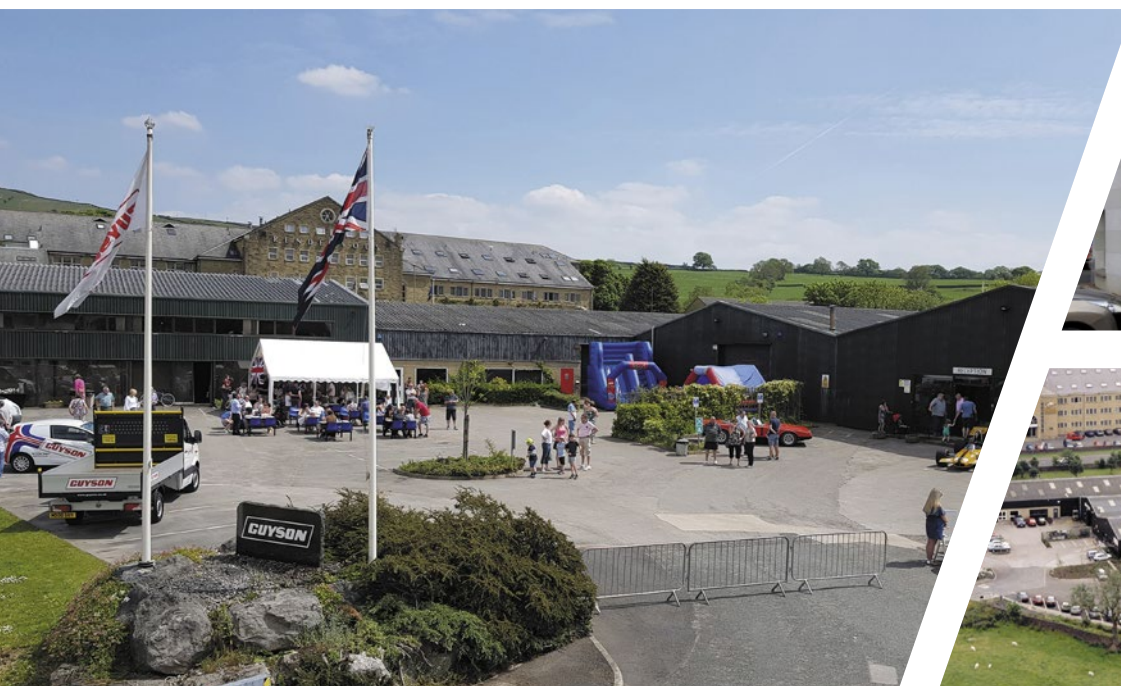
10 Reasons for Robot Blasting

[guyson.co.uk](http://guyson.co.uk)

# Introduction

Guyson International Limited is a privately owned family company with a world-wide reputation for excellence in the design and manufacture of robot, automated and manual blast finishing, shot peening, spray wash and ultrasonic cleaning systems.

Founded over 80 years ago (Est May 20th 1938) Guyson Industrial Equipment Limited began as a distributor of garage equipment as well as manufacturing small sand blast cabinets. In 1972 the company was re-named 'Guyson International Limited' to better reflect the company's export success and increasing overseas interests. Through acquisition - Marr Engineering (1996) and Kerry Ultrasonics (2004) - Guyson has enhanced our product offering incorporating spray wash, ultrasonic and solvent cleaning systems to a comprehensive range of blast systems.



Guyson continues to innovate and invest offering unrivalled support for our existing and new customers across the globe. With headquarters in Skipton North Yorkshire, the Guyson Blast & Wash group consists of: Guyson Corporation, Saratoga Springs USA; Guyson SA, Chambly, France; Guyson Sdn Bhd, Penang, Malaysia; and Guyson CN, Wuxi, China. With a growing network of distributors and re-sellers Guyson provides class leading cleaning and surface finishing solutions across any market sector, anywhere in the world.





# The Guyson Range

Over the last 80 years we have honed our knowledge and experience of a huge variety of applications for our products, and along with our customers we are still finding innovative and ingenious ways to create the perfect finish. We work across a vast range of industries at all levels from hobbyists and sole-traders to some of the world's largest companies, we like to think we have the right Guyson Solution whatever the process or application.

With such a wide range it is important that we make the right choice. That's why our free sample evaluation service, open to anyone, has always been a cornerstone of our business. We work hard to make sure you get the best solution, from initial sample evaluation, witness tests and factory acceptance tests all the way through to installation, maintenance and operator training.

