MANUFACTURING REPORT RELEASE WEBINAR

A CHANGING MIDDLE-SKILL WORKFORCE

Manufacturing Report Release

Powered by LAEDC

A Changing Middle-Skill Workforce

CCW

is leading industry-education partnerships to collaboratively strengthen our region's talent development ecosystem

1. Data-driven research on the supply and demand for talent
2. Industry Councils and Regional Program Advisories
3. Developing work-based learning opportunities
4. Workforce & Education Portal

Funded by the California Community Colleges Chancellor's Office under the Strong Workforce Program (SWP) as a Los Angeles Regional Project

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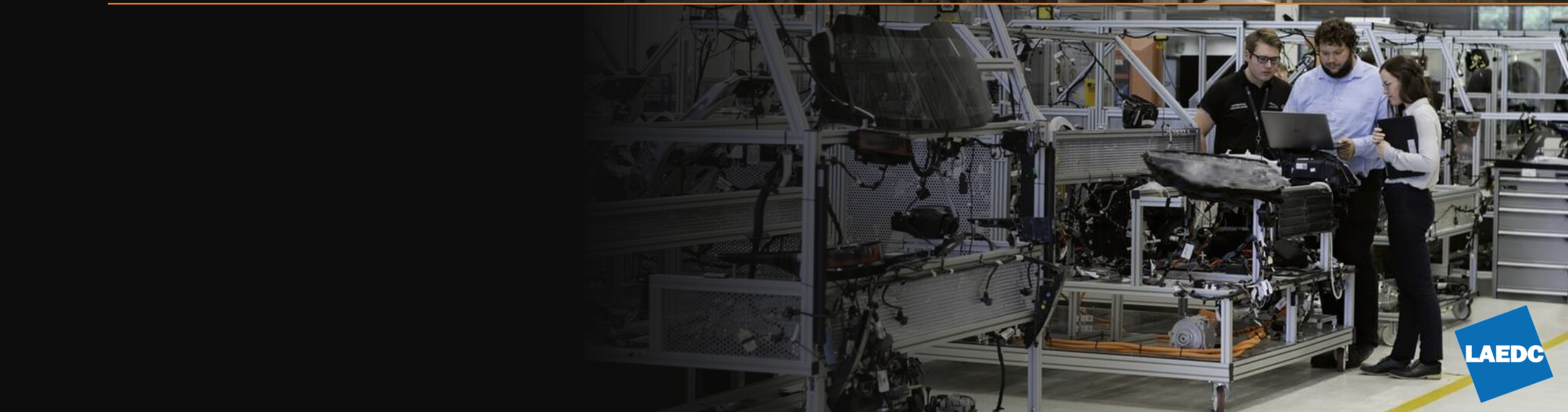
Key Findings

- ***Good Pay***
  - *Workers earned $76,250, on average, more than the regional average across all industries, $62,550*
- ***Significant employment opportunities***
  - *400,000 workers employed in the industry in the LA Basin, across all skill levels*
  - *Middle-skill workers account for 39 percent of the workforce*
- ***Economic Impact***
  - *Manufacturing generates $354 billion in economic output annually*
  - *Manufacturing accounts for 15.8 percent of the LA Basin's gross regional product of more than $1.0 trillion*

