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QUARTERLY NEWSLETTER FROM AUTOMATED SOLUTIONS AUSTRALIA

AXIS

REVOLUTIONISING
COWRA'S INDUSTRIAL
LANDSCAPE **THROUGH
AUTOMATION**

MEET THE ASA TEAM
LUCAS CHRISANTHOU

ROBOT IN FOCUS:
FANUC CRX-10iA/L



FROM THE **DIRECTOR'S DESK**



"We hope you find this edition of AXIS informative and engaging. Each article has been crafted to provide insights into our work, our people, and the technologies shaping the future of automation."

Welcome to the latest edition of AXIS, the quarterly newsletter from Automated Solutions Australia (ASA).

I'm thrilled to share with you the exciting developments and stories we have curated for this issue. Our team has been hard at work, and we have some fantastic articles that showcase our innovations, achievements, and the incredible people who make ASA what it is today.

In this edition, we invite you to get to know Lucas Chrisanthou, one of our talented engineers, in our 'Meet the Team' feature. Lucas's passion for robotics and dedication to precision and reliability are truly inspiring, and we're excited for you to learn more about his journey and contributions to ASA.

Our 'Robot in Focus' article now highlights the new FANUC CRX-10iA/L Paint Collaborative Robot. This state-of-the-art robot is designed specifically for the painting, powder and/or liquid coating, and fiberglass industries. With its high mix, low-volume application capabilities, explosion proof safety standards compliance, and user-friendly programming, the CRX-10iA/L is set to revolutionise automation in painting and coating operations.

In our 'Customer in Focus' section, we shine a spotlight on Chernco Engineering, a valued partner whose collaboration has been instrumental in pushing the boundaries of what we can achieve together. Their commitment to excellence aligns perfectly with our mission at ASA.

We also celebrate a significant milestone with Michael Boonzaayer, who marks 20 years at ASA. Michael's expertise and dedication have been vital to our success, and his journey is a testament to the passion and commitment that drives our team.

We hope you find this edition of AXIS informative and engaging. Each article has been crafted to provide insights into our work, our people, and the technologies shaping the future of automation. Thank you for being part of the ASA community. We encourage you to dive into these stories and stay connected with us as we continue to innovate and excel.

Warm regards,

Pat Green,
Director, Automated Solutions Australia (ASA)

CUSTOMER IN FOCUS: CHERNCO ENGINEERING

REVOLUTIONISING COWRA'S INDUSTRIAL LANDSCAPE THROUGH AUTOMATION

Nestled in the heart of New South Wales, the picturesque town of Cowra has not only been known for its natural beauty and historical significance but is now emerging as a hub for engineering and manufacturing, all thanks to the remarkable journey of Chernco Engineering. Chernco Engineering has played a pivotal role in transforming Cowra's industrial landscape, ushering in new opportunities and growth for the region.

Founded in 1975 by John Rankin, Chernco Engineering set out with a vision to provide cutting-edge engineering solutions across various industries. Their unwavering commitment to excellence and dedication to serving the local community laid the foundation for the company's rapid growth and success.

As a vertically integrated engineering company, Chernco Engineering offers a comprehensive range of services, including Metal Fabrication, CNC Machining, Prototyping, Design, Welding, and Assembly. Their state-of-the-art metal fabrication facility, equipped with the latest technology and skilled technicians, handles projects of all sizes, ensuring precision and quality in every job. The company leverages computer numerical control (CNC) machining to produce high-precision components for industries such as the electrical, construction and agriculture.

In 2022, Chernco Engineering came to Automated Solutions Australia (ASA) facing a common dilemma in the manufacturing industry, the limitations of labour tending to their CNC machinery. Chernco's machine tools had a maximum operational capacity of ten hours per day, but to expedite their return on investment, Chernco aimed to automate them and extend their operation to a continuous 24-hour cycle, thereby boosting productivity. Recognising the need for

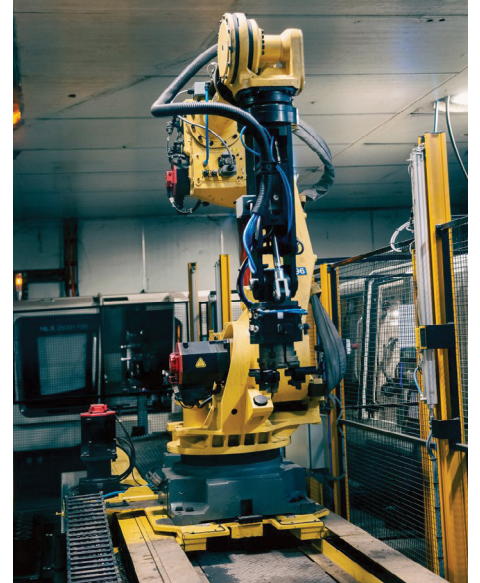
automation, they turned to ASA for a solution.