## Manual Blast



Formula - Entry level blast cabinets



Euroblast - Industrial blast cabinets



Tumbleblast - Batch load rotary basket systems



Euroblast SBP - Seated blast cabinet



Mediblast - Stainless steel blast cabinet



Euroblast GL - Flat glass blast cabinet



Euroblast - Extra large blast cabinets

## Ultrasonic & Wash



Guyson - Benchtop ultrasonic baths



UCR - Ultrasonic wash & rinse baths



CRD 450 - Wash, rinse & dry



Microsolve - Solvent cleaning systems



Microclean - Multi-stage ultrasonic



Orbit - Spray wash

## Automated Blast



RB - Robotic blast systems



Multiblast RXS900 - Rotary indexing blast systems



Multiblast RSB - Rotary spindle blast systems

# 10 Reasons for Robot Blasting

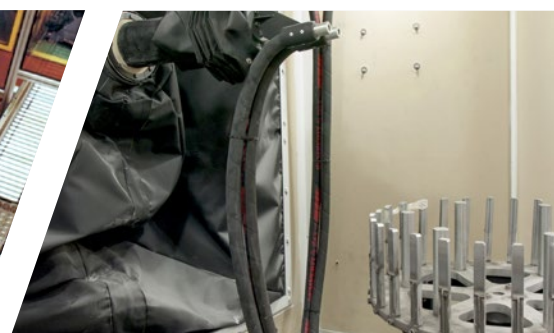
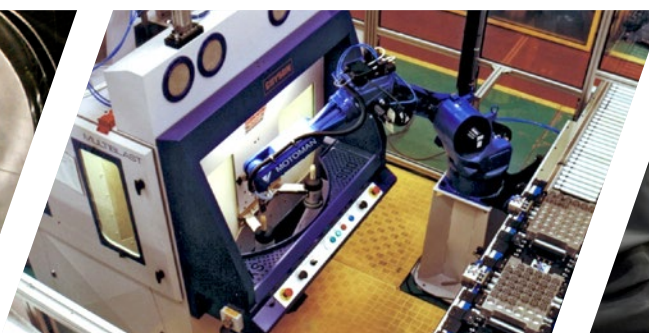
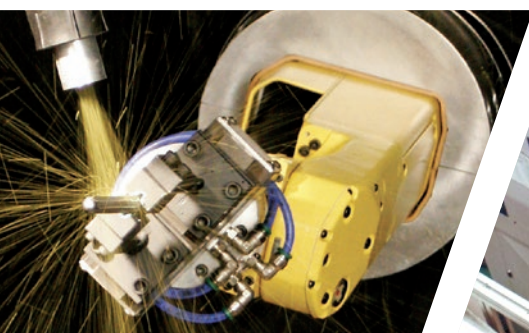


## 10 Ways Robot Blasting Can Make You More Competitive

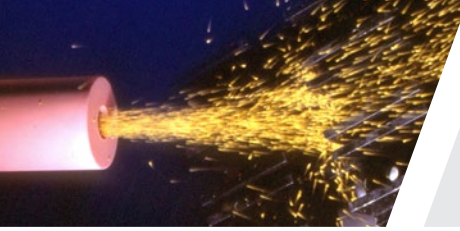
Robots in general industry have been proven to deliver a host of benefits in a wide variety of applications. End users introducing robots to their production processes have typically seen a significant transformation in their productivity and efficiency, with higher levels of output, product quality and flexibility amongst the many improvements reported.

For complex precision components and shot peening robotically controlled blasting delivers an outstanding range of benefits. In a nutshell it delivers a precise blast stand off distance to work pieces and controlled movement path with minimum overspray and the maximum blast efficiency.

The resulting higher quality and cost competitiveness achieved by robotic blasting for Western companies is the key driver against low cost economies but the hidden secondary benefits are not quite so obvious which this document sets out to explain.