A Transforming Industry

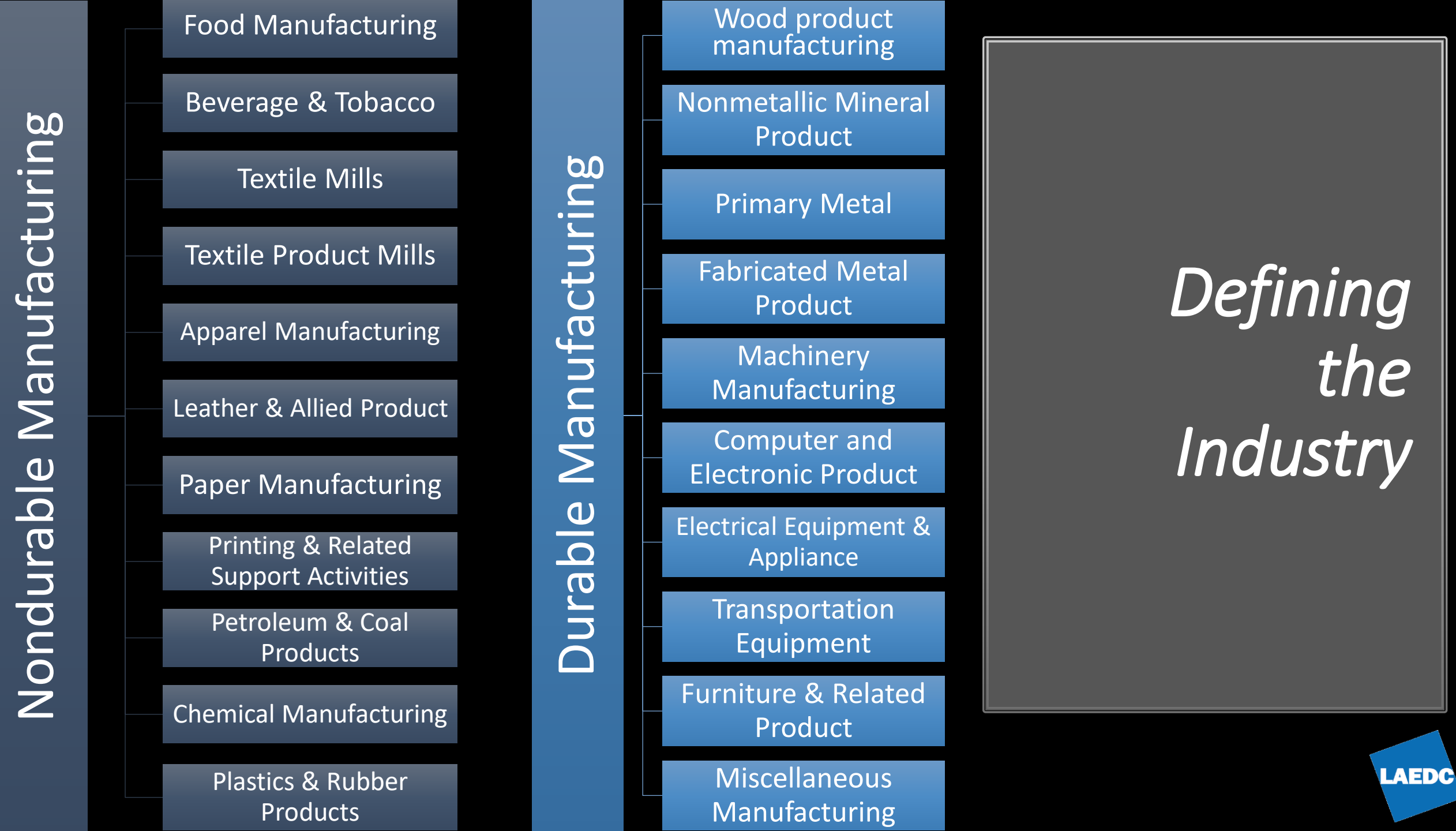


Three phenomena driving the Manufacturing transformation

Advances in material sciences

Computing power

Globalization


Nondurable Manufacturing
Food Manufacturing
Beverage & Tobacco
Textile Mills
Textile Product Mills
Apparel Manufacturing
Leather & Allied Product
Paper Manufacturing
Printing & Related Support Activities
Petroleum & Coal Products
Chemical Manufacturing
Plastics & Rubber Products
Durable Manufacturing
Wood product manufacturing
Nonmetallic Mineral Product
Primary Metal
Fabricated Metal Product
Machinery Manufacturing
Computer and Electronic Product
Electrical Equipment & Appliance
Transportation Equipment
Furniture & Related Product
Miscellaneous Manufacturing
Defining the Industry
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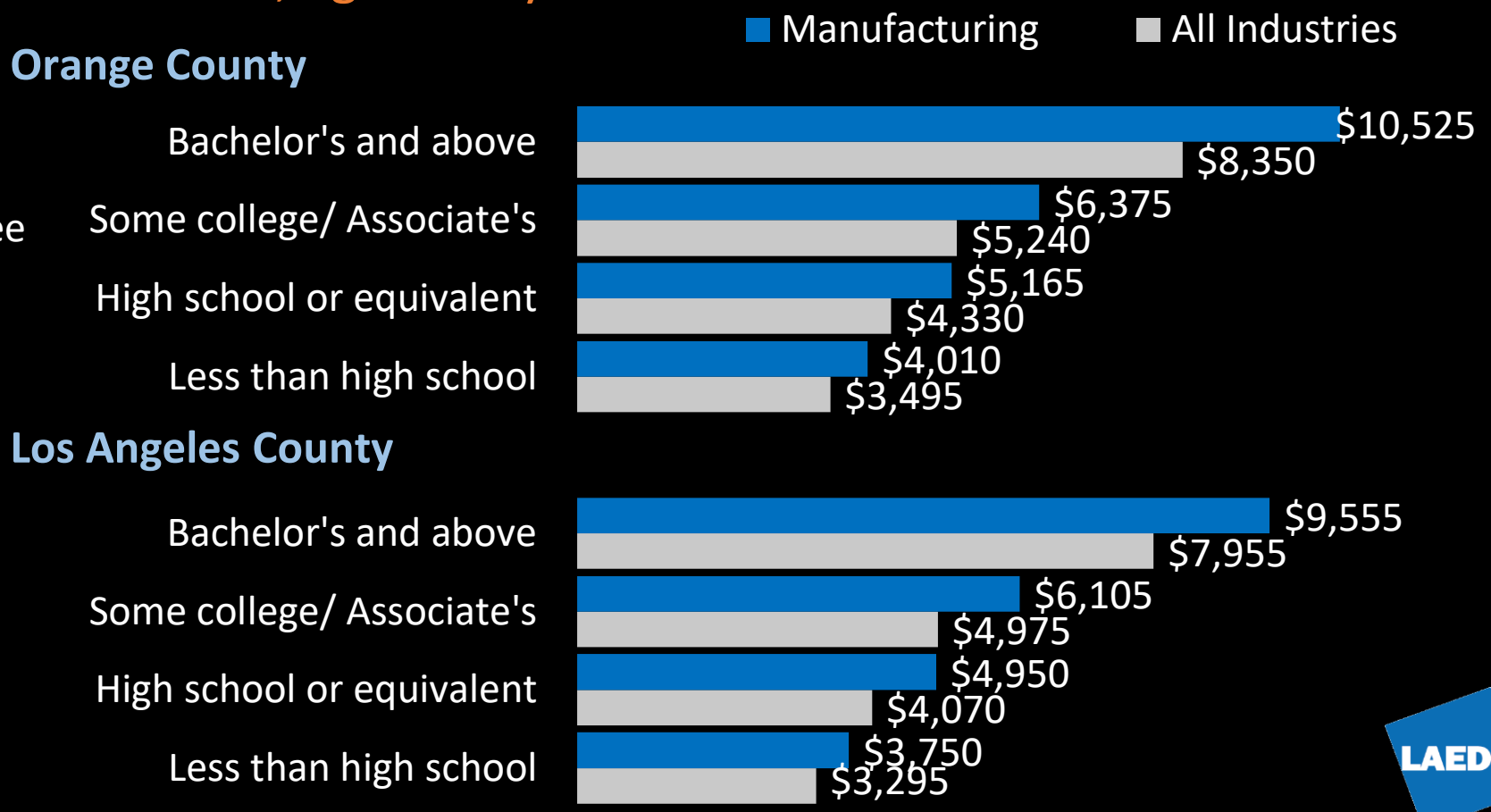
Employment & Wages Across Educational Attainment Levels

New Hires 2017 by Educational Attainment

- Education N/A (aged < 24 yrs) 18.5%
- Bachelor's degree or advanced degree 18.7%
- Some college or Associate degree, 22.1%
- High school or equivalent 18.6%
- Less than high school 22.1%

