MANUFACTURING SKILLS QUEENSLAND

M12

MANUFACTURING IN THE

TEXTILES, CLOTHING AND FOOTWEAR INDUSTRIES

MANUFACTURING SKILLS QUEENSLAND

A guide on how to use this Industry Pack Resource for teachers and students

This industry pack is a resource designed to support the Manufacturing Careers Short Course. It connects classroom lesson plans, assessment tasks and the Manufacturing Matters website: manufacturingmatters.com.au.

COVER PAGE

Identifies the main manufacturing industry explored in this pack. Each industry pack is assigned an alphanumeric code, such as M4, to assist in identifying the industry pathway pack in various printed and digital outputs. There are 14 pathways in total.

» *Use to identify workplaces or industries of interest for Assessment 1.*

PAGE 1

Provides an overview of the specific manufacturing industry. It briefly explains where the industry operates and provides a basic understanding of relevant industry subject matter. **Supports Lesson 1 & 3**.

» *Use to identify key interests or targeted questions for Assessment 1.*

PAGE 2

Features images and descriptions of the manufacturing industry. These examples support further independent research by providing clear visual references for inspiration. **Supports Lesson 1 & 3**.

» *Use to direct independent research to prepare targeted questions for Assessment 1.*

PAGE 3

A career story offers real-life insight into an individual working in the manufacturing industry. It highlights variability in career pathways and offers real-world context of roles and progression within the sector. **Supports Lesson 3**.

» *Use for Assessment 1 & Assessment 2 to understand pathways and core skills, attributes and knowledge.*

PAGE 4

Includes:

- A map of Queensland to prompt a guided Google Maps research activity into where manufacturing industries are located.
- Industry specific search strings to assist further independent research into the industry.
- Links to job search platforms to research employment opportunities in the industry in Queensland.

Supports Lessons 8 to 13 & 16.

» *Use for Assessment 1 & Assessment 2 to identify local industries and support independent research into job skills, attributes and knowledge gathering search terms.*

PAGE 5

Provides an overview of educational training pathways and connects to the Career Bullseye highlighting roles at various Levels on the following page. **Supports Lessons 16 & 17**.

» *Use for Assessment 2 to understand pathways into specific roles.*

PAGE 6

An interactive Career Bullseye indicates roles within the industry at various Level (1 – 4) and allows for quick cross-industry comparisons on flexible career pathways. **Supports Lessons 1 & 3**.

» *Use for Assessment 2 to understand pathways into specific roles and cross-industry relevance.*

PAGE 7

Focuses on the first career pathway theme: **"Leading Teams"**.

Highlights the skills, qualities and attributes required for leadership roles and provides a list of examples to support further independent research. **Support Lessons 11, 18 & 19**.

Note: More detailed job descriptions are available on the Manufacturing Matters website. These may be made available as printed copies also.

Note: Additional videos are available to support this section exploring select "Leadership" and "On the Tools" occupations.

» *Use for Assessment 2 to identify skills, attribute, knowledge and/or experience as pathways into specific roles in interested manufacturing industries.*

PAGE 8

Focuses on the second career pathway theme: **"On the Tools"**.

Highlights the skills, qualities and attributes required for hands-on roles and provides a list of examples to support further independent research. **Support Lessons 2, 6, 11**.

Note: More detailed job descriptions are available on the Manufacturing Matters website. These may be made available as printed copies also.

Note: Additional videos are available to support this section exploring select "Leadership" and "On the Tools" occupations.

» *Use for Assessment 2 to identify skills, attribute, knowledge and/or experience as pathways into specific roles in interested manufacturing industries.*

PAGE 9

Provides an overview of the Future of the Industry and how technology is changing it. The section highlights skills needed for the future and growing trends in the industry. **Supports Lessons 12 & 13**.

» *Use to identify targeted questions for Assessment 1 and for Assessment 2 for planning careers pathways and future skills, attributes and knowledge.*

PAGE 10

Includes helpful online resources for further exploration of manufacturing industries. A matrix is provided that identifies all 14 core manufacturing industry pathways to discover!

» *Use for Assessment 1 & Assessment 2 to expand independent research into pathways, core skills, attributes, and knowledge.*

Understanding the Textiles, Clothing and Footwear Industry in Queensland

The Textiles, Clothing and Footwear manufacturing industry in Queensland represents an important segment of Australia's manufacturing capabilities, combining traditional craftsmanship with advanced manufacturing technologies to serve both domestic and commercial markets.

TEXTILES MANUFACTURING IN QUEENSLAND

Queensland's textiles manufacturing sector integrates traditional production methods with modern technologies. The sector produces a diverse range of products including fabrics for garments, upholstery materials, carpets, and technical textiles. Many manufacturers specialise in producing materials suited to Queensland's climate, with emphasis on moisture-wicking and UV-resistant fabrics. Technical textile production has grown significantly, reflecting Queensland's increasing focus on specialised industrial applications.

The commercial textiles sector serves diverse market segments including healthcare, mining, and construction industries. Queensland manufacturers have developed expertise in producing textiles that meet the specific requirements of tropical and subtropical environments, including considerations for humidity resistance and durability in coastal areas.

CLOTHING AND FOOTWEAR MANUFACTURING IN QUEENSLAND

The clothing and footwear manufacturing sector encompasses a broad range of specialised production activities. Workwear forms a substantial segment, with manufacturers producing high-visibility clothing, protective equipment, and safety footwear suited to Queensland's industrial sectors. Many manufacturers have developed niche markets by focusing on products adapted to local conditions and workplace safety requirements.

Specialised product manufacturing includes sportswear, custom uniforms, and orthopaedic footwear. These subsectors often combine traditional manufacturing techniques with advanced technology, particularly in areas such as pattern making and automated cutting. Queensland's clothing manufacturing industry has evolved to incorporate digital technology while maintaining capabilities in traditional garment production.

Manufacturing Support Industries

The industry is supported by a network of specialised facilities including textile processing operations, leather working facilities, and finishing units. These support industries are crucial to the sector's success, providing essential services and materials. Thread manufacturers and hardware suppliers form an integral part of the supply chain, often developing custom solutions for specific manufacturing requirements.

Advanced Manufacturing Technologies

Contemporary TCF manufacturing in Queensland relies heavily on advanced technologies. Computer-aided design (CAD) systems and automated cutting machines are now standard in most facilities. These technologies enable precise production methods while maintaining cost-effectiveness. Quality control systems and inventory management procedures have been developed to meet international standards while addressing local market needs.

Skills and Workforce

The industry depends on a highly skilled workforce including textile designers, pattern makers, machine operators, and production technicians. Quality control specialists and material technologists play crucial roles in maintaining standards and efficiency. The sector actively collaborates with TAFE Queensland and other training institutions to develop and maintain these essential skills.

Manufacturing Locations

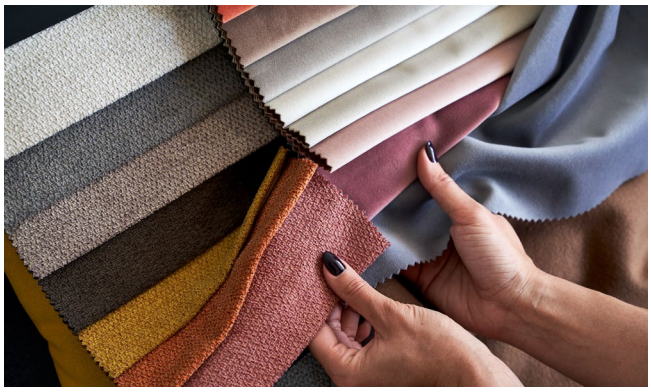
Manufacturing facilities are strategically positioned throughout Queensland, with significant concentrations in Brisbane's industrial areas and the Gold Coast's manufacturing zones. Regional centres such as Ipswich and Toowoomba have developed specialised manufacturing capabilities, often focused on particular market segments such as industrial workwear or safety equipment.

Sustainable Practices

Sustainability has become increasingly important in the sector. Manufacturers are implementing recycled material sourcing, energy-efficient processes, and waste reduction programs. Water-efficient dyeing systems are becoming standard, reflecting both environmental concerns and workplace safety requirements.

The industry provides significant employment opportunities and contributes to Queensland's domestic production while supporting related sectors such as mining, construction, and retail industries.

A circular weaving loom machine can create a seamless woven fabric tubes.



Textile samples demonstrating varying knit, colour, and material softness.

Skilled industrial sewing machine operators producing garments for clothing industry.

Sustainable fabrics used in contemporary fashion design.

Shoe fabricator operating specialist equipment for quality leather footwear production.

Innovative technology such as pressure registration to improve orthotic performance for individuals.

Images in this document have been supplied by Manufacturing Skills Queensland and industry partners. Additional images have been sourced through Adobe Stock or generated using Adobe and Google AI software. Design layout by Liveworm, Queensland College of Art and Design, Griffith University.

Career Stories
Founder Director

As a Founder Director in Queensland's manufacturing industry, I lead a company specialising in recycling plant and equipment technology for textiles and rubber products. Our core business is "repurposing the hard stuff!" We conduct research and development with a small recycling production line established to shred and granulate PVC/PET tarpaulins.

In our industry's context, we primarily align with polymers, plastic and rubber manufacturing, with additional involvement in textiles, clothing and footwear. Students might interact with our work through their daily activities - we're developing novel technologies for recycling tyres on cars, buses and bicycles. Looking ahead, the full circular economy is the dominant trend, which essentially re-manufactures products into the same products, being the best method of manufacturing for the planet. Design in material choice, form and function are evolving to enable this circular economy approach.

From my personal perspective, my role centres on innovation and team leadership. A typical day involves engaging with team members one-on-one, attending meetings with suppliers and clients, and spending 2-3 hours on design and innovation. These are usually 12-hour days. My journey here wasn't direct - I originally qualified as a plumber and gasfitter, which provided practical skills. I later studied Construction Management at university as a mature student, opening doors into commercial construction. I discovered a passion for manufacturing buildings using 3D design, robots and automation.

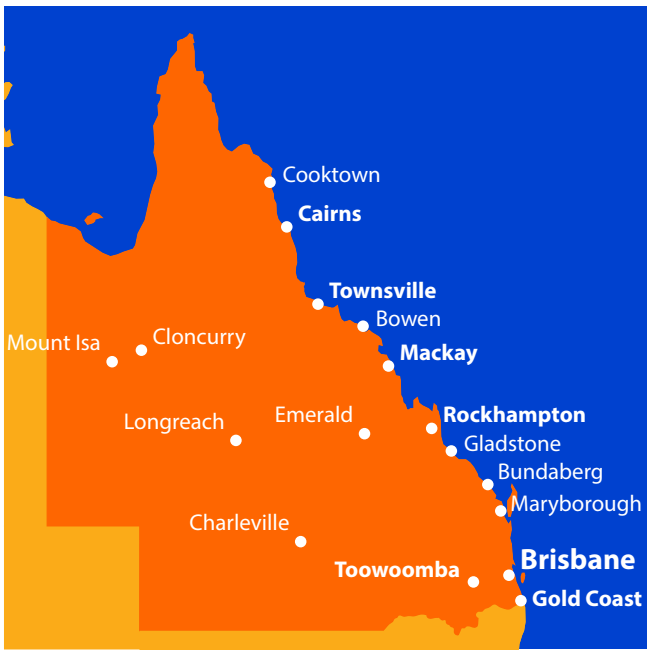
Interestingly, I had zero knowledge about manufacturing before entering the industry. I stumbled into it through my trade background, installing pipework in manufacturing facilities, which helped me understand machines, processes and production lines. My entry into manufacturing came when I was asked to rectify plumbing on manufactured bathroom pods. Having both plumbing and building licenses, I created a prototype bathroom pod, secured a contract for 480 units, and invested in setting up my first production line.

For students considering this path, the most beneficial general subjects include Agricultural Science, Business, Chemistry, Design, Earth & Environmental Science, Economics and Engineering. For applied subjects, I recommend Agricultural Practices, Business Studies, Engineering Skills, Essential English, Industrial Graphics Skills, Industrial Technology Skills, and Information & Communication Technology.

My advice to Year 10 students considering manufacturing? Firstly, define your passion. What will get you excited to wake up every day for the next 50 years? For me personally, it wasn't until I was 35 and started in manufacturing that I discovered my true passion. So, if you don't get it right the first time, that's ok, you will find your path over time.

"I stumbled into it through my trade background, installing pipework in manufacturing facilities, which helped me understand machines, processes and production lines."

Industry Map



FINDING INDUSTRY NEAR YOU

Want to see what Industry is around you? Here's how to do it on Google Maps!

Start by going to:

maps.google.com

Quick tip: Sign in if you want to save places for later!

Begin finding Pathways to Industry by typing what you're looking for using the knowledge you have, and include where you want to find it, for example:

"textile factory regional QLD"

For this specific industry here are some terms to try:

- Textile manufacturer/production
- Clothing manufacturing
- Large format industrial sewing
- Industrial Fabric
- Footwear manufacturers
- Shoe manufacturing facility

Add "industrial" or "manufacturing" to avoid retail results

Use "facility" or "factory" for production sites

Include "industrial" with sewing or fabric terms

Some general search tips:

- Always include both "QLD" and "Queensland" in separate searches
- Add your postcode or "near me" to find stuff nearby
- Moving around the map? Click "search this area" to find new places
- Want to see how big a place is? Switch to Satellite View!
- Use Street View to get a closer look
- Found something interesting? Save it to your lists

Don't forget to check regular Google Search too! Sometimes you'll find different results there.

EXTENDING YOUR INDUSTRY KNOWLEDGE ONLINE

Here are some useful web search queries to find out more about this industry:

- smart textile technology
- automated garment manufacturing
- advanced fibre development
- digital textile printing
- sustainable fabric processing
- 3D knitting technology
- technical textile innovations
- waterproofing advances
- antimicrobial textiles
- wearable technology integration

EXPLORING INDUSTRY PATHWAYS ONLINE

Search for manufacturing jobs in Queensland using platforms like Seek, Indeed, and LinkedIn. Filter results by location and experience level to find opportunities ranging from production line work to engineering roles. Use specific keywords like "advanced manufacturing careers" to discover industry trends and requirements.

seek.com.au

au.indeed.com

linkedin.com

Industry Pathways

In Queensland, an industry training pathway blends secondary school education with hands-on vocational training, allowing students to gain practical skills and qualifications while completing their high school certificate.

These pathways often involve partnerships between schools, TAFEs (Technical and Further Education), and industry, providing students with apprenticeships, traineeships, or work experience in their chosen field.

This combination of classroom learning, and real-world experience gives students a head start in their careers and helps them transition smoothly into the workforce or further tertiary education.

What does an industry training pathway look like?

The four education and training levels serve as a general guide and represent the most common educational and/or entry-level requirements for these roles.

LEVEL 1

Typically requires skills equivalent to the completion of Year 10, a Senior Secondary Certificate of Education, or a Certificate I or II. Australian Apprenticeships may be available at this level.

LEVEL 2

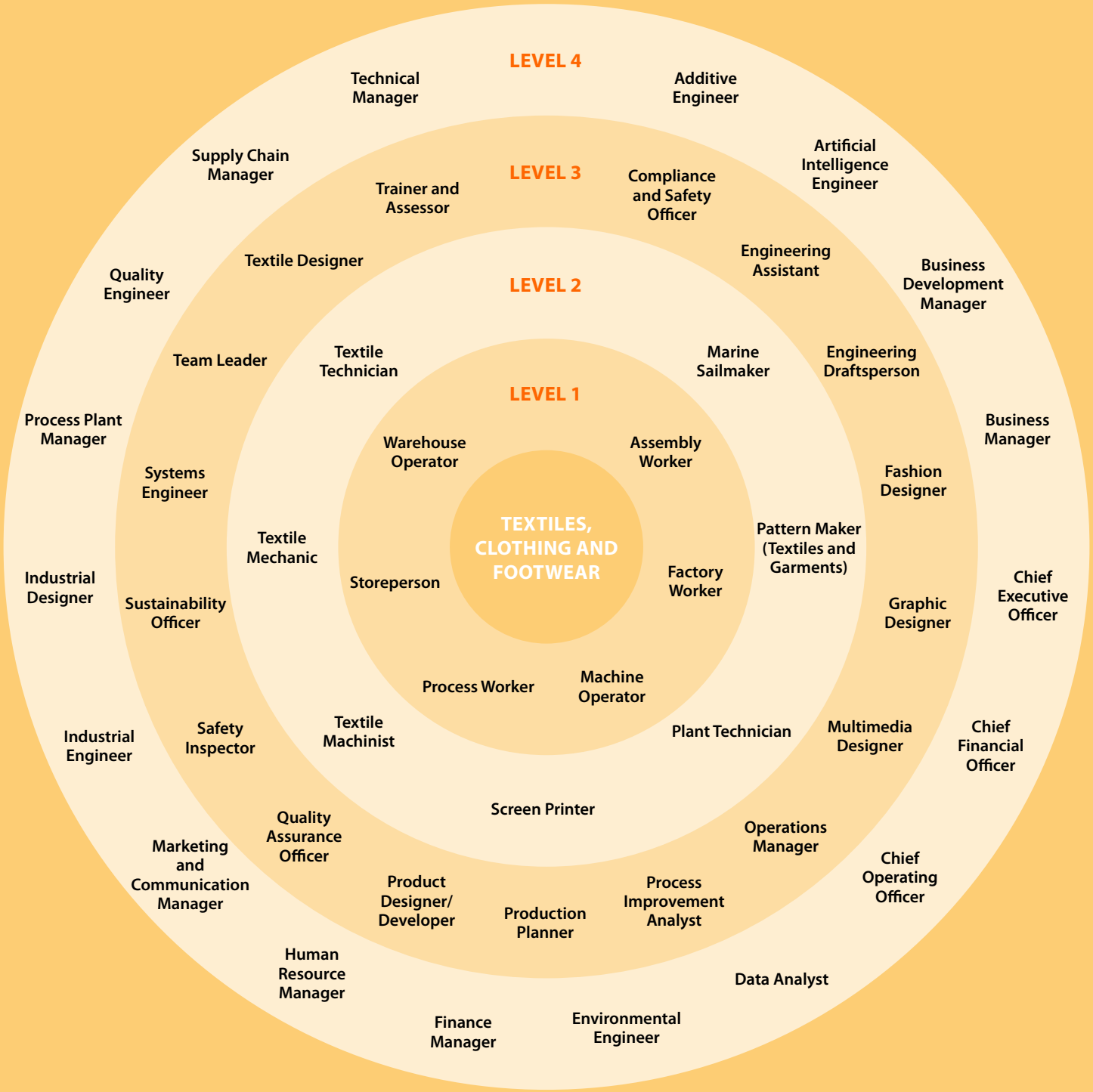
Typically requires skills equivalent to a Certificate III or IV, or at least three years of relevant experience. Australian Apprenticeships may also be available at this level.

LEVEL 3

Typically demands a level of expertise equivalent to a Diploma or Advanced Diploma, often gained through TAFEs or Registered Training Organisations. Some universities also offer programs at this level.

LEVEL 4

Typically requires qualifications equivalent to a Bachelor's Degree or higher. This level of education is usually pursued at a university.



CORE INDUSTRIES

- Aerospace and Defence
- Chemicals, Hydrocarbons and Refining
- Food and Beverage
- Furniture and Other Products
- Meat and Seafood Processing
- General Manufacturing and Engineering
- Pharmaceutical and Medical Technology
- Polymers, Plastic and Rubber
- Printing and Graphic Arts
- Pulp, Paper and Packaging
- Renewables
- Textiles, Clothing and Footwear
- Timber and Wood
- Transport Equipment and Machinery

SUPPORTING INDUSTRIES

- Laboratory Operations
- Process Plant Operations
- Sustainable Operations

For further information, visit:

manufacturingmatters.com.au/careers

Industry Pathways - Leading Teams

Leading a team is about more than just managing tasks; it's about inspiring, motivating, and guiding a group of individuals towards a shared goal. A good team leader fosters a collaborative and supportive environment where everyone feels valued and empowered to contribute their best.

ROLE OF A TEAM LEADER

- Setting a Vision: Clearly define goals and objectives, and communicate them effectively to the team.
- Providing Direction: Guide the team's efforts, ensuring everyone understands their roles and responsibilities.
- Motivating and Inspiring: Encourage and support team members, recognising their achievements and fostering a positive work environment.
- Facilitating Collaboration: Promote teamwork, open communication, and constructive conflict resolution.
- Delegating Effectively: Assign tasks based on individual strengths and skills, empowering team members to take ownership.
- Monitoring Progress: Track the team's performance, providing feedback and making adjustments as needed.
- Developing Individuals: Support the growth and development of team members through mentoring, coaching, and training opportunities.

QUALITIES AND ATTRIBUTES OF A GOOD TEAM LEADER

- Strong Communication Skills: Clearly and effectively convey information, actively listen to team members, and provide constructive feedback.
- Integrity and Trustworthiness: Act with honesty and ethical principles, building trust and respect among team members.
- Emotional Intelligence: Understand and manage their own emotions and those of others, fostering empathy and positive relationships.
- Decisiveness: Make informed and timely decisions, even in challenging situations.
- Accountability: Take responsibility for the team's performance, both successes and failures.
- Problem-Solving Skills: Identify and analyse challenges, develop creative solutions, and guide the team through obstacles.
- Adaptability: Adjust to changing circumstances, embrace new ideas, and remain flexible in their approach.

JOB TITLE

Industry roles where qualities of leadership, effective communication and specialist knowledge are valued.

- Chief Executive Officer
- Chief Operating Officer
- Chief Financial Officer
- Process Plant Manager
- Technical Manager
- Supply Chain Manager
- Human Resource Manager
- Finance Manager
- Marketing and Communication Manager
- Business Manager
- Business Development Manager
- Operations Manager
- Team Leader
- Production Planner
- Safety Inspector
- Industrial Engineer

For further information, visit:

manufacturingmatters.com.au/careers/

Industry Pathways - On the Tools

Jobs involving hands-on work with technology are increasingly common, blending technical expertise with manual dexterity and problem-solving skills. These roles often involve building, repairing, installing, or maintaining technological equipment and systems.

QUALITIES NEEDED FOR THESE ROLES:

- Manual Dexterity: Skilled and precise use of hands and tools to manipulate small components and perform intricate tasks.
- Technical Knowledge: Understanding of the technology they work with, including its principles, operation, and maintenance.
- Problem-Solving Skills: Ability to diagnose issues, identify solutions, and apply critical thinking to resolve technical challenges.
- Attention to Detail: Accuracy and precision in their work, ensuring that equipment is assembled and functioning correctly.
- Patience and Persistence: Ability to work through complex tasks methodically and remain focused, even when facing setbacks.
- Communication Skills: Clearly explain technical issues to colleagues or clients and work effectively in a team.
- Physical Stamina: May involve lifting, bending, and standing for extended periods.
- Up-to-date Knowledge: A willingness to learn and stay current with rapidly evolving technologies.
- Adaptability: Adjust to changing circumstances, embrace new ideas, and remain flexible in their approach.

JOB TITLE

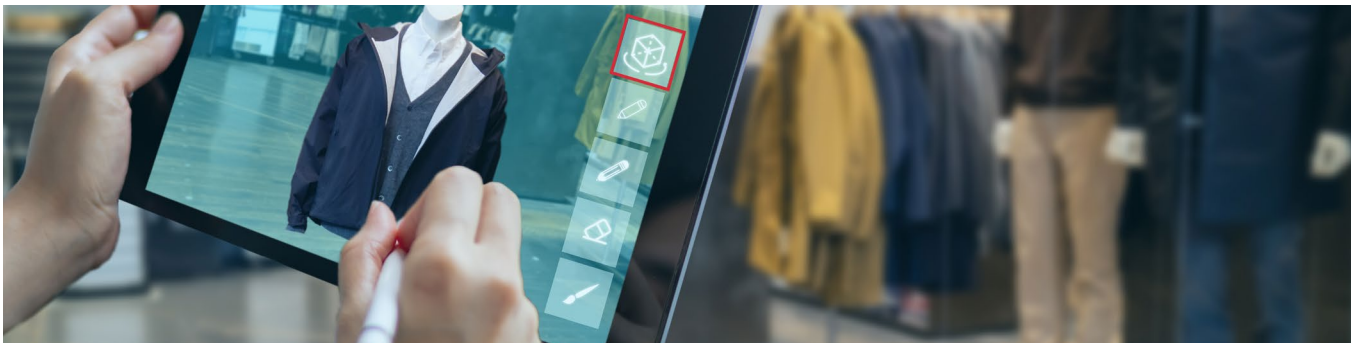
Industry roles that can be considered 'on the tools' which requires different levels of training and specialist knowledge.

- Industrial Designer
- Quality Engineer
- Artificial Intelligence Engineer
- Additive Engineer
- Data Analyst
- Environmental Engineer
- Textile Designer
- Sustainability Officer
- Process Improvement Analyst
- Quality Assurance Officer
- Fashion Designer
- Product Designer/Developer
- Engineering Draftsperson
- Engineering Assistant
- Systems Engineer
- Compliance and Safety Officer
- Graphic Designer
- Trainer and Assessor
- Multimedia Designer
- Textile Mechanic
- Textile Technician
- Textile Machinist
- Pattern Maker (Textiles and Garments)
- Screen Printer
- Marine Sailmaker
- Plant Technician
- Process Worker
- Factory Worker
- Storeperson
- Warehouse Operator
- Machine Operator
- Assembly Worker

For further information, visit:

manufacturingmatters.com.au/careers/

Future Industry



FUTURE TRENDS AND INNOVATION

The future of Queensland's Textiles, Clothing and Footwear (TCF) manufacturing industry aligns with Australia's national economic priorities, particularly in sustainable manufacturing, digital transformation, and advanced materials development. These changes support the Future Made in Australia plan's goals of strengthening sovereign manufacturing capabilities and developing advanced skills.

KEY TRENDS INCLUDE:

Digital Manufacturing: Integration of artificial intelligence and 3D modelling technology in garment and footwear production, enabling precise pattern making and reducing material waste. This includes advanced body scanning systems that optimise fit and improve customisation capabilities.

Smart Textiles: Development of new technical textiles and wearable technology products, aligned with the growing demand for performance fabrics and monitoring capabilities. This includes conductive textiles for electronic integration and bio-monitoring fabrics for healthcare applications.

Advanced Processing Technologies: Implementation of robotics and automated cutting systems in garment manufacturing, supported by industry-specific digital skills training programs. This includes automated sewing technologies and smart material handling systems.

Sustainable Manufacturing: Adoption of circular economy principles, including recycled fibre processing, zero-waste pattern cutting, and water-efficient dyeing systems. This includes development of biodegradable materials and closed-loop manufacturing processes.

FUTURE ROLES IN THE INDUSTRY

Leadership Roles:

- Technical Textiles Production Manager: Oversees smart fabric manufacturing
- Digital Operations Director: Leads automated production implementation
- Sustainability Manager: Coordinates circular fashion initiatives
- Skills Development Leader: Implements digital manufacturing training

Technical Roles:

- Smart Textiles Specialist: Develops technical fabric applications
- Digital Systems Technician: Programs automated cutting systems
- Advanced Materials Specialist: Develops sustainable fibres
- Robotics Maintenance Engineer: Services automated sewing systems
- Industry 4.0 Trainer: Supports workforce digital transition

FUTURE SKILLS FOCUS

Emerging skills requirements across all levels include:

- Digital literacy and data analysis
- Automated systems operation
- Sustainable manufacturing practices
- Advanced material handling
- Cross-disciplinary communication

These emerging roles emphasise the integration of digital technologies and sustainable manufacturing processes. The industry offers new career pathways through technical training programs and micro-credentials, with particular focus on developing digital skills in traditional textile and garment production roles.

Other Resources

For further information, visit:

MANUFACTURING MATTERS

manufacturingmatters.com.au

MANUFACTURING SKILLS QUEENSLAND

msq.org.au

QUEENSLAND STATE GOVERNMENT

Department of State Development, Infrastructure and Planning

statedevelopment.qld.gov.au/industry/critical-industry-support/industry-roadmaps

Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development

nrmmrrd.qld.gov.au/manufacturing

BUSINESS QUEENSLAND

business.qld.gov.au/industries

REGIONAL DEVELOPMENT AUSTRALIA

rdabrisbane.org.au

INDUSTRY ASSOCIATIONS

Australian Fashion Council

ausfashioncouncil.com

Ethical Clothing Australia

ethicalclothingaustralia.org.au

Other Core Industries to Discover

Check out these other core manufacturing industries to understand the similarities and differences between them!

M1 Aerospace and Defence
M2 Chemicals, Hydrocarbons and Refining
M3 Food and Beverage
M4 Furniture and Other Products
M5 Meat and Seafood Processing
M6 General Manufacturing and Engineering
M7 Pharmaceutical and Medical Technology
M8 Polymers, Plastic and Rubber
M9 Printing and Graphic Arts
M10 Pulp, Paper and Packaging
M11 Renewables
M12 Textiles, Clothing and Footwear
M13 Timber and Wood
M14 Transport Equipment and Machinery