Enter Mr Tickle, a R2000iB/210F. Working together with Chernco Engineering, ASA designed a cell around a refurbished ex GM Holden FANUC robot, affectionately called 'Mr Tickle' due to its extra long fingers on the gripper end. The FANUC robot tends to two new DMG Mori NLX2500/700s and a Mori Seiki SL25 lathe. The robot was set to revolutionise Chernco's operations by tending to their machine tools via a X axis rail system.

The journey towards automation was not without its challenges. The team encountered many unexpected obstacles along the way, swarf build up, tool changes and mechanical problems with the gripper arm were just a few of the initial hurdles, however these challenges served as valuable learning experiences. During commissioning it was discovered that the distance between the chucks on the smaller DMG Mori NLX2500/700 was very tight for the robot wrist and gripper for billet loading of the longer parts. ASA and Chernco Engineering collaborated closely to find innovative solutions to these challenges. The first iteration of that mechanism used a pneumatic rotator cylinder which worked well initially but over the coming months, began to show signs of wear and compliance. Repairs and adjustments were done on site to prolong the life of the flipper while a new flipper was designed, incorporating the lessons learned.

The new gripper flipper mechanism was manufactured and installed in November 2023 and has worked faultlessly since, with the cell now having produced over 65,000 parts. ASA's ingenuity led to the development of a new gripper flipper, solving the mechanical issues and improving the robot's performance. This innovative approach showcased the power of team work and problem solving in the face of adversity. Despite the initial setbacks, Chernco Engineering and ASA were undeterred. Their shared vision of a fully automated cell was the driving force that kept them going. Their unwavering commitment to the project, along with a resilient attitude played a pivotal role in achieving their desired outcome. It was truly a triumph of perseverance.

Pat Green, Director of Automated Solutions Australia commented 'Working with Chernco Engineering on this project was a truly



collaborative effort, and overcoming the challenges along the way only strengthened our partnership. The successful automation of Chernco's operations is a testament to the dedication and innovative spirit of both teams'.

Today, the automation of Chernco Engineering's operations is a source of pride for Managing Director Mark Rankin who reflects 'The cell is honestly a joy now, and it accomplishes precisely what we set out to achieve from the beginning.' With Mr Tickle seamlessly tending to three of their machine tools, Chernco now has the ability to operate 24/7, significantly increasing their productivity.

The story of Chernco Engineering's automation journey is a testament to the power of perseverance, innovation, and collaboration. Through their shared vision and dogged determination, Chernco Engineering and Automated Solutions Australia have not only transformed their operations but also set an inspiring example for others in the industry. As Chernco Engineering continues to thrive in Cowra, NSW, their story serves as a reminder that when faced with challenges, working together can lead to remarkable outcomes.

Following on from the Lathe tending cell Chernco and ASA have again worked together to install a Chernco designed 80 pallet CNC mill tending cell feeding both a horizontal and vertical machining centres with pallets weight of up to 600kg.

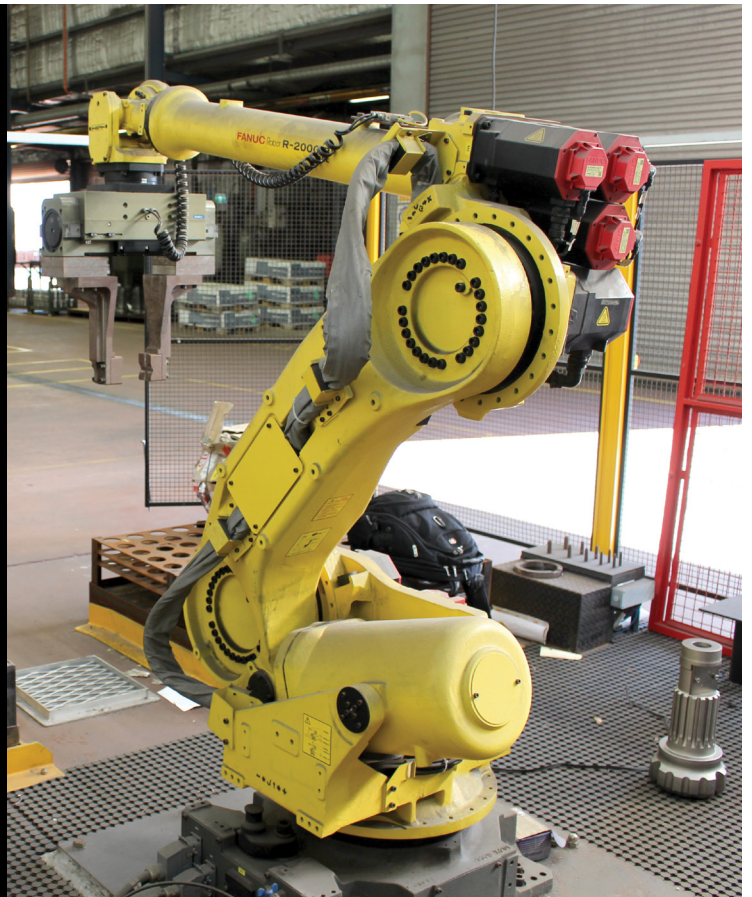
To delve deeper into Chernco Engineering's transformative journey towards automation or to witness Mr. Tickle's impressive work, visit their website:

Chernco Engineering: www.chernco.com.au
Automated Solutions Australia:
www.automatedsolutions.com.au

ANNUAL ROBOT SERVICING

Has your Robot had its 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.



ROBOT IN FOCUS: FANUC CRX-10iA/L

EXCITING ANNOUNCEMENT: INTRODUCING THE FANUC CRX-10iA/L PAINT COLLABORATIVE ROBOT!

We are excited to announce that the highly anticipated FANUC CRX-10iA/L Paint Collaborative Robot will be available for order in September 2024!

About the FANUC CRX-10iA/L Paint Cobot: The CRX-10iA/L Paint cobot is expertly engineered for the painting, powder, liquid coating, and fiberglass industries, offering unparalleled flexibility and efficiency.

Key Benefits:

- *Flexible Automation:* Perfect for high-mix, low-volume applications, enhancing paint and coating operations.
- *Safety Compliance:* Meets stringent explosion-proof safety standards.
- *Small Footprint:* Force-sensing technology ensures safe operation around people.
- *User-Friendly:* Features easy-teach

programming with drag-and-drop graphical icons and “lead through teach” capabilities for quick deployment.

- *Impressive Reach and Payload:* Boasts the longest reach in its class at 1,418mm and a 10kg payload, with a unique underflip motion for accessing challenging areas.
- *Lightweight and Intuitive:* Weighing just 45 kg, it includes intuitive paint-specific icon commands.
- *Optimised Performance:* Offers full optimisation with path editing and ROBOGUIDE software.
- *Seamless Integration:* Easily integrates with other equipment used in various coating applications.

Maintenance-Free: Requires no maintenance for 8 years.

Specifications:

- Controlled Axes: 6
- Payload: 10 kg
- Repeatability: ± 0.04 mm
- Reach: 1418 mm

Stay tuned for more updates and prepare to revolutionise your painting and coating operations with the innovative FANUC CRX-10iA/L Paint Collaborative Robot!



FANUC

CRX-10iA/L Paint Collaborative Robot

Payload	Reach	Axes
10 KG	1418 mm	6

1800 ROBOTS



MEET THE **ASA TEAM** - LUCAS CHRISANTHOU

AT AUTOMATED SOLUTIONS AUSTRALIA (ASA), OUR PEOPLE ARE OUR POINT OF DIFFERENCE.

We take a huge amount of pride in the exceptional talent and dedication of our team members. Today, we are excited to introduce Lucas Chrisanthou, an Automation Engineer, with a background in Mechatronic from the University of Melbourne. Lucas' passion for robotics and innovative solutions has significantly contributed to the overall success of projects.



Lucas's journey into the world of robotics began during his university studies, where he developed a keen appreciation for precision and reliability. 'I love the ability to see the tangible outcome of my work,' he says, reflecting on the unique nature of his role compared to more traditional programming and software engineering jobs. This hands-on experience with cutting edge technology continues to fuel his enthusiasm and drive to learn more.

One of Lucas's more memorable projects took him on a journey to Mexico, where he worked on an innovative high electrostatic paint application. This groundbreaking technology aimed to make the paint even more attractive to the sheet metal, resulting in significant cost savings and a lower environmental impact for the end customer. 'Our time there was successful, ending in great cost-saving and tangible environmental benefits', Lucas proudly shares.

In his daily work at ASA, Lucas thrives on the variety and challenges presented by path programming, both in simulations and with real robots. Ensuring smooth, collision free paths and maintaining exceptional standards in material application are key aspects of his responsibilities. Lucas is particularly excited about a precision seal project that he is working on. This innovative solution uses high accuracy lasers to locate specific seams within the car body, a departure from previous methods that involved entire

doors or cars from CAD. As an enthusiast of computer vision, Lucas finds this project fascinating, rewarding, and cutting edge.

Teamwork and communication are vital in overcoming challenges, especially when faced with tight deadlines. Lucas recalls instances where his team had to work quickly to meet customer expectations. 'Excellent communication between the teams working on any project is critical to a successful outcome,' he emphasises, highlighting the importance of effective team management over technical solutions at times.

Lucas believes that the solutions provided by ASA make a significant difference for clients. Whether it's getting a line back up and running quickly, or increasing throughput on a factory line, the team's dedication and work ethic are highly valued by customers. 'They know that when we are assigned to something, ASA will work relentlessly until it's completed to a high standard,' Lucas notes.

Looking ahead, Lucas is excited about the future of robotic automation and ASA's role in it. With emerging technologies poised to transform manufacturing, he is eager to continue implementing innovative solutions and witnessing the tangible results of their work. 'The future of manufacturing is ready to grow, and we are at the forefront of it,' he says with enthusiasm.

Outside of work, Lucas enjoys programming and often has personal projects on the go, such as developing a robotic dog that learns

"Excellent communication between the teams working on any project is critical to a successful outcome"

to walk using machine learning. This allows him to apply lessons from his professional life to his hobbies and interests. His advice to aspiring robotic automation professionals is to start with a project they are passionate about. 'It's often easy to get stuck reading papers upon papers on robotics, but you really start when you write your first line of code, wire your first circuit, or tighten that first screw,' he advises.

Lucas's favourite robot model is the LR Mate 200id, which he admires for its simplicity and effectiveness. 'It's a testament to the fact you don't always need the most complicated technology to get the job done in the best way possible,' he remarks.

With his passion for robotics, innovative spirit, and dedication to excellence, Lucas continues to be an invaluable asset to ASA, helping to drive the company forward in the ever evolving field of robotic automation.

CELEBRATING TWO DECADES OF EXCELLENCE: MICHAEL BOONZAAYER'S 20-YEAR JOURNEY AT ASA



Michael's ability to build and maintain strong relationships with our customers is the cornerstone of our success.

We say it often – our people are our point of differentiation. They are what makes ASA, ASA. And when you've had someone who is a part of the vernacular of the company for 20 years, you need to stop and reflect on the enormity of that. We are thrilled to celebrate Michael Boonzaayer, our Process Engineering Manager, who recently marked 20 years with the company. Mike, as he is affectionately known, has been relentless in the pursuit of excellence across two decades with the company.

Mike began his career at ASA with a passion for tinkering and understanding how things work, which evolved into an interest in robotic automation. His early years were defined by hands on roles, where he installed and troubleshooted electrical, mechanical, and pneumatic installations. This foundational experience provided Michael with an extensive understanding of system operations from the ground up, laying the groundwork for his future achievements.

Pat Green, Director of ASA remembers 'From the moment Mike joined ASA, we've affectionately known him as our very own 'MacGyver' for his ingenuity and perseverance. His passion for engineering, combined with his hands on expertise in robotics, set him apart right from the start. Over the years, Mike's dedication and innovative spirit have not only driven our projects to success but have also inspired

countless colleagues. His journey from an enthusiastic beginner to a seasoned Process Engineering Manager embodies the excellence we strive for at ASA'

Michael's first installation was at Holden's Elizabeth plant in Adelaide, where he worked on the installation of over 40 paint robots, supported breakdowns, and drove continuous improvement activities. His extensive knowledge and ability to troubleshoot quickly became a cornerstone of his success.

It became obvious very quickly that Michael's career trajectory was always going to be one with remarkable achievements and continuous growth. His hard work and dedication have never wavered, and he now stands as our Process Engineering Manager, mentoring colleagues coming through in the same role he started in, whilst also taking overall

responsibility for the offline programming department.

Michael's work has taken him around the world, including countries like Egypt, China, Mexico, India, America, Canada, Thailand, Argentina, and Korea. His ability to immerse himself in different cultures and form strong relationships with customers has been instrumental in his success. Michael's commitment to working with customers, rather than just for them, has fostered a collaborative environment where projects are completed on time, within budget, and with exceptional quality.

Company Director of ASA Pat Green reflects 'Michael's ability to build and maintain strong relationships with our customers is the cornerstone of our success. His collaborative approach and commitment to working with customers have fostered trust. Our customers have become Mike's friends and his impact on our company and our clients is truly remarkable.'

Michael himself reflects on a wonderful 20 years at ASA 'As I look back on my time with ASA, the moments that stand out most are the ones where we faced the 'unsolvable' problems head on and found innovative solutions together. These challenges have not only fuelled my passion for engineering but have also forged friendships that will last a lifetime. It's been a privilege to grow and learn with such an incredible team.'

As we celebrate Mike's 20-year milestone, we look forward to many more years of innovation, collaboration, and success. Mike's personal journey is an inspiration to all of us at ASA, and we are proud to have him as a key member of our team. Here's to Michael and the incredible impact he continues to make in robotics, locally and abroad.

COLLABORATIVE ROBOTS: APPLICATIONS, INDUSTRIES AND ADVANTAGES



COLLABORATIVE ROBOTS IN MODERN MANUFACTURING

In the evolving landscape of industrial automation, collaborative robots, or cobots, mark a transformative era. Previously, industrial automation has been confined to isolated areas, with robots working in spaces cordoned off from human interaction. The concept of being near an active robot was once inconceivable. However, the market has since embraced cobots, which utilise force sensors and machine vision among other technologies to prevent hitting humans or to automatically shut down if a collision occurs.

Many modern manufacturers now embrace the integration of collaborative robots, allowing workers to collaborate with these machines as seamlessly as they would with their own human colleagues.

The Genesis of Collaborative Robots

The concept of collaborative robots was initially sparked by a research project led by the General Motors Foundation in 1995, which aimed to explore the potential for robots to safely collaborate with humans in shared environments. Consequently, this led to the development of the first cobot.

When it comes to FANUC collaborative robots, the variety we exclusively integrate at ASA, it was 2015 when their first collaborative robot was introduced to the marketplace. Having worked with industrial robots since 1956, this was ground breaking for a company that had become a top industrial robot manufacturer throughout the world. The FANUC CR-15ia, was FANUC's first robot

designed to work side by side with humans without the need for barriers, thanks to its advanced safety sensors, rounded corners, and soft outer shell. A few years after this, FANUC became the pioneering manufacturer to commit an entire product line exclusively to collaborative robots.

Collaborative Robots V Industrial Robots

The distinction between collaborative robots and traditional industrial robots is becoming clearer as collaborative robots gain popularity in various production environments. Here are key differences between collaborative robots and Industrial Robots:

Safety and Intelligence: Engineers design collaborative robots with safety and intelligence in mind, outfitting them with advanced sensors and visual technology to detect and respond to humans, thus eliminating the need for protective barriers.

Human-Robot Collaboration: Unlike autonomous industrial robots, cobots are designed to work alongside humans, thereby enhancing productivity and efficiency.

Ease of Programming: collaborative robots are user-friendly and adaptable, requiring no specialised programming skills.

Versatility in Collaborative Robots & Their Applications

With their advanced sensors and mobility, they can operate in a vast array of environments. So collaborative robots are a natural fit in a diverse range of industries and applications. Shift from high-mix low volume to low mix and high volume task easily. In addition, with a wide range of end of arm tooling (EOAT) it is simple for a collaborative robot to switch tasks as well. Thus from the metal industry, electronics industry, through to the food industry and automotive industry (and many more), collaborative robots are changing manufacturing floors.

Collaborative robots are not just flexible and user-friendly; they are also instrumental in safeguarding workers from hazardous tasks and minimising workplace accidents. Their versatility allows them to undertake a wide array of roles across numerous industries, proving invaluable in tasks like packaging, assembly, machine tending, and palletising.

Not All Collaborative Robots are Created Equal

When it comes to entrusting your production and manufacturing processes to a product, FANUC represents a wise investment. As a result, FANUC have produced 750,000+ robots, recognised as the global frontrunner in automation solutions. FANUC Cobots are compact, quick to implement, and easy to program, with renowned reliability. FANUC's Collaborative Robot range including the CRX and the CRiA Series show case an extensive array of options, a higher payload capacity, extended reach, and increased speed when compared with others on the market.

Lets Collaborate!

ASA is your ideal Collaborative Robot integrator. Our team at ASA are FANUC robot specialists, from concept to system designs, installations, programming and support. Automated Solutions Australia (ASA) thrive on helping Australian business of all sizes achieve their automation goals. This helps Australian companies to compete on the world stage. When it comes to your cobot needs, Automated Solutions Australia are your Australian experts.

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
automatedsolutions.com.au

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