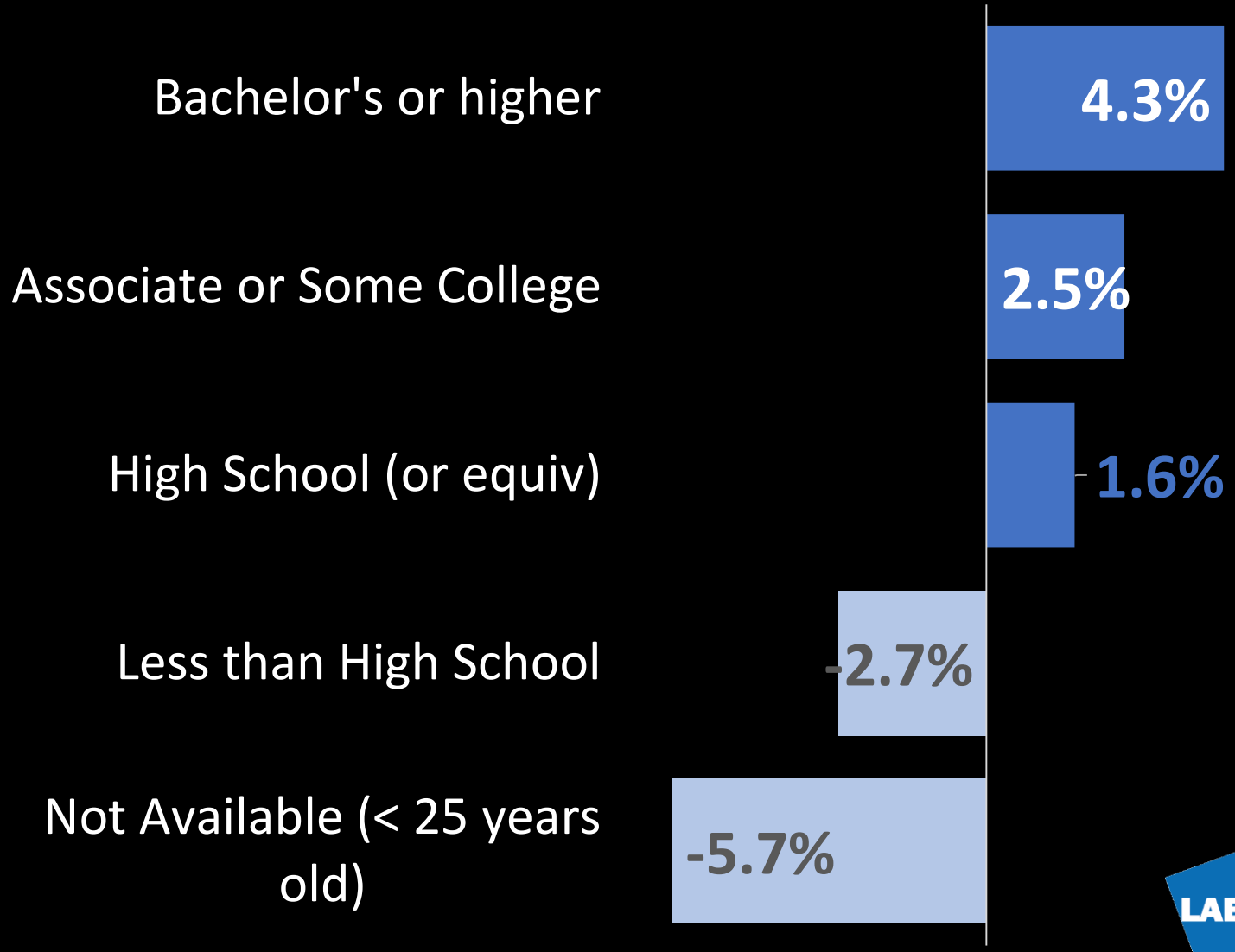
Ave. Monthly Earnings 2017 by Educational Attainment , ages 25+ years



Distribution of Educational Attainment

The transformation in manufacturing has resulted workers to have more advanced skills, resulting in a pronounced change and trend upwards in the distribution of the educational attainment of workers hired over the last quarter century

Manufacturing Workers Hired From 1992 & 2017



Current Degree of Automation

Very Little Automation	Slightly Automated	Moderately Automated	Highly Automated
• Structural Metal Fabricators and Fitters • Welders, Cutters, and Welder Fitters	• Electrical Engineering Technicians • Electronics Engineering Technologists • Industrial Safety and Health Engineers	• Textile Bleaching & Dyeing Machine Operators/Tenders • Cooling & Freezing Equipment Operators/Tenders • Forging Machine Setters, Operators, & Tenders, Metal & Plastic	• Biofuels Processing Technicians • Petroleum Pump System Operators, Refinery Operators, and Gaugers • Robotics Technicians

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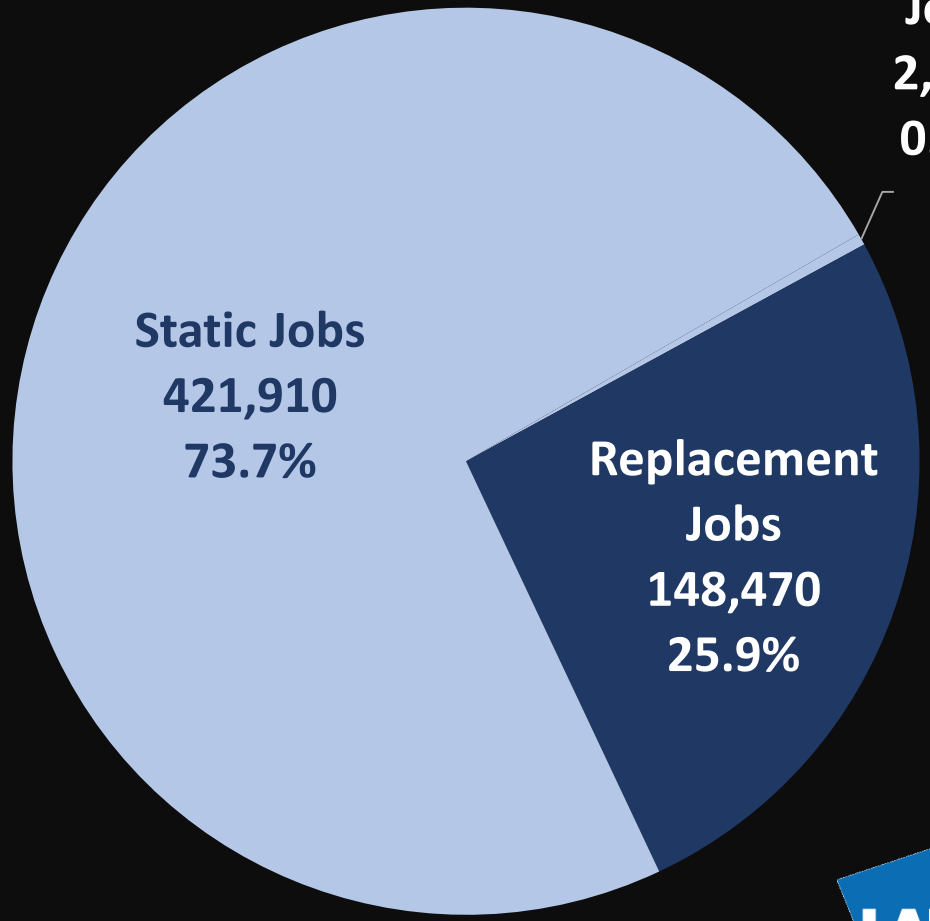
Job Openings in Manufacturing

*More than **150,000** total job openings will be created in the LA Basin over the next five years*

- *Due mostly to retirements and replacements*
- *Employers seeking to fill many with middle-skill workers*

*Of these job openings, we are projecting **2,300** will be net new manufacturing jobs.*

424,220 JOBS IN 2022
(150,770 NEW OPENINGS)



