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QUARTERLY NEWSLETTER FROM AUTOMATED SOLUTIONS AUSTRALIA

MEET THE ASA TEAM HARRISON CRAIG

CUSTOMER IN FOCUS: CHERAS INDUSTRIES

UNVEILING THE PATH TO MACHINE TOOL AUTOMATION



AXIS

FROM THE **DIRECTOR'S DESK**



"...we extend our gratitude to you, our readers, for being a part of our automation community.
Your support and interest drive us to continually explore new horizons and push the boundaries of what's possible."

Welcome to the latest edition of our AXIS newsletter!

We're excited to bring you insights, updates, and success stories from the world of industrial automation.

In this issue, we're putting the spotlight on our valued customer, Cheras, a prominent aluminium casting shop that's embracing innovation like never before. At Cheras, the pursuit of excellence is a core principle that drives their operations. We're thrilled to share their journey as we collaborated to bring about a transformative change in their production processes. Recently we installed a FANUC R2000iB/210F robot dedicated to helping produce high-quality lawn mower bodies.

Are you considering taking your manufacturing processes to the next level? Our featured article dives deep into the steps involved in automating your machine shop. From assessing feasibility to implementation strategies, we'll guide you through the intricate yet rewarding process of integrating automation.

Behind every success story, there's a team of dedicated individuals who make it all happen. This quarter, we're delighted to introduce you to Harrison Craig, one of our exceptional team members. With his unwavering dedication and expertise, Harrison has been a driving force behind our innovative solutions. Learn more about the people who bring automation dreams to life.

Experience the power & precision of the FANUC M-10iD/12! This compact, 6-axis robot delivers ultimate control & unwavering accuracy, making it ideal for complex automation applications. Whether it's welding, machine tending or assembly, this robot is designed to take on a wide range of automation jobs with ease and accuracy. Get ready to revamp your production process with the FANUC M-10iD/12.

As we embark on this exciting journey, we extend our gratitude to you, our readers, for being a part of our automation community. Your support and interest drive us to continually explore new horizons and push the boundaries of what's possible.

Stay inspired, stay informed, and let's continue to shape the future of automation together. Warm regards,

Pat Green, Director

ANNUAL ROBOT SERVICING

Has your Robot had it's Annual Service? Call ASA on 1800 ROBOTS to book.

Just like a car needs regular servicing, the same applies to your robots. Your robots work hard for your business, sometimes operating 24 hours a day for long periods, so annual servicing of your robots will ensure your FANUC robots remain in optimal condition. Greasing, battery replacements, checking for excessive wear and measuring back lash ensure motion repeatability, as well as continuing to provide you with a great consistent outcome for your manufacturing processes. Annual servicing helps maintain a high level of Mean Time Between Failures (MTBF), as well as potentially forecasting issues that may be developing.





PIONEERING ALUMINIUM CASTINGS - A LEGACY OF PRECISION AND PROCESS

Cheras Industries exemplifies excellence in the world of aluminium castings, raising the benchmark with its unparalleled dedication to quality and innovation. A subsidiary of G James Group, the company is backed by over 106 years of experience. Located in Eagle Farm QLD, Cheras Industries has established itself as a pioneer of custom made aluminium castings and is supported by a team of highly skilled operators and cutting edge technology.

Cheras Industries provides customers with the option between gravity and pressure die-casting techniques, as part of a comprehensive selection of services. With an unwavering dedication to excellence, their team offers the complete spectrum of services, including engineering, design, cutting-edge casting techniques and the art of precision toolmaking, to achieve excellent results. Their foundry, which is located in Brisbane, is a dynamic source of custom components for domestic and international manufacturers alike. Having served Honda since 1988, Cheras Industries produce over 20,000 lawn mower bodies per year.

Almost 40 years ago, in 1984, Cheras Industries had the foresight to see that automation was going to transform the manufacturing landscape and purchased a Unimate robot, largely recognised as the world's first industrial robot. This signalled a significant turning point in the industry, with the incorporation of machines into assembly lines. A revolutionary innovation, at the time was a robotic marvel, with the ability to perform repetitive tasks with unprecedented precision and efficiency.

In 2022, Cheras Industries came to Automated Solutions Australia (ASA) looking to reduce labour fatigue and also to replace their Unimate robot, which was showing signs of old age. Realising that deburring and deflashing duties were not only labour intensive, but also notorious for causing repetitive strain injuries and fatigue, Cheras Industries wanted to transform



their operation with the incorporation of an advanced robotic system and intelligent technology. Hoping to improve worker safety and operational effectiveness, Cheras Industries were introduced to ASA through Okuma and their PIPE alliance (Partners In Productive Expertise).