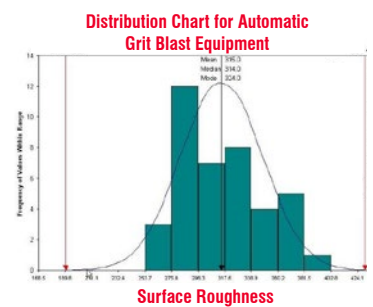
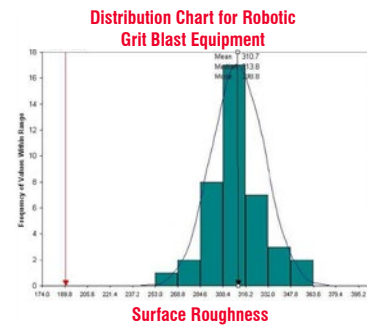
Robot Pick & Place



# 10 Reasons for Robot Blasting

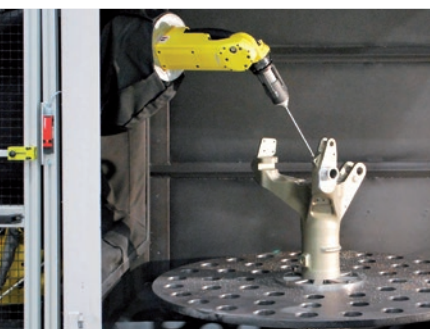
## 1. Reducing Operating Costs

- Robotic blasting enables you to reduce both your direct and overhead costs, making dramatic difference to your competitiveness.
- Take compressed air energy consumption for example, a robotic manipulation of a single blast nozzle can correctly blast very complex surfaces where an automatic Multiblast® machine may require 6 or 8 nozzles to blast the same complex surface. In a study a Multiblast® with 6 nozzles of 21.2 litres/sec each required €7,290 /yr of compressed air energy which was replaced by a single 35.4 litres/sec nozzle at €2,025 /yr.
- In the same study media consumption was reduced by 50% due to less breakdown due to cross firing of media. Labour costs were eliminated as loading became in work to other process steps.



## 2. Improve Product Quality And Consistency

- Robotic grit blasting and advanced motion control programming optimises the blast angle, stand off distance, surface speed and avoids cross fire of media compared to manual or Multiblast® techniques. The resulting surface texture is far more consistent when measured in surface texture parameters like Ra or Rz, as shown in the charts to the right.
- Robotic shot peening also benefits from more even residual stress profile across the work piece surface due to the optimum shot impact angle being programmable and repeated time after time



Precision Lance Shot Peening



Rotary Table Blast System With Twin Roof Mounted Robots





# 10 Reasons for Robot Blasting

## 3. Increase Production Output Rates

- It goes without saying that robots don't take breaks, don't need vacations or need any supervision. Manual blasting can be an arduous task especially fully suited blasting in blast rooms which require 30 to 50% rest allowances to be built into the operator allowed process time. Robotic blasting removes the 30% to 50% wasted time immediately but also removes the need for constant visual inspection and rework time because each piece receives the exact same validated blast process, time after time.
- Advanced programming of the robot off-line allows new products to be programmed whilst current production is on-going. A short validation run of the blast recipe means new products are introduced without lengthy downtime.

## 4. Increased Product Manufacturing Flexibility

- Robotic blasting increases the flexibility of your production processes. A simple change of an existing validated robot recipe takes minutes in the case of a manual change or seconds if the robot is integrated to a full flexible manufacturing cell. This means minimum loss of time in set up changes. Contrast this with what might be required to reposition blast nozzles in a traditional automatic machine.
- These benefits magnify immensely when introducing new product designs where work piece geometries may be completely different that might otherwise need a brand new traditional automatic blast machine.



MagnaValve - Media Flow Control



# 10 Reasons for Robot Blasting

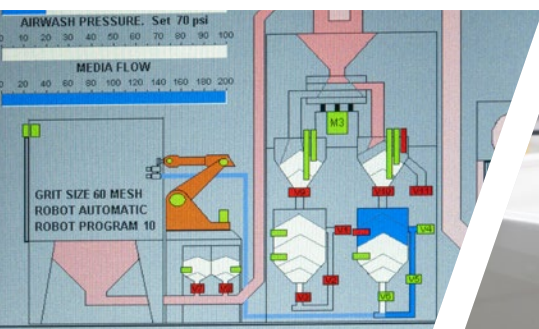
## 5. Reduced Capital Costs

- Robotic manipulation of a single blast nozzle around a fixtured work piece or robotic manipulation of a work piece around a fixed position nozzle is far simpler and smaller than a traditional multi nozzle system.
- As well as compressed air savings the ancillary media reclamation system is smaller and simpler. For shot peening this means a smaller sieve classifier, smaller roundness classifier, smaller cyclone and dust collector. Smaller equipment means less capital costs and lower floor space demands.