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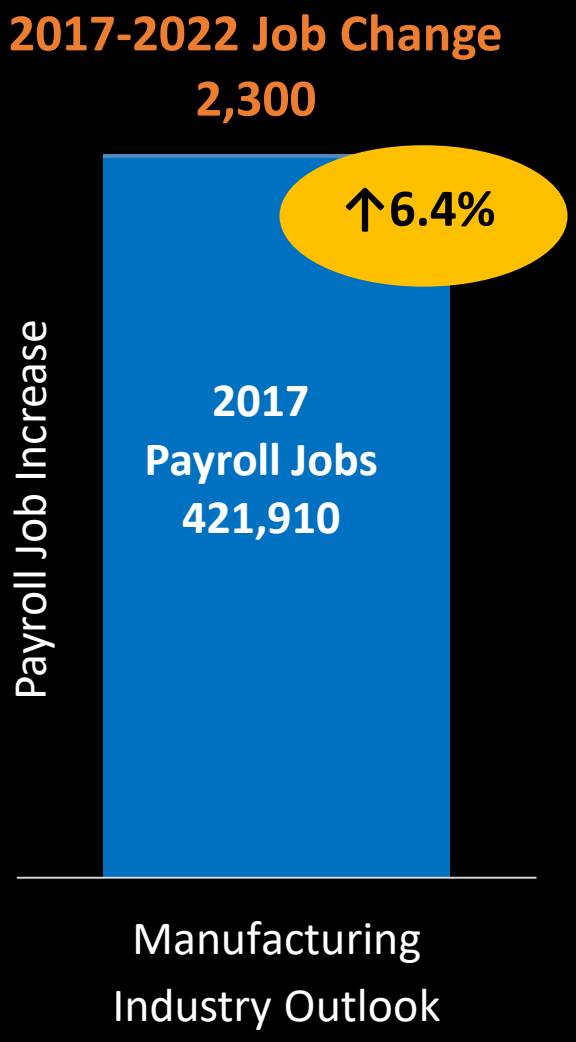
Manufacturing Outlook through 2022



	Durable Goods Manufacturing	2017 Payroll Jobs	2017 - 2022 Job Change	%
321	Wood Product Manufacturing	3,340	30	0.9%
327	Nonmetallic Mineral Product	6,000	70	1.1%
331	Primary Metal Manufacturing	5,610	-40	-0.8%
332	Fabricated Metal Product	54,480	-90	-0.2%
333	Machinery Manufacturing	18,930	230	1.2%
334	Computer and Electronic Product	61,480	1,610	2.6%
335	Electrical Equipment and Appliance	12,810	150	1.1%
336	Transportation Equipment	51,880	850	1.6%
337	Furniture and Related Product	16,210	-40	-0.2%
339	Miscellaneous Manufacturing	34,110	470	1.4%

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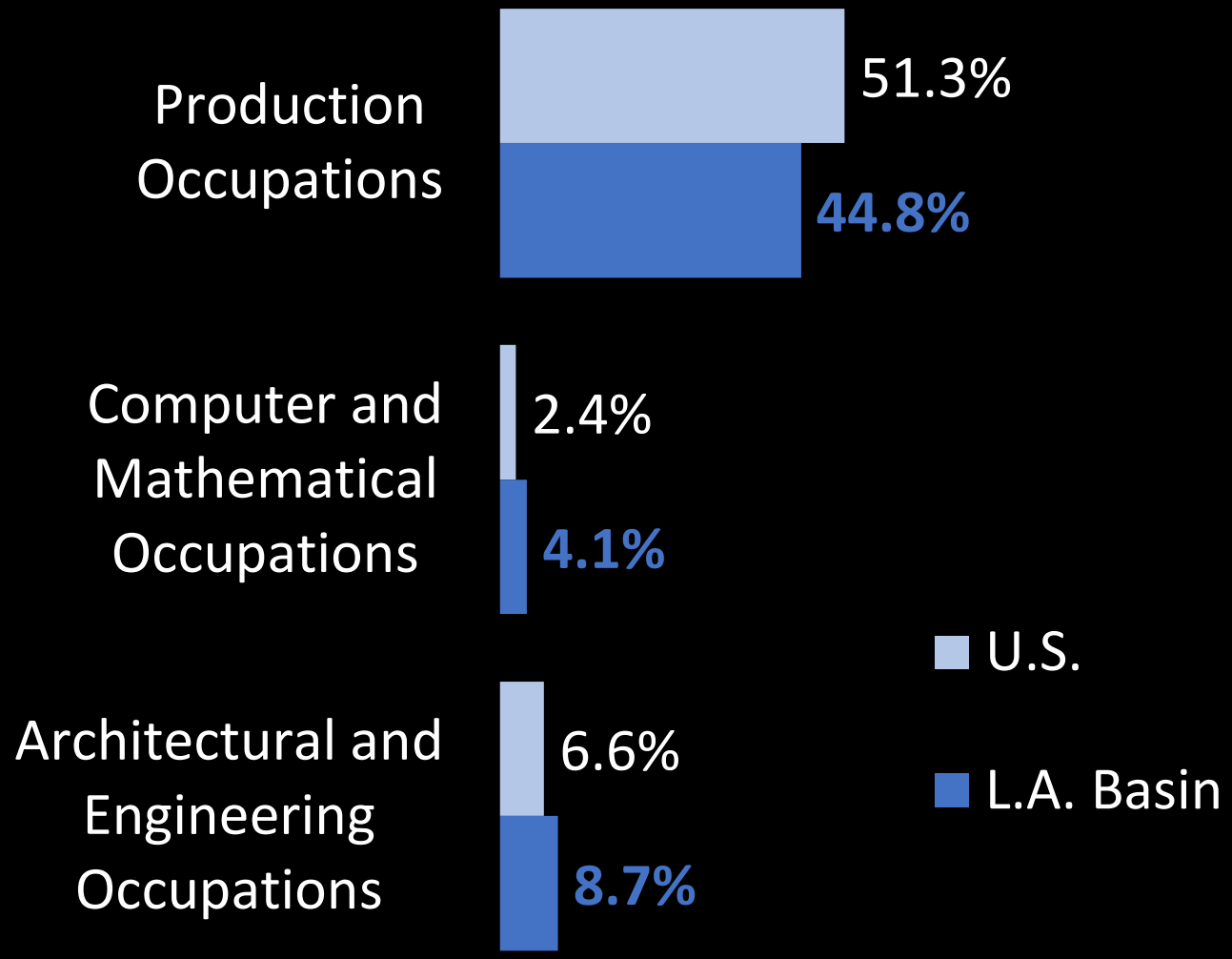
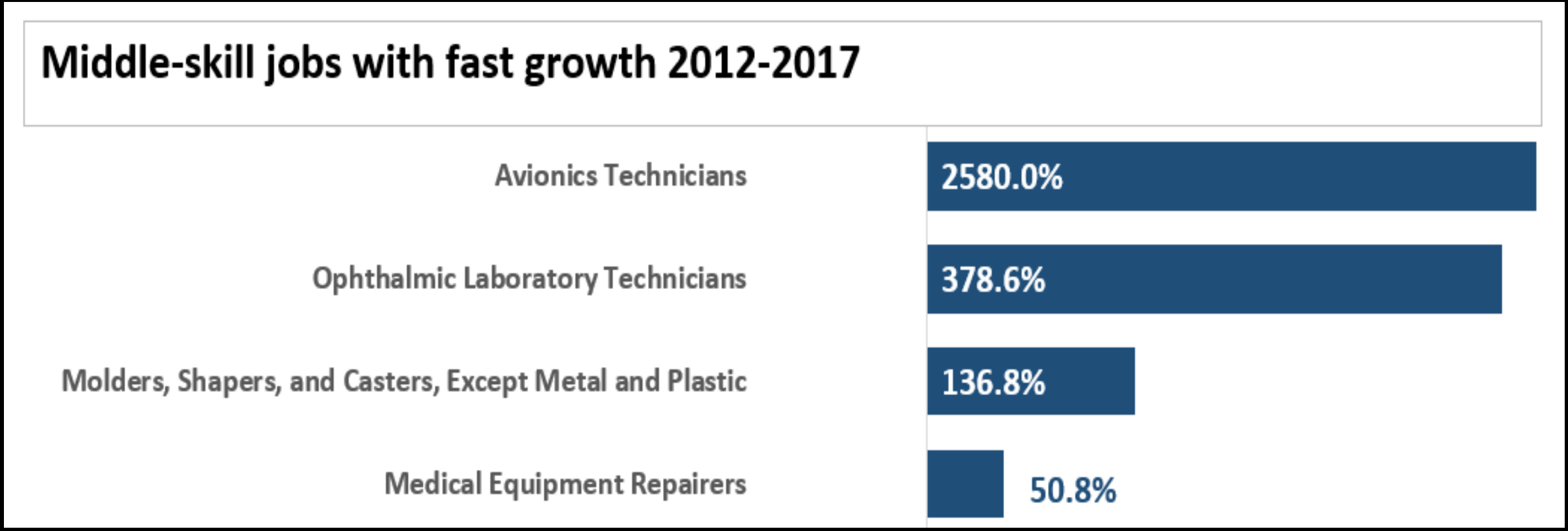
Middle-Skill Opportunities