Working together with the engineering team at GJames, a cell was designed to load and unload castings from a conveyor into an 80 tonne hydraulic press. Once pressed, the robot would then transfer the casting onto a fixture and proceed to grind and deflash the casting before transferring the finished casting onto an outfeed conveyer. For this solution, the FANUC R2000iB/210F was



chosen for both its payload of 210kg and reach of 2655mm.

In conjunction with Robofabrika, ASA were able to integrate and supply a 2 axis compliant machining head for the robot. This allowed the robot to contour and follow the profile of the part achieving an excellent surface finish on a highly visual part of the mower deck. The servo spindle incorporated automatic tool changing of 5 cutting and deburring tools which are stored in a tool changer cabinet. Robofabrika also supplied a disc changing station which facilitates the automatic exchange of expired sanding discs. The integration of these proven automation technologies has unlocked the ability for continuous un-interrupted production of Honda Mower Decks for Cheras Industries.

Nathan Jones, General Manager of the Australian Business Unit at ASA reflects 'The project incorporated many automation components that we needed to integrate together to achieve the different needs of the client. We reached out to our partners in Industry such as Robofabrika, Rohmeld Automation and Schmalz to define the specifications of the equipment and enable seamless integration. We are very proud of the results we have delivered to Cheras Industries'

As a result of this project, Stuart Simi, Branch Manager at Cheras reflects that 'This automation project has halved our labour time and we still believe that we can improve on that result a little bit more'. The introduction of an automated system eliminated the need for strenuous manual labour and addressed the problem of worker fatigue, employees are now engaging in activities that promote upskilling and critical thinking. The automation cell has also resulted in a consistent level of quality, decreasing waste, and also increasing throughput. "This automation project has halved our labour time and we still believe that we can improve on that result a little bit more"

Cheras industries continue to take revolutionary steps towards modernising manufacturing processes and upskilling their workforce. This innovative addition represents a paradigm shift in their operations, as the new automated system streamlines the labour intensive and painstaking processes that previously slowed down production. Utilising cuttingedge robotics and intelligent technologies, Cheras Industries has increased production efficiency, guaranteed consistent product quality, and prioritised worker safety. This bold move demonstrates not only their dedication to innovation, but also a progressive trajectory for the entire industry, establishing a benchmark for future advances in automated manufacturing.

<u>Aluminium Castings ffl GJames</u> Automated Solutions Australia (ASA)

ROBOT IN FOCUS: FANUC M-10iD/12

The **FANUC M-10iD/12** is an intelligent, compact robot that can be adapted to meet a wide range of process automation needs. The 6-axis design and smart controller allow for ultimate control over the robot's motion. This allows the **FANUC M-10iD/12** to work in complex applications with ease, and with precise movements.

It has a maximum reach of 1441 mm and a maximum wrist load of 12 kg. The precise controls allow for motion repeatability of just \pm 0.02 mm.

This FANUC robot can be mounted in a number of configurations, as required. The unit is able to be mounted on the floor, upside-down on the ceiling, or angle mounted.

Applications of the FANUC M-10iD/12

The **FANUC M-10iD/12** can automate a wide range of manufacturing tasks, such as:

Assembly: The control provided by six axes of motion makes the FANUC M-10iD/12 ideal for a range of assembly tasks. In addition, the 1441 mm reach gives the robot the ability to move around large workpieces. **Material handling:** The FANUC M-10iD/12 has an intelligent controller that with the addition of vision sensors, can pick, sort, pack, and palletise materials efficiently as they move through the manufacturing process.

Material removal: In addition, the FANUC M-10iD/12 can perform finishing processes on a variety of workpieces, including grinding, polishing, and cutting. Specialised tools can be fitted to the wrist of the robot to accurately process the workpieces.

How can Automated Solutions Australia (ASA) Help?

Automated Solutions Australia (ASA) is your ideal FANUC industrial and FANUC collaborative robot integrator. Our industrial engineering team at ASA are FANUC robot specialists, from concept to system designs, installations, programming, and support. At Automated Solutions Australia (ASA), we love helping Australian businesses of all sizes reach their automation goals, and build their sovereign capability. This lets Australian manufacturers compete on the world stage. Automated Solutions Australia (ASA) is an



industry-leading expert for all your FANUC industrial robot and FANUC collaborative robot needs. Phone Automated Solutions Australia (ASA) today on **1800-ROBOTS** (1800-762-687).

This FANUC robot is the perfect option for automating a variety of compact and lightweight manufacturing processes. Contact Automated Solutions Australia (ASA) today to find out how this robot can work for you.



REVOLUTIONISING MANUFACTURING: UNVEILING THE PATH TO MACHINE TOOL AUTOMATION

In the rapidly evolving landscape of modern manufacturing, the integration of machine tool automation is emerging as a pivotal strategy for small and medium-sized job shops to bolster their overall efficiency and financial viability. As these businesses seek ways to optimise operations, a diverse range of automation solutions and strategies have come to the fore, tailored to suit individual business needs.

Understanding your Baseline

Exploring the world of automation calls for a thorough understanding of current productivity of existing shops. Understanding machine shop productivity pre-automation is the first integral process on an automation journey. Factors such as work flow, WIP, labour and total part production cost are all major factors that need consideration. This information forms the groundwork for a needs analysis to identify bottlenecks or constraints that could be improved with automation. This essential first step identifies inefficiencies and provides an overview of the benefits of automation, as well as considerations for return on investment, whether those benefits are cost savings through greater machine availability, freeing up the mundane tasks from a skilled operator's day in favour of more value-adding tasks, process consistency, increased productivity, or improved quality.

Setting Goals

Having clear short term and long-term goals is essential for realising the benefits of automation. Often, common goals of machine shops seeking automation are to increase throughput, keeping workers safe and increasing productivity. When considering any goals regarding automation, it's much easier to make smart choices about what the scope and form of an automation cell might look like with clear objectives.

Onboarding your workforce

Transitioning into automation entails a paradigm shift for shop floor dynamics. Machines readily adapt, while employees need both time and training to adapt. Involving operators and programmers in the planning process offers invaluable insights, ensuring smooth adoption. As a primary resource at the coalface, operators have knowledge of where and how automation



might be implemented. Discuss with your team how they feel and evaluate their preparedness for the transition to automation. Talk about how upskilling and transitioning to newer, more complex roles can increase job satisfaction. Involving your workforce in preparation for automation is a crucial step to ensuring a successful launch.

Leverage Expert Guidance to create your Roadmap Forward

With over 20 years experience, Automated Solutions Australia (ASA) provides expert guidance at every stage of the process, right from conception to system design, installation, programming, and support. We pride ourselves on creating bespoke solutions, knowing there's no such thing as a one "We take great pride in helping machine shops across Australia maximise throughput, improve system availability, reduce operating expenses, improve quality and keep your workforce safe."

size fits all solution and how important it is to find the right balance between cost and functionality. We believe that partnering with our customers to create individualised automation solutions creates successful outcomes, where your knowledge, goals and objectives are always at the forefront of everything we do. We take great pride in helping machine shops across Australia maximise throughput, improve system availability, reduce operating expenses, improve quality and keep your workforce safe. ASA's dedication and twenty year history in the machine tending space is evidence that this strategy works.

By implementing these key steps, your machine shop, no matter how big or small, will be ready to ride the automation wave to long-term success. What are you waiting for? Call Automation Solutions Australia today on 1800 ROBOTS.

MEET THE ASA TEAM - HARRISON CRAIG



What has been your favourite robot to work with?

My favourite robots are the R2000 series! Having worked with a few of them, I have been able to witness the different variations and numerous applications they are used in. It has been quite eye opening for me to see just what is possible for them.

Most interesting project?

The portable robot cell we made for a WA customer has been one of my most interesting projects so far. It was the first time we have designed a system like that and gave me the chance to get really creative with our solution! This cell is designed to be picked up and relocated, from machine to machine, as the customer requires automated tending in different areas of production. Squeezing all the robot equipment into a small portable cell was both challenging and fun from concept through to delivery. It taught me a lot of lessons during the design and manufacturing phases.

What's been your biggest challenge you've had to overcome on a project?

One of the largest challenges I faced was the learning curve during my on-boarding at ASA. Having robot experience in the past, I didn't know there was so much more to it than I already knew. It was both an amazing to soak it all in and quite daunting simultaneously! I really enjoyed it!

What do you enjoy most about working at ASA? (Best part of your job?)

Other than the people that I get to work with, a huge plus for me is the exposure to the industry that I get. Not only do I get to cover the whole scope of our projects but we are also exposed to the customers and their projects. It's really great to be able to see how vast our industry is and what is coming out of it!

Three words to describe your role?

Exciting, vast, educational

DELIVERING TOMORROW'S SOLUTIONS, TODAY

ASA is a privately owned, wholly Australian company specialising in the design, engineering and integration of flexible automation solutions for the Australian manufacturing sector.



Whether your application is pick and place, palletising, packaging, part transfer or assembly, the development of a robotic solution offers significant benefits in almost any industry that is operating at high levels of throughput.

- Achieve uninterrupted speed, saving valuable production time.
- Achieve maximum repeatability, reliability and accuracy
- Lower costs versus manual labour
- Eliminate health and safety risks related to repetitive, tiring or dangerous operations

Contact ASA for more information or visit our website automated solutions.com.au

1800 ROBOTS (1800 762 687)





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