## 6. Reduce Waste Material And Increase Yield

- Robotic blasting replicates the same blast process time after time. The blast technique in most examples features one blast nozzle firing media at the work piece surface which avoids multiple nozzles cross firing media and artificially increasing media break down. In trials a 30% reduction in media consumption was achieved.
- Combine the blast technique with a Guyson media cyclone and sieve reclamation system and yields of consistently processed work pieces demanded by your customers is assured.



Barcode Reader



MagnaValves Monitor Media Flow

# 10 Reasons for Robot Blasting

## 7. Improve Quality of Work For Employees

- With a robot picking and placing a product or actually carrying out the blasting process you can improve the working conditions for your staff. Operators will no longer have to work in dusty, hot or hazardous environments. In addition, by teaching employees how to use the robots they can learn valuable programming skills and do work that is more stimulating.



## 8. Comply With Safety Rules And Improve Work Place H&S

- Robots can readily take over blast processes that maybe unpleasant, arduous or health-threatening tasks that may be currently undertaken manually. By using robots, you can decrease the likelihood of accidents caused by contact with machine tools or other potentially hazardous materials or processes. Robots can also help to eliminate ailments associated with repetitive or intensive processes, such as repetitive strain injuries (RSI) and vibration white finger.



3-Deck Blast Media Sieve



Robotic Arm Wear Protection Boot



Shot Peening Almen Strip Jigs on Rotating Table





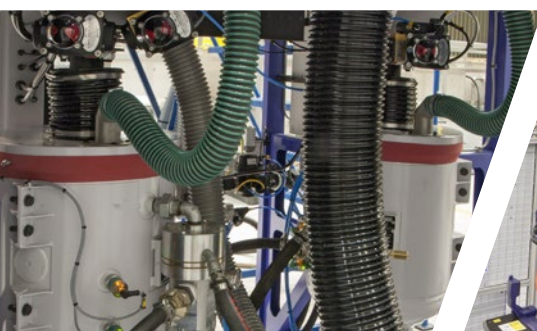
# 10 Reasons for Robot Blasting

## 9. Reduce Labour Turnover

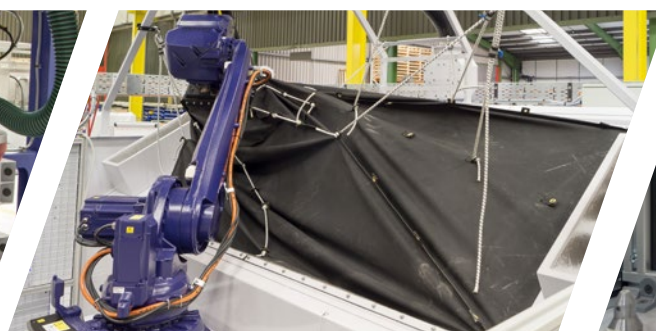
- The high precision demanded by today's industrial processes requires the highest levels of skill and training. With highly skilled manual workers becoming harder to find and more expensive to employ, robots can provide an ideal alternative. Once programmed for your process, Robots are ready to begin work with none of the costs associated with recruitment or ongoing training of people. Robots can also offer greater flexibility, both in terms of work patterns and the ability to handle different production tasks.
- Western European companies are gaining back competitiveness against low cost economies by adopting robotic blasting processes.

## 10. Save Space In High Value Manufacturing Areas

- Robots in Guyson blast systems are often placed at the rear of the blast system in a space not suitable for humans but they can be mounted on walls or even on ceilings to reduce space. They can also be programmed to work in confined spaces so you don't lose valuable floor space.
- The use of a robotic single nozzle blast systems reduce the size of the ancillary reclamation system of the cyclone, sieve separator and dust collector further reducing expensive floor space demands.



Dual Media - 55 Litre Blast Pots



Roof Mounted Robot



Robot Load & Unload Between Two Blast Systems

# Test & Demonstration



Here at Guyson we understand that choosing the right equipment for the job is a process critical decision which is why we insist on comprehensive sample evaluation prior to recommending any of our systems. We have always offered a free sample evaluation service and ensure we can provide the best possible advice and recommendations on media type, equipment selection and process considerations.



With more than 80 years of experience and one of Europe's largest test and evaluation facilities, Guyson provides unrivalled level of process qualification, recommendation and operator training.

***Contact us today to get your components evaluated, book a demonstration or just simply take a tour.***







# Spares, Media & Services

## Products

Established in 1938, Guyson International Limited is a privately owned family company with a world-wide reputation for excellence in the design and manufacture of robot, automated and manual blast finishing, spray wash and ultrasonic cleaning equipment. Guyson International manufacture, assemble and test in the UK to the latest ISO 9001:2015 quality and ISO 45001:2018 Occupational Health and Safety Management standards.



## Customer Service

Guyson don't just manufacture and supply products, our dedicated customer service team are available to provide our customers with the best possible aftersales care. From advice and guidance on equipment selection and operation to the identification of spares or blast media our customer service team have over 80 years of experience to ensure your Guyson equipment is operating at its optimum level.



## Spares

We hold extensive stocks of consumables and wear parts in support of all our equipment. Based at our Skipton head office our dedicated aftersales team are perfectly placed alongside our design, service, test and manufacturing teams to advise and help identify spares for machines dating back for 30+ years. With collection or next day delivery available, Guyson is best placed to provide peace of mind ensuring your Guyson equipment continues to run efficiently.

## Blast Media

Guyson are experts in the selection and supply of all types of blast media. From our test and demonstration facility we provide a free sample evaluation service and can advise you on the best possible media for your application. With over 60 types and sizes of blast media in stock and a wide range of specialist options available to order Guyson is your first choice for quality and service.

## Service

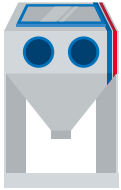
All Guyson equipment comes with 12 months comprehensive warranty as standard. With operator and maintenance training available when your machine is delivered, customer service support over the phone and a team of Specialist Field Service Engineers to install and commission your equipment, Guyson delivers peace of mind.

To ensure your Guyson equipment continues to run smoothly our dedicated service team can offer a comprehensive range of service packages. From preventative maintenance and service agreements to breakdown, repair and refurbishment, Guyson strive to ensure your investment stays as productive as possible for as long as possible.

***For more information on sample evaluation, training, media, spares and our range of services packages visit our website or contact your nearest Guyson location, details on the back of this brochure.***

# GUYSON

Designed & Manufactured  
in the UK since 1938



## Products

Manufacturers of Blast Finishing, Peening,  
Ultrasonic & Spray Wash Systems



## Customer Service

After Sales, Spares and Blast Media, Sample  
Evaluation, Training & Demonstration



## Service

On Site Installation, Commissioning,  
Preventative Maintenance, Service and Repair

## Industries

*Guyson covers all market sectors and specialise in:*



Automotive



Aerospace



Medical

*Distributed by:*

## Contacts

### UK

Sales, Design and  
Manufacturing Centre

**Guyson International Ltd.**  
Snaygill Industrial Estate  
Keighley Road  
Skipton, North Yorkshire  
BD23 2QR

T: +44 (0)1756 799911

E: [info@guyson.co.uk](mailto:info@guyson.co.uk)

[www.guyson.co.uk](http://www.guyson.co.uk)

### France

Sales and Service Centre

**Guyson SA**  
ZAC des Portes de l'Oise  
2 rue Henri Becquerel  
Bâtiment B7  
60230 Chambly, France

T: +33 (0)1 30 28 43 16

F: +33 (0)1 39 37 87 71

E: [contact@guyson.fr](mailto:contact@guyson.fr)

[www.guyson.fr](http://www.guyson.fr)

### USA

Design and Manufacturing  
Centre

**Guyson Corporation of  
USA**  
W.J. Grande Industrial Park  
13 Grande Blvd.  
Saratoga Springs  
NY 12866-9090

T: +1 518 587 7894

F: +1 518 587 7840

E: [info@guyson.com](mailto:info@guyson.com)

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

### Malaysia

Sales and Service Centre

**Guyson SDN BHD**  
Shoplot 10, G/F Hotel  
Equatorial  
1 Jalan Bukit Jambul  
11900 Penang

T: +60 46 41 49 95

F: +60 46 41 50 03

E: [kerry@guyson.co.uk](mailto:kerry@guyson.co.uk)

### China

Sales and Service Centre

**Guyson SDN BHD**  
Wuxi Representative Office  
28# Building, ZhenXin Road  
Xing An, New District  
Wuxi  
Jiangsu Province  
P.R. China  
Postal code: 214000

T: +86 510 82790120

F: +86 510 82790120

E: [zzlzh@guyson.co.uk](mailto:zzlzh@guyson.co.uk)