- *39 percent of all workers currently employed in the sector are working in middle-skill occupations*

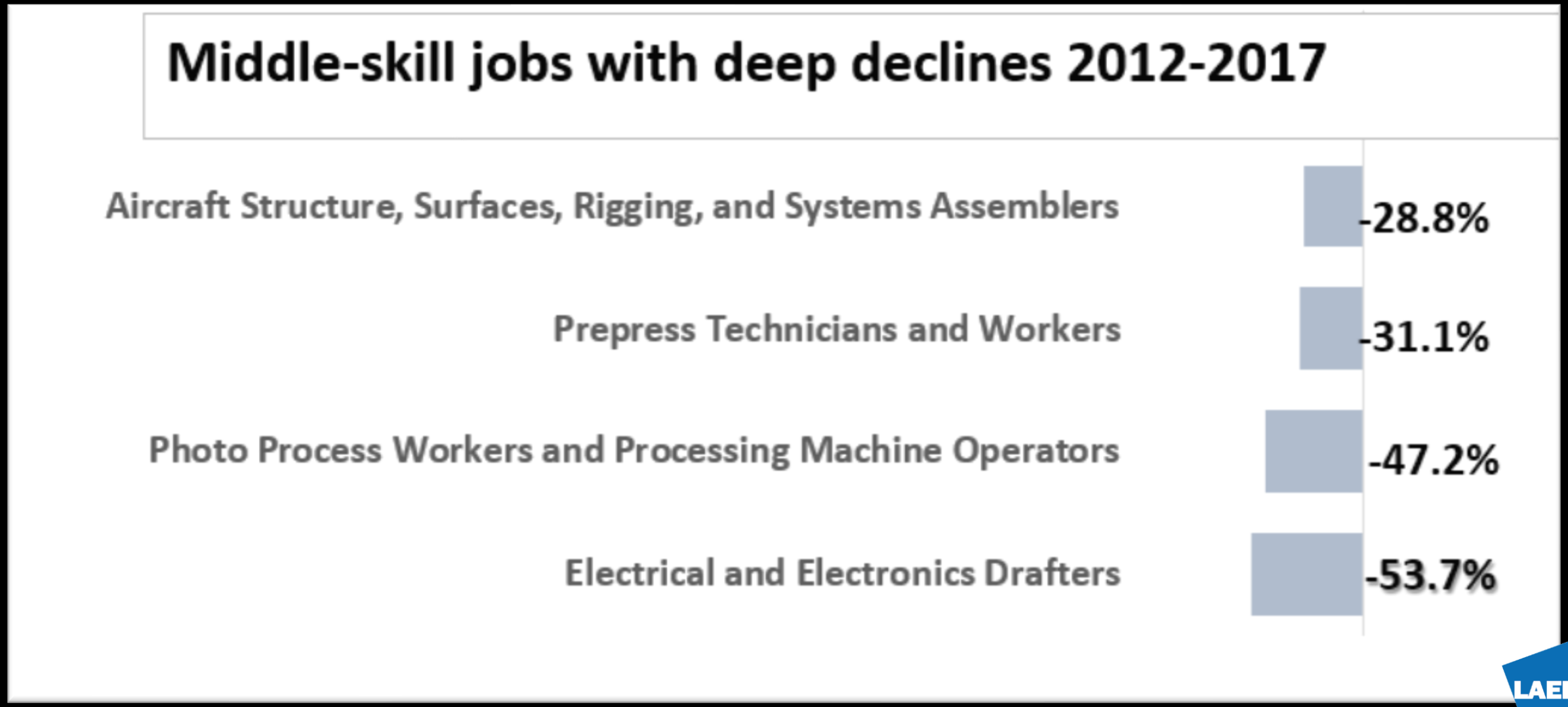
Share of Manufacturing Employment



High-Growth Middle-Skill Occupations



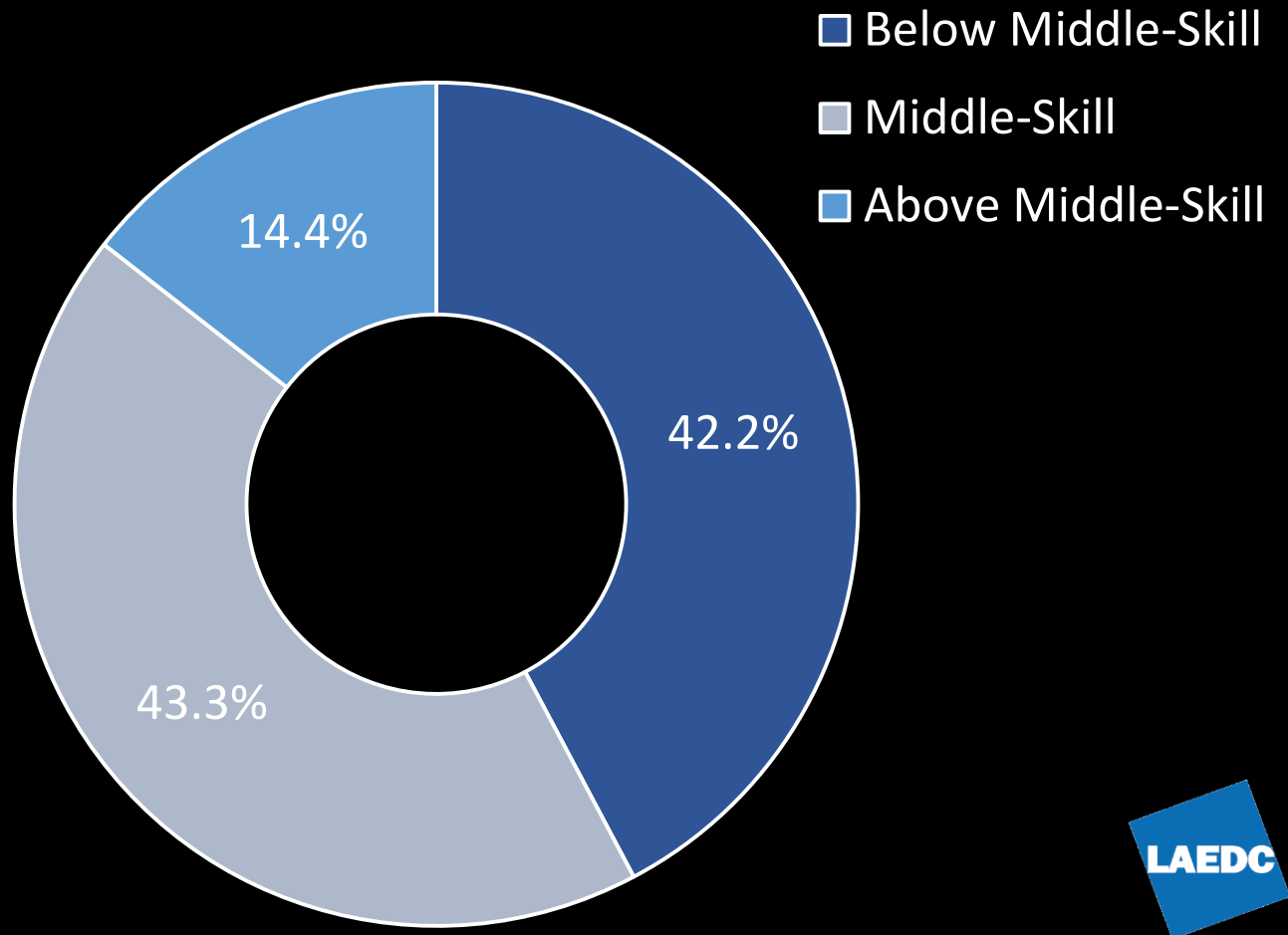
Declining Middle-Skill Occupations



Opportunity for Community College Students

Over the next five years, 43.3 percent of openings are expected to be for middle-skill occupations

Job Openings 2017-2022



Target Occupations in Manufacturing

Top Occupations in the Manufacturing Industry					
SOC	**Occupation**	**2017 Employment**	**Total Openings Mfg 2017-2022**	**Total Openings All Industries 2017-2022**	**Median Wage**
51-4041	Machinists	16,290	4,960	5,610	$41,530
51-4121	Welders, Cutters, Solderers and Brazers	8,630	2,580	3,900	$37,870
49-9041	Industrial Machinery Mechanics	8,010	1,250	2,460	$53,987
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	5,760	1,950	2,000	$36,909
17-3023	Electrical and Electronics Engineering Technicians	5,690	1,000	1,710	$61,449
49-2094	Electrical/Electronics Repairers, Commercial/Industrial Equip	2,110	330	630	$53,400
51-4012	CNC Machine Tool Programmers, Metal and Plastic	1220	490	530	$56,524
17-3013	Mechanical Drafters	1,410	320	440	$57,709
17-3026	Industrial Engineering Technicians	1,320	340	410	$69,967
17-3021	Aerospace Engineering and Operations Technicians	740	210	220	$70,555

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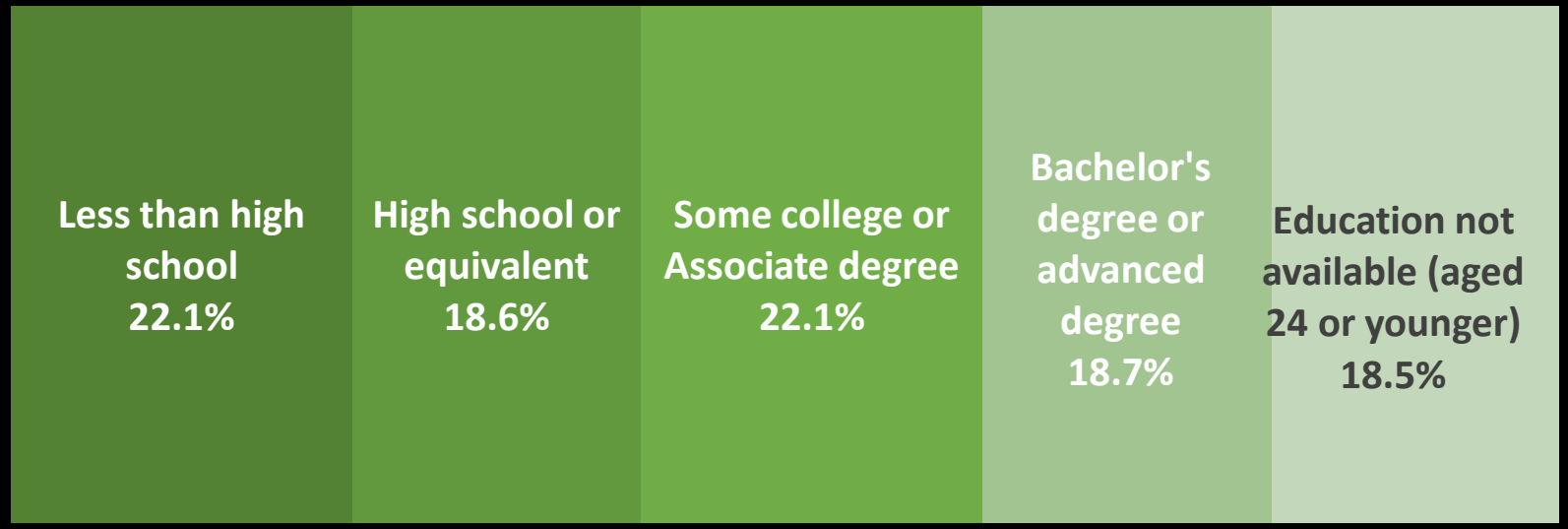
Characteristics of New Hires
Educational Attainment

New Hires in 2017 by Educational Attainment



- *22 percent of all hires in 2017 had a community college-level education; these hires are filling middle-skill positions in the industry.*
- *Workers with a bachelor's degree or higher represent almost 19 percent of all hires*

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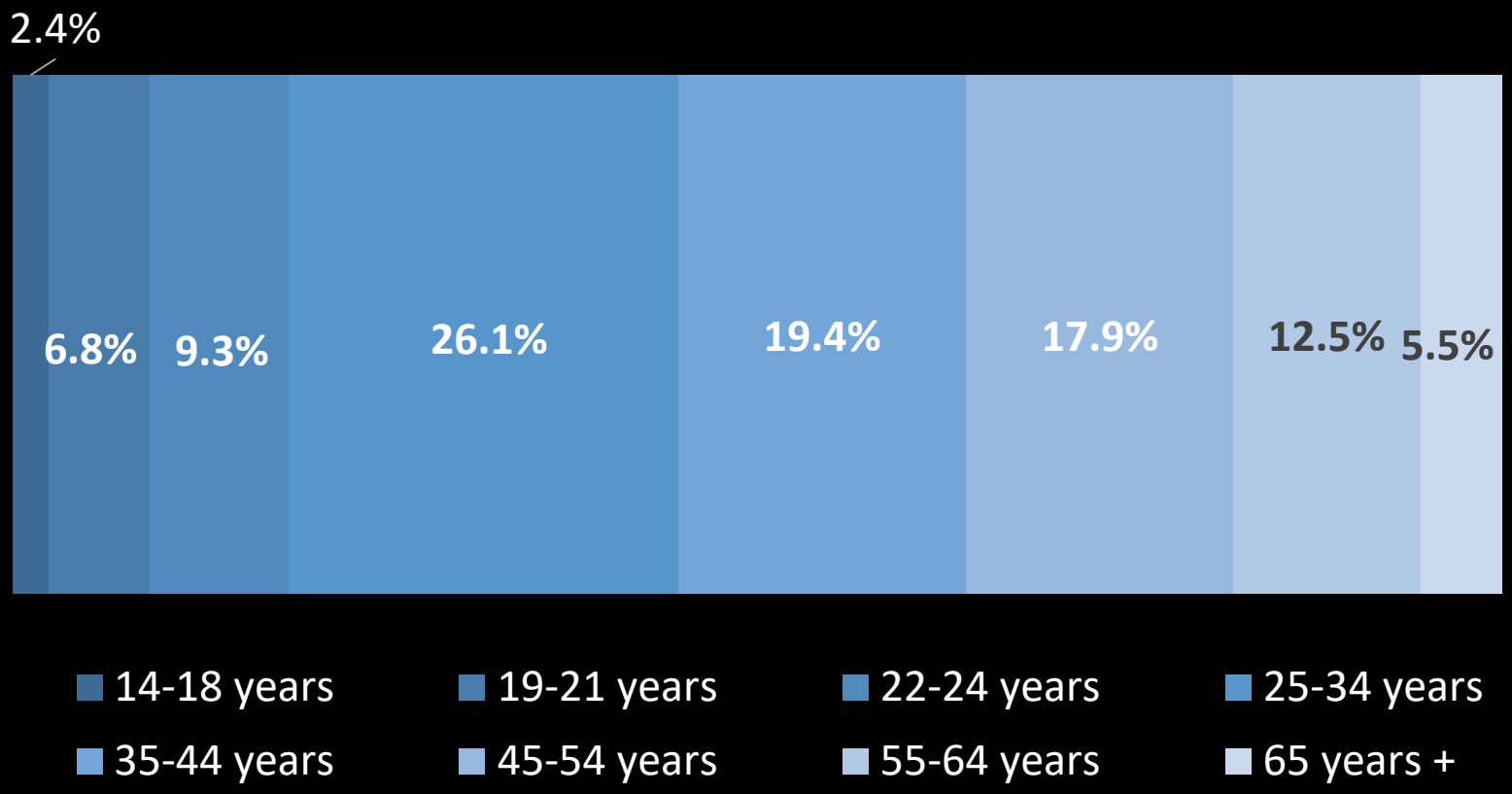
Characteristics of New Hires - Age

New Hires in 2017 By Age Group



- *Over 63 percent of all hires in the industry in 2017 were in their prime working years (25 -54 years of age).*
- *18 percent of all manufacturing workers hired in the LA Basin were 55 years and older*

Transforming Industries Changing Worker Skills

Transformative Technologies	Uses	Industries Harnessing Tech
3-D printing	substitutes traditional inputs, reduces costs, and produces more sustainable materials	Food & Beverage; Paper, wood and Furniture; Plastics & Rubber; Metal Mfg.; Machinery Mfg.
Internet of Things	allows for real-time operations monitoring, remote diagnosis of problems	Chemical Manufacturing, Food & Bev, Petroleum
Digital Printing & nanotechnology	reduces costs of printing textiles, increases flexibility of production, while nanotechnology increases printing quality	Printing & Related, Metal Mfg.; High-Tech Mfg.; Fashion-Related
Wearable technology	“functional fabrics” or “smart garments” integrate sensors and semi-conductors into clothing to enable communication, energy storing, and other functions	Fashion - Related Manufacturing

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Transforming Industries Changing Worker Skills

Transformative Technologies	Uses	Industries Harnessing Tech
Sensor Technology	measures temperature, pressure, corrosion and hazardous leaks and wirelessly communicates data	Petroleum & Petroleum Products; High-Tech Mfg.
Big Data	optimize production processes, revealing trends and patterns	Chemical Manufacturing; Machinery Mfg.
Enterprise Resource Planning Software	automate business operations with accurate, real-time information	Chemical Mfg.; Metal Mfg.; Food & Bev; Transportation Equipment Mfg.

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Conclusion & Recommendations

Technical Training is Needed

- Appropriate training programs formed with learning centers and colleges ensure candidates are job-ready for available occupations

Impending Worker Shortage

- Community colleges must assess programs to determine whether capacity is sufficient to meet demand

Increase Apprenticeships

- Cultivate a jobready pipeline of qualified workers

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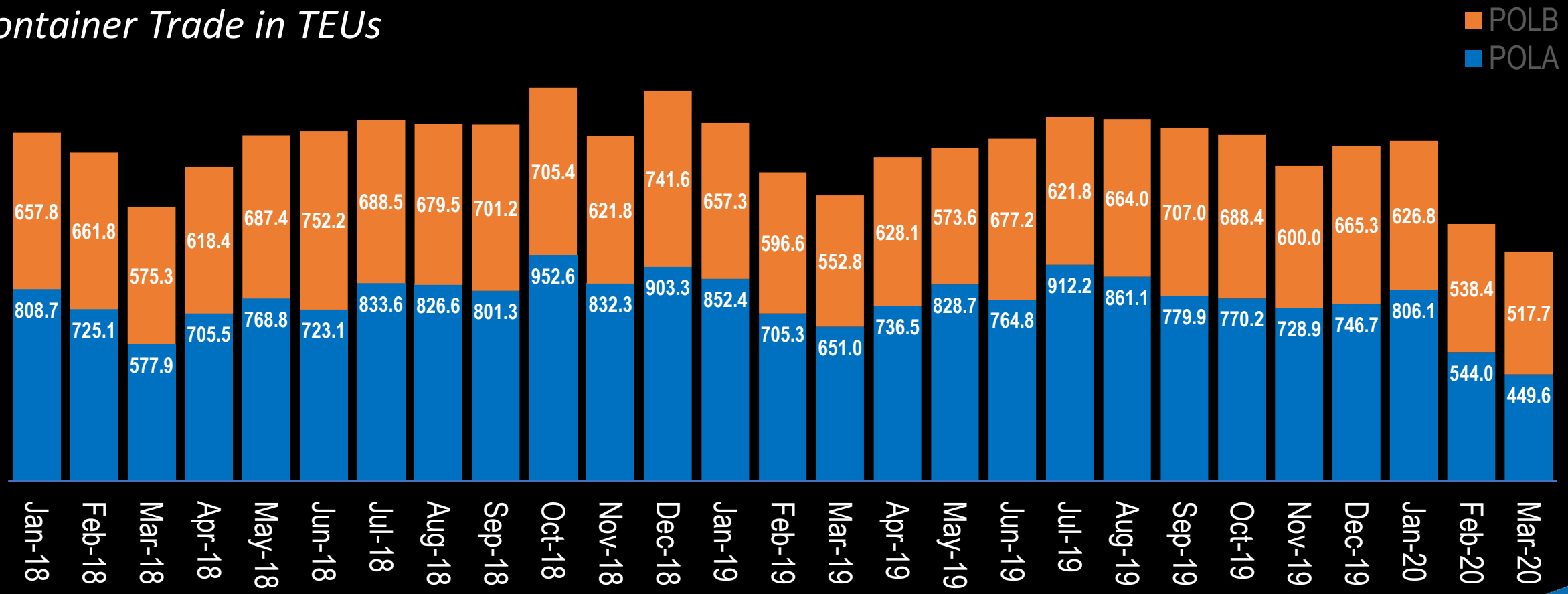
But What About COVID-19?

Manufacturing and COVID-19: Global Supply Chains
Trade at the Port of Long Beach & Port of Los Angeles

Container Trade in TEUs



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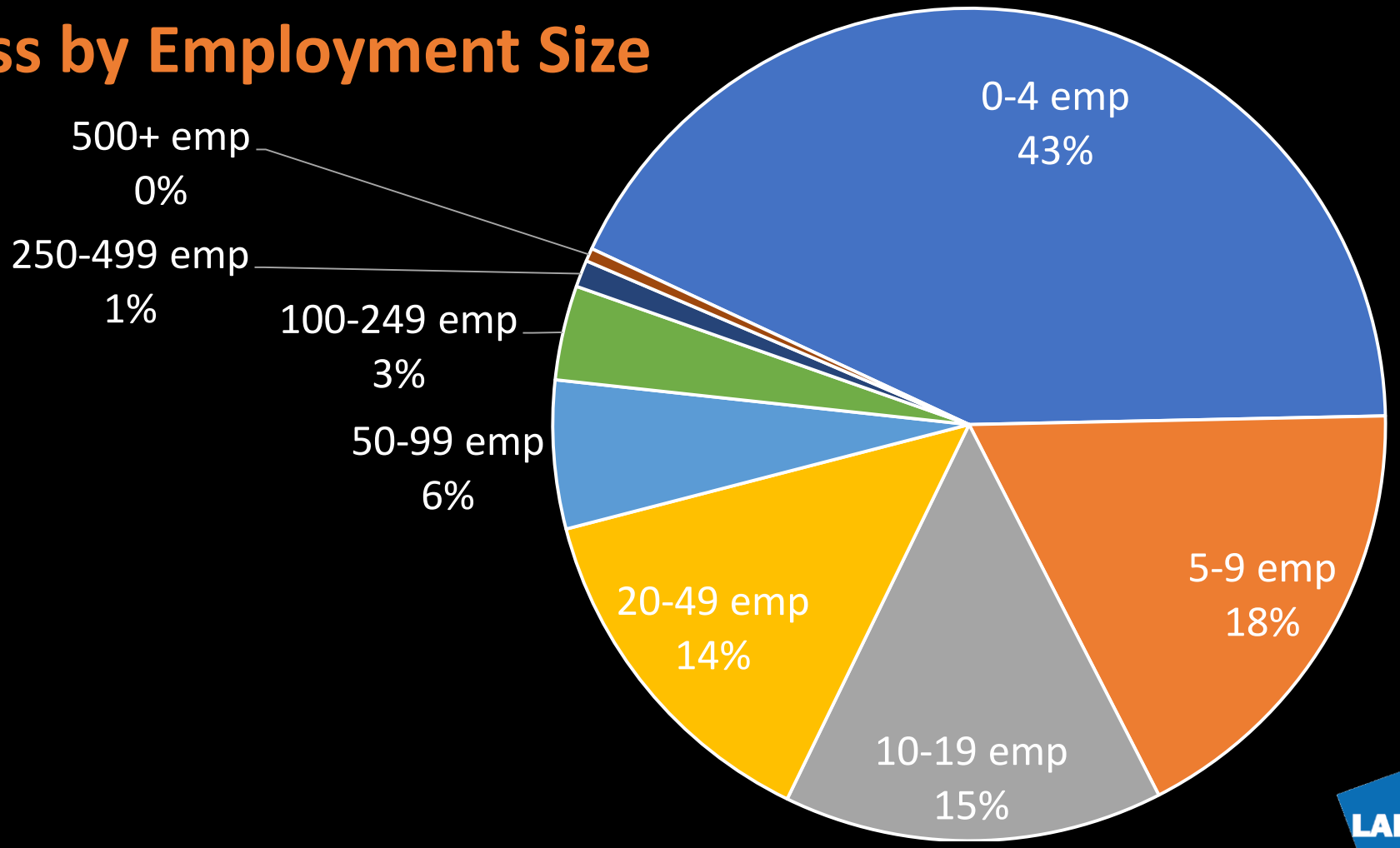
Manufacturing and COVID-19: Small Businesses

Number of Business by Employment Size

61 percent of manufacturing establishments are microbusinesses with less than 10 employees

They provide roughly 25,000 payroll jobs



Manufacturing and COVID-19

- Some industries may experience faster growth than expected (e.g. biomedical manufacturing and food manufacturing)
- Global supply chains need time to resume
- Onshoring may occur, to increase local supply chains
- Consumer behavior may change and impact growth

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REPORT WEBINARS

- Information and Communication Technologies on May 14 at 2pm
- Construction on May 26 at 2pm
- Protective Services on June 2 at 2pm

THANK YOU!

The full-length Manufacturing Report and Manufacturing Highlight Report are available for download here:

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