

2022 Manufacturing Workforce Trends Report[©]



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Compiled by:

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Table of Contents

	<u>Page</u>
Introduction	3
Employee Turnover Rates	3
Compensation Practices	
Compensation Adjustments	5
Average Percent Wage/Salary Adjustment	5
Average Percent Wage/Salary Adjustment by Industry	6
Workforce Trends	
Management Practices	12
Workforce Practices	14
Hiring Plans in 2022	14
Steps Being Taken to RECRUIT Employees	15
Steps Being Taken to RETAIN Employees	17
Positions Affected by Compensation Increases	19
Types of Training Being Offered	20
Ideal Number of Direct Reports for Manufacturing Leadership Roles	20
Survey Participants	
Alphabetical Participant List	21
Participants by Industry Type	23
Participants by Number of Company Employees	26
Participants by Distance From Minneapolis	29

Introduction

The Manufacturers Alliance is pleased to present *The Workforce Trends Survey – 2022*.

This survey covers issues of critical importance to Minnesota manufacturing firms and summarizes comments from 213 companies with a combined total of over 65,000 employees. Participating firms have on average 308 employees (median 113 employees) and an average annual revenue of \$192.3 million (median annual revenue of \$30.0 million).

A list of participating companies is included in the last section of this report.

Employee Turnover Rates

In this section, participants reported information on turnover rates over the last 12 months for:

- Voluntary separations (employee makes the decision to leave the company).
- Involuntary separations (company asks employee to leave the company for performance or layoffs).
- Total turnover rates (separations for any reason).

Total turnover rates reported in 2022 – on average across all groups – are higher than those reported for 2020 (21.0%) and 2021 (20.9%). See the tables below for details reported by industry group and termination type. Industries where zero participants reported turnover data are not included in the tables.

Voluntary Separations

Industry Group	# Firms Reporting	25 th Percentile	Average	Median	75 th Percentile
All Industry Groups	199	10.0%	19.2%	16.0%	25.0%
Food & Kindred Products	8	16.1%	30.7%	32.4%	44.3%
Lumber & Wood ex Furniture	5	*	15.8%	11.0%	*
Furniture & Fixtures	4	*	*	*	*
Paper & Allied Products	2	*	*	*	*
Printing, Publishing & Allied	9	15.2%	17.7%	17.0%	19.0%
Chemicals & Allied Products	7	10.9%	19.1%	13.0%	24.5%
Petroleum Refining & Related	1	*	*	*	*
Rubber & Plastic Products	23	10.3%	21.4%	18.8%	27.8%
Stone, Clay, Glass & Concrete Products	3	*	*	*	*
Primary Metal Industries	7	20.4%	24.5%	24.0%	28.5%
Fabricated Metal Products	56	9.4%	19.4%	17.8%	27.7%
Industrial Machinery Computer Equip	23	9.2%	15.1%	12.2%	20.0%
Electronic & Other Electrical	14	11.5%	19.7%	17.5%	22.5%
Transportation Equipment	1	*	*	*	*
Measur, Anal & Control Instruments	7	9.3%	17.2%	12.0%	25.4%
Misc Manufacturing Industries	29	10.0%	17.3%	14.0%	23.7%

Involuntary Separations

Industry Group	# Firms Reporting	25 th Percentile	Average	Median	75 th Percentile
All Industry Groups	199	2.0%	6.9%	4.1%	8.7%
Food & Kindred Products	8	6.8%	21.6%	12.1%	30.5%
Lumber & Wood ex Furniture	5	*	9.0%	11.0%	*
Furniture & Fixtures	4	*	*	*	*
Paper & Allied Products	2	*	*	*	*
Printing, Publishing & Allied	9	2.5%	3.7%	3.4%	5.0%
Chemicals & Allied Products	7	2.5%	4.9%	4.3%	5.9%
Petroleum Refining & Related	1	*	*	*	*
Rubber & Plastic Products	23	2.0%	8.4%	4.1%	12.0%
Stone, Clay, Glass & Concrete Products	3	*	*	*	*
Primary Metal Industries	7	5.5%	10.6%	7.4%	14.5%
Fabricated Metal Products	56	2.5%	5.7%	4.0%	7.0%
Industrial Machinery Computer Equip	23	1.2%	6.7%	4.1%	7.3%
Electronic & Other Electrical	14	2.9%	7.6%	4.5%	7.1%
Transportation Equipment	1	*	*	*	*
Measur, Anal & Control Instruments	7	3.8%	9.2%	7.3%	11.2%
Misc Manufacturing Industries	29	1.8%	4.3%	3.2%	5.8%

Total Separation Rates (Voluntary & Involuntary)

Industry Group	# Firms Reporting	25 th Percentile	Average	Median	75 th Percentile
All Industry Groups	203	15.8%	26.2%	22.0%	34.4%
Food & Kindred Products	8	38.6%	52.3%	53.5%	62.9%
Lumber & Wood ex Furniture	5	*	24.8%	26.0%	*
Furniture & Fixtures	4	*	*	*	*
Paper & Allied Products	2	*	*	*	*
Printing, Publishing & Allied	9	19.5%	21.4%	20.7%	24.0%
Chemicals & Allied Products	7	15.1%	24.0%	16.4%	32.0%
Petroleum Refining & Related	1	*	*	*	*
Rubber & Plastic Products	23	17.0%	29.8%	28.1%	34.4%
Stone, Clay, Glass & Concrete Products	3	*	*	*	*
Primary Metal Industries	7	28.1%	35.2%	39.0%	41.5%
Fabricated Metal Products	58	12.6%	25.1%	22.2%	33.3%
Industrial Machinery Computer Equip	23	13.9%	21.8%	18.0%	25.2%
Electronic & Other Electrical	14	14.7%	27.3%	23.0%	34.4%
Transportation Equipment	1	*	*	*	*
Measur, Anal & Control Instruments	7	17.7%	26.4%	21.0%	35.0%
Misc Manufacturing Industries	31	12.8%	22.7%	18.0%	29.3%

General Comments

If you have any questions about this report or any of the data reported, feel free to contact the survey sponsor directly:

Kirby Sneen
Manufacturers Alliance
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Compensation Practices

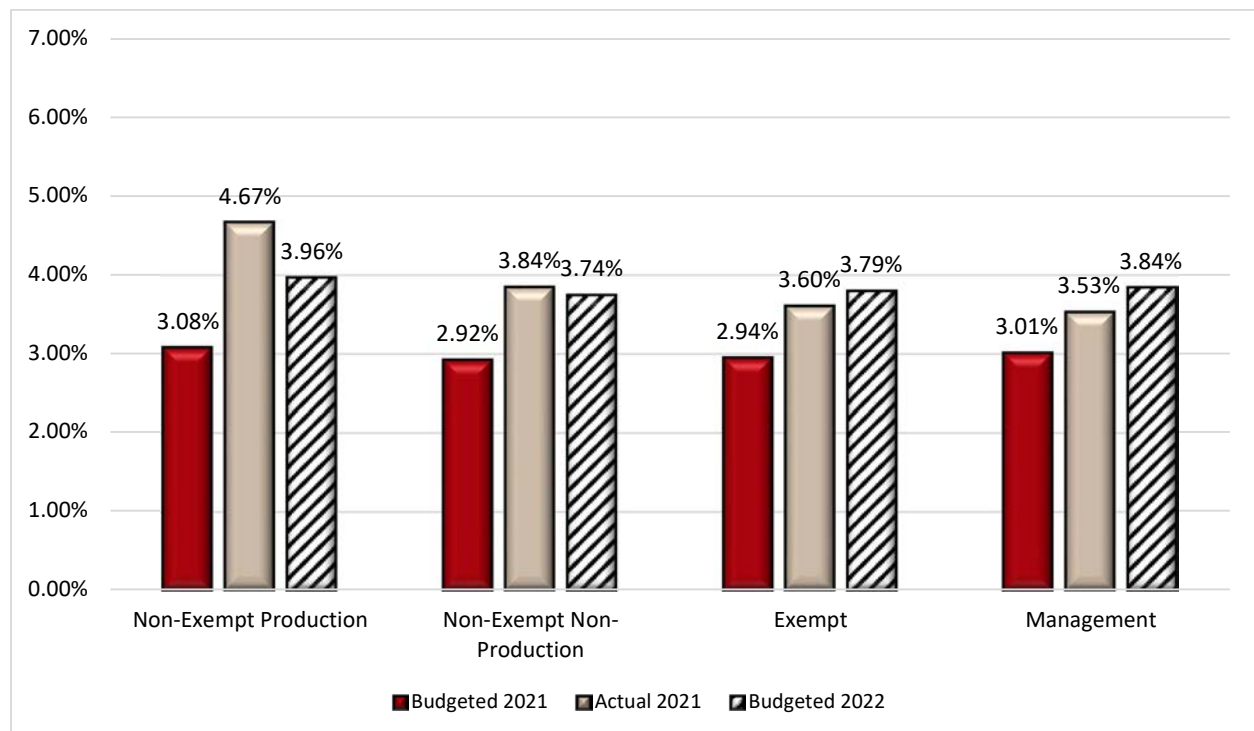
Compensation Adjustments

Average Percent Wage/Salary Adjustment

Participating companies reported actual 2021 and budgeted 2022 pay increases by employee group. The average budgeted 2021 pay increase data are from last year's survey results. See details in the table and chart below.

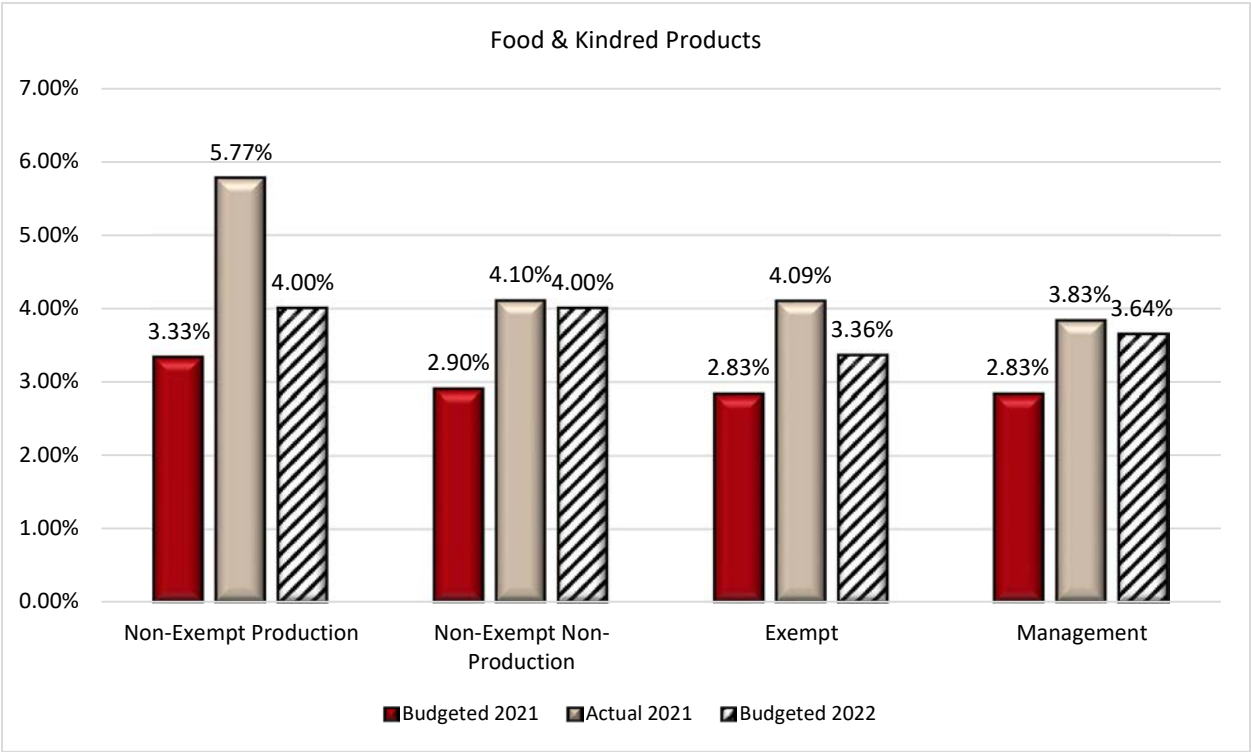
Note the results in the chart following the table exclude firms reporting no planned pay adjustments (zero percent).

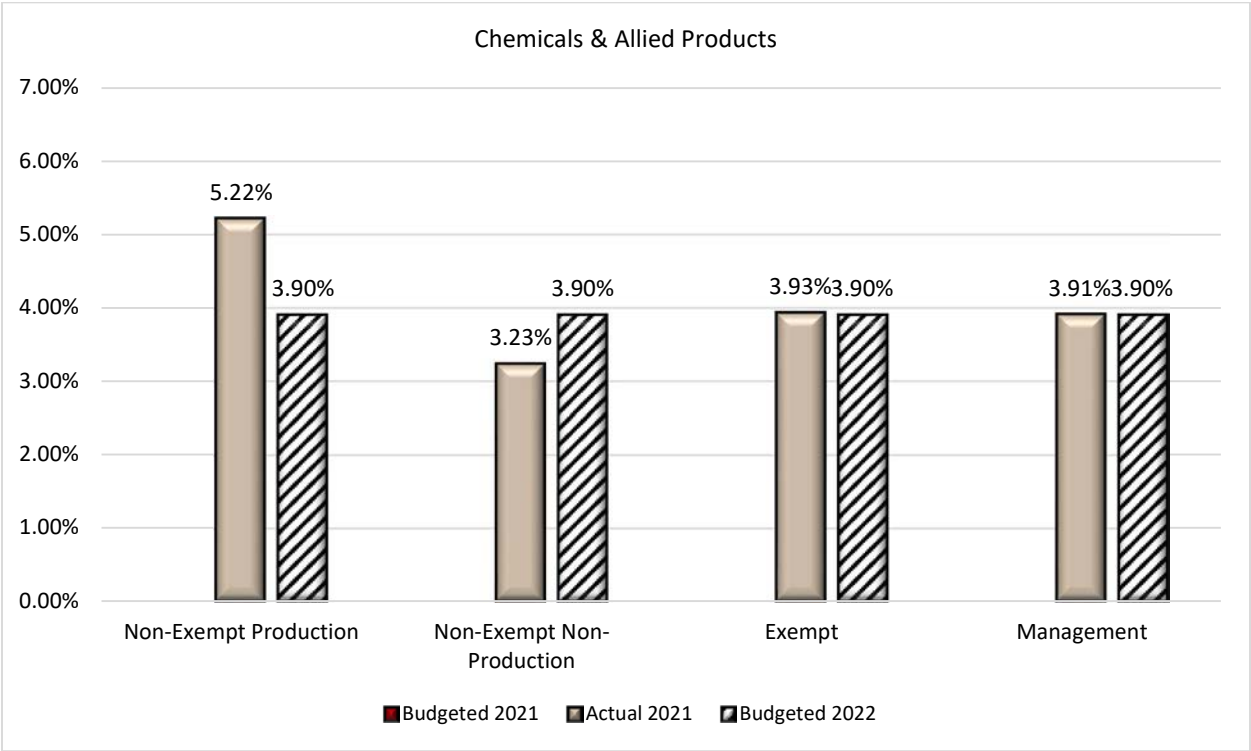
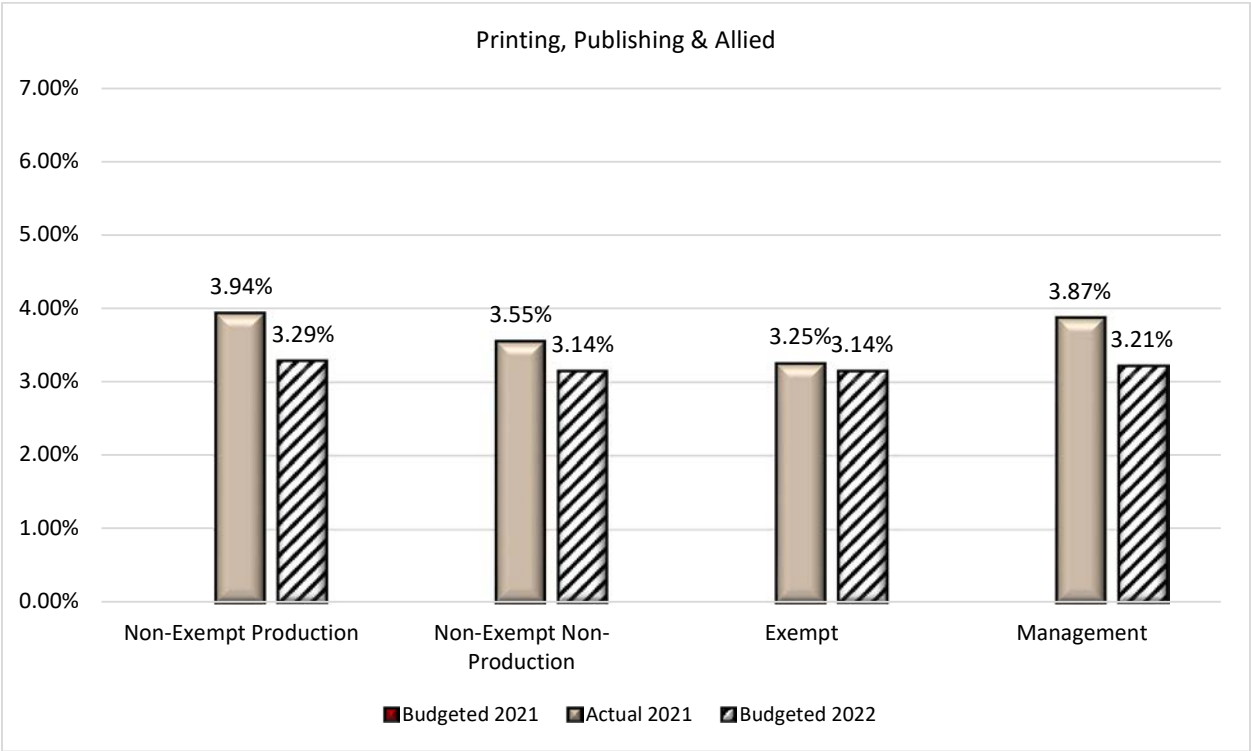
Employee Group	Pay Adjustments INCLUDING Zