Manufacturing and Product Development

Date: Friday, October 13, 2023
Time: 8:30 - 12:00
Location: Technical Employment Training, Inc. (TET)
Hosted by: SBCROP and TET
Facilitator: Terry Giamarino, SBCROP Program Manager
Advisory Documents: https://bit.ly/Manu_AdvisoryDocs2023

Advisors:

Daniel Wierman, Sector Strategies Implementation Manager, Goodwill Southern California
Roger Furlong, Technical Sales Consultant, Paton Group
Jason Flejter, General Manager, Cherp Industries
Kimberly Clarke, Corporate Vice President/General Manager, Walker West LLC & Walker Manufacturing Group
Mike Jensen, District Manager – Inland Empire, HFO Anaheim/M.T.S. Inc.
Rick Damiani, Application Engineer, Paton Group

K12 Educational Participants:

Alan Kay, Assistant Director, San Bernardino City Unified School District
Andrew Stager, Coordinator College & Careers, Upland Unified School District
Armando Gamont, Student, Technical Employment Training
Bill Clarke, MFG STEM Consultant, Indian Springs High School
Damian Ramirez-Fuentes, Technical Assistant,
Fadil Noble, Student, Technical Employment Training
Francisco Carrillo, Student, Technical Employment Training
Jaime Perez, Teacher
Javier Bravo, STEAM Coordinator, San Bernardino City Unified School District
Jesus Herrada, Student, Technical Employment Training
Kim Terry, Coordinator, San Bernardino County Superintendent of Schools
Kimberly Laurie, Program Specialist, San Bernardino City Unified School District
Kinszel Boler, Student, Technical Employment Training
Mathew Alvarado, CNC Machinist, Technical Employment Training
Michael Pereira, Teacher
Nathan McNabb, Student, Technical Employment Training
Oard Kirkland, Student, Technical Employment Training
Rubelio Mendoza, Instructor, Technical Employment Training
Scott Raine, Program Manager, CRY-ROP
Shehzad Bhojani, Program Manager, San Bernardino County Superintendent of Schools
Sticia Shubin, Activities & Project Tech, San Bernardino County Superintendent of Schools
Surinder Sharma, Student, Technical Employment Training
Virginia Martinez, Technical Employment Training

Workforce Development Representative:
Henry Nickel, Staff Analyst II, San Bernardino County Workforce Development Department

Community College Participants:
Alexzander Plank, Welding Instructor & Certified Welding Inspector, Mt San Antonio College

Minutes:
A panel of seven industry professionals representing a wide range of positions within manufacturing and product development participated by answering the following questions.

Question 1: What trends do you see impacting your industry within the next 3-5 years?

Alexzander Plank: Alexzander emphasizes the impact of switching to new technologies worldwide but highlights a lack of employee skills to adapt. He focuses on the need for training instructors on these new technologies and suggests a structured pathway within educational institutions.

Mike Jensen: Mike foresees a shift toward more automated and complex machines in manufacturing, leading to "Lights out Manufacturing," where fewer people are needed for production. He mentions the emergence of robotics, mills, and the increased production of more products.

Rick Damiani: Rick's perspective revolves around manufacturing and preprinting fabrication technologies. He notices the trend of more capable machines, simpler processes, and better software. However, he points out that while automation is advantageous, it also brings its own set of issues, requiring more community technicians to handle these complexities.

Kimberly Clarke: Kimberly discusses challenges related to entry-level pay, workforce expectations, and the impact of remote work on the manufacturing sector. She notes the difficulty in attracting skilled labor due to misconceptions about the industry and the hindrance of environmental regulations on manufacturing.

Jason Flejter: Jason highlights multiple trends, including the increasing demand for skilled trade workers, automation and robotics, supply chain resilience, human-machine collaboration, and the importance of environmental sustainability in manufacturing.

Roger Furlong: Roger anticipates a shift in manufacturing returning to the U.S., emphasizing increased automation, smarter machines, and the need for students to adopt a mindset that aligns with the profitability of companies.

Daniel Wierman: Daniel sees a rise in manufacturing returning to the U.S. and stresses the need for more skilled labor. He advocates for skill-based hiring over degree-based hiring and emphasizes the importance of educational programs tailored to industry needs.

Question 2: How would you recommend addressing these trends to better prepare students for your industry?

Alexzander Plank: Alexzander suggests a college pathway structured around degrees, introductory, intermediate, and capstone certifications. He advocates for training within educational institutions rather than solely in companies.

Roger Furlong: Roger recommends Project-Based Learning (PBL) and integrating SkillsUSA and First Robotics into curriculum to provide hands-on, real-world problem-solving experiences.

Mike Jensen: Mike emphasizes showcasing the industry's attractiveness to attract more workers and advises distinguishing oneself to progress in manufacturing careers.

Daniel Wierman: Daniel supports instructor training in companies and advocates for skill-based hiring over degrees, mentioning the importance of mentorship and on-the-job training.

Jason Flejter: Jason stresses the need to start STEM awareness programs in junior high schools and make STEM fields appealing to students.

Kimberly Clarke: Kimberly emphasizes the need for manufacturers to dispel misconceptions about the industry and make it more inviting for educators and students.

Rick Damiani: Rick focuses on encouraging students to think innovatively and prepare for the complexities of sophisticated machines.

Question 3: What are the necessary skills/education/certification(s) needed for a student to obtain employment within your industry?

Alexzander Plank: Alexzander highlights welding certifications and the need to mainstream programs to bridge the workforce gap.

Roger Furlong: Roger recommends certifications and building a portfolio of projects to showcase skills to potential employers.

Mike Jensen: Mike suggests NIMS/CAD/CAM certifications and emphasizes a broad skill set and a positive attitude.

Daniel Wierman: Daniel emphasizes basic skills like blueprint reading, shop math, and shop training. He advocates for career pathways within companies.

Jason Flejter: Jason emphasizes entry-level skills, soft skills, and situational awareness as crucial for employment.

Kimberly Clarke: Kimberly stresses the importance of time management, problem-solving, responsibility, and communication skills, along with technical abilities.

Rick Damiani: Rick highlights the need for an understanding of electrical equipment, hydraulics, and flexibility in learning various skills.

Question 4: Can you provide us with a few other occupations within your industry that may not require the highest degree/credential but provide a living wage?

Alexzander Plank: Alexzander points towards apprenticeship programs and certifications as pathways to higher wages and suggests incentivizing continuous learning.

Roger Furlong: Roger highlights the role of entry-level positions leading to pathways for success and mentions the demand for teachers or educators in the industry.

Mike Jensen: Mike sees manufacturing as offering quick progression to a living wage, from supervisors to shop managers to owners.

Daniel Wierman: Daniel discusses roles like machine operators, CNC operators, machinists, programmers, HR, and shipping and receiving, emphasizing internal training for progression.

Jason Flejter: Jason shares his career progression from the floor to senior executive management and mentions certifications in logistics, sales, and program management.

Kimberly Clarke: Kimberly describes the progression from unskilled to skilled labor, emphasizing internal training and self-learning.

Rick Damiani: Rick highlights welding as a pathway to a living wage and underscores its demand and difficulty to automate in the industry.

Key Takeaways and Action Items by Panelist

These key takeaways and action items provide insights into the concerns and opportunities within the Manufacturing and Product Design industry, as discussed by the panelists. They can serve as a basis for further discussion and decision-making in the field.

Alexzander Plank, Welding Instructor & Certified Welding Inspector, Mt San Antonio College
Key Takeaways:

- Emphasizes the need for a structured educational pathway for training in new technologies.
- Advocates for mainstreaming programs to bridge the workforce gap.

Action Items:

- Implement Structured Educational Pathways: Develop degree programs with introductory, intermediate, and capstone certifications.
- Expand Welding Certifications: Ensure welding programs offer varying certifications and bring these programs to a more diverse audience.

Roger Furlong, Technical Sales Consultant, Paton Group

Key Takeaways:

- Recommends Project-Based Learning (PBL) and integrating real-world problem-solving experiences into the curriculum.
- Suggests building a portfolio of projects to showcase skills to potential employers.

Action Items:

- Implement Project-Based Learning: Integrate SkillsUSA and First Robotics competitions or projects into the curriculum.
- Develop Skill Showcasing Programs: Create a professional portfolio development program for students to showcase their practical skills to future employers.

Mike Jensen, District Manager – Inland Empire, HFO Anaheim/M.T.S. Inc.

Key Takeaways:

- Highlights the attractiveness of the industry to attract more workers.
- Emphasizes the progression from entry-level roles to higher positions within manufacturing.

Action Items:

- Industry Marketing Campaign: Develop marketing strategies highlighting the industry's evolution and attractiveness to attract a larger workforce.
- Establish Clear Progression Pathways: Create programs within companies that facilitate career progression, emphasizing the natural growth from entry-level to higher positions.

Daniel Wierman, Sector Strategies Implementation Manager, Goodwill Southern California

Key Takeaways:

- Stresses the importance of skill-based hiring over degree-based hiring.
- Advocates for a focus on foundational skills like blueprint reading and shop math.

Action Items:

- Skill-Based Hiring Programs: Implement recruitment processes that prioritize skills rather than degrees.
- Strengthen Foundational Skill Training: Develop comprehensive programs focusing on essential skills like blueprint reading and shop mathematics for aspiring industry professionals.

Jason Flejter, General Manager, Cherp Industries

Key Takeaways:

- Emphasizes the importance of starting STEM awareness programs in junior high schools.
- Highlights the significance of soft skills, situational awareness, and entry-level technical abilities.

Action Items:

- Develop STEM Awareness Initiatives: Establish STEM programs in junior high schools to foster interest and understanding.
- Soft Skills Training: Implement training modules focusing on soft skills, situational awareness, and entry-level technical competencies within educational programs.

Kimberly Clarke, Corporate Vice President/General Manager, Walker West LLC & Walker Manufacturing Group

Key Takeaways:

- Stresses the need to dispel misconceptions about the industry's working environment.
- Highlights the importance of time management, problem-solving, and communication skills for industry readiness.

Action Items:

- Industry Perception Campaign: Organize events or initiatives to showcase the industry's working environment and its appeal.
- Integrated Soft Skills Curriculum: Develop modules within educational programs that focus on time management, problem-solving, and communication skills necessary for success in the industry.

Rick Damiani, Application Engineer, Paton Group

Key Takeaways:

- Emphasizes the need for exposure to innovative and complex machines and processes.
- Highlights the significance of understanding various technical fields for versatility in the industry.

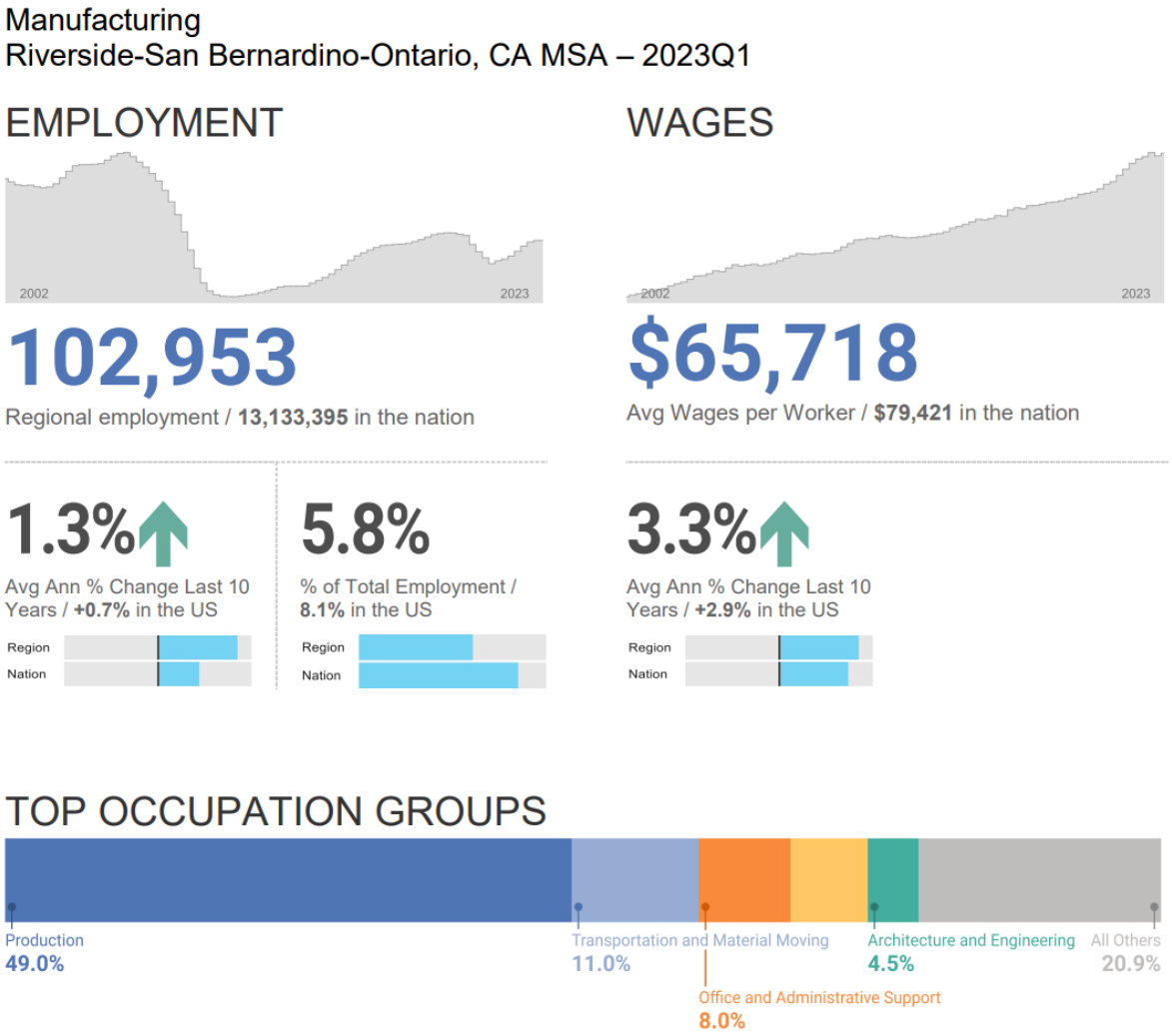
Action Items:

- Expand Exposure Opportunities: Facilitate visits or workshops exposing students to innovative machinery and processes within the manufacturing sector.
- Versatile Technical Training: Develop programs that incorporate diverse technical fields, fostering versatility and adaptability among aspiring industry professionals.

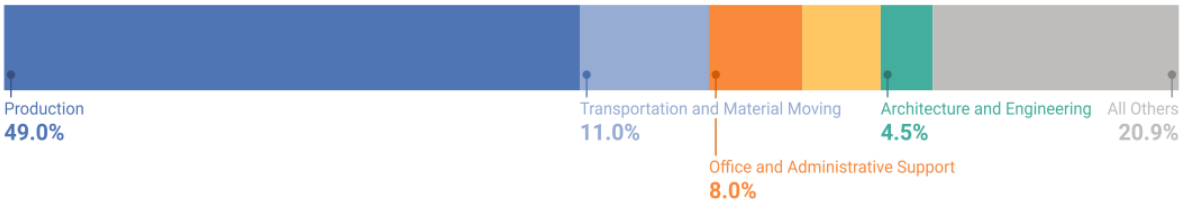
Labor Market Information

The entire Industry Spotlight report developed and presented by the Workforce Development Department can be viewed at this link:

Industry Spotlight - Manufacturing, Riverside-San Bernardino-Ontario, CA MSA.pdf



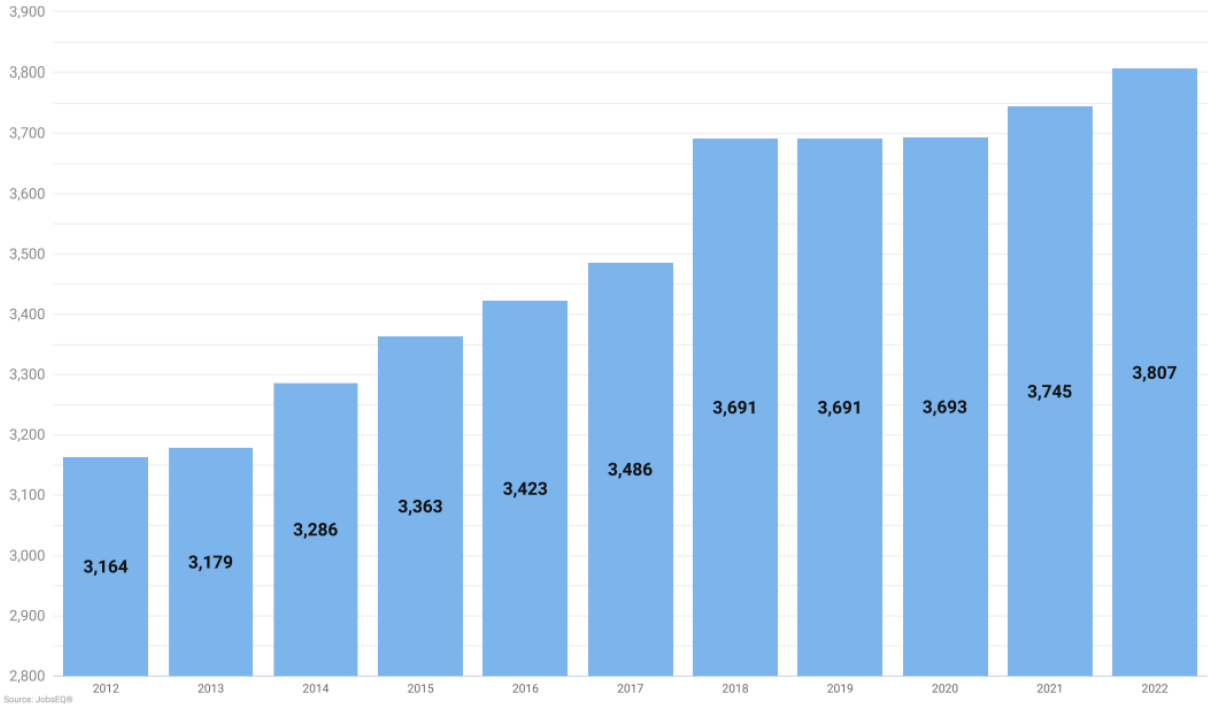
Staffing Pattern



6-digit Occupation	Empl	Avg Ann Wages	Annual Demand
Team Assemblers	7,489	$41,400	834
Laborers and Freight, Stock, and Material Movers, Hand	3,515	$44,300	568
First-Line Supervisors of Production and Operating Workers	3,422	$68,900	409
Inspectors, Testers, Sorters, Samplers, and Weighers	3,076	$51,900	360
Packaging and Filling Machine Operators and Tenders	2,677	$43,200	360
Welders, Cutters, Solderers, and Brazers	2,396	$50,900	312
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	2,304	$84,700	268
Machinists	2,294	$52,900	287
Industrial Truck and Tractor Operators	2,002	$45,700	267
Shipping, Receiving, and Inventory Clerks	1,931	$44,000	221
Remaining Component Occupations	71,829	$69,600	8,891
Total	**102,935**		

Establishments

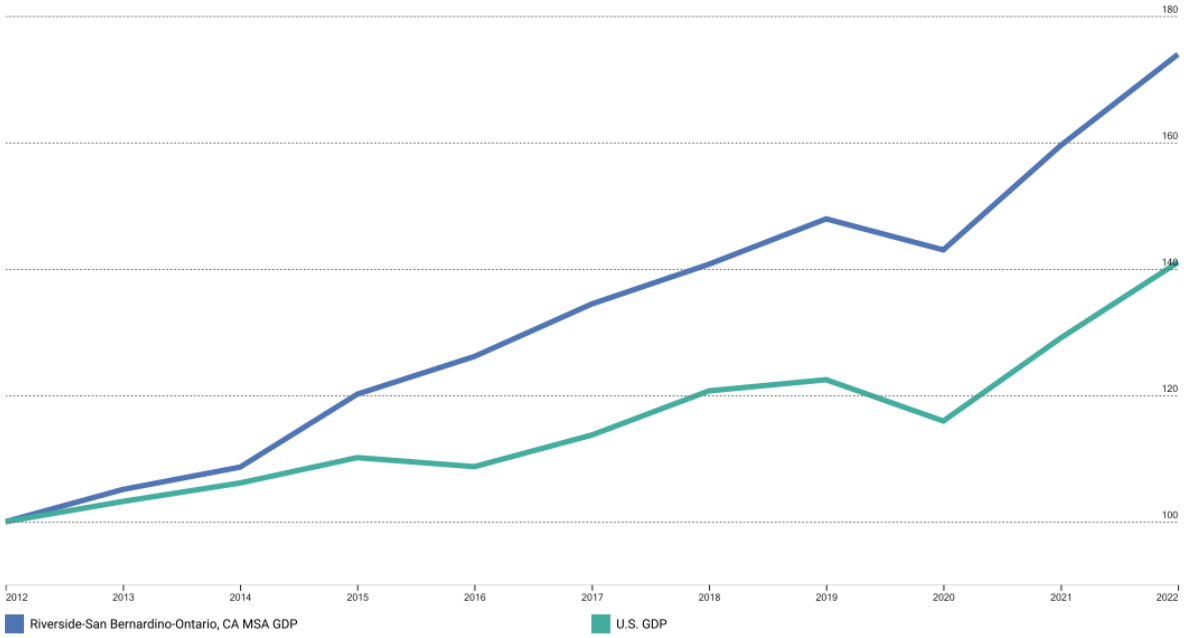
In 2022, there were 3,807 Manufacturing establishments in the Riverside-San Bernardino-Ontario, CA MSA (per covered employment establishment counts), an increase from 3,164 establishments ten years earlier in 2012.



GDP & Productivity

In 2022, Manufacturing produced $17 billion in GDP for the Riverside-San Bernardino-Ontario, CA MSA.

GDP: Indexed 2012 = 100



7.8 %

Industry Share of Total GDP / **10.8 %** in the nation



5.7 %

Avg Ann % Change Last 10 Yrs / **3.5 %** in the nation



$496k

Output per Worker / **$635k** in the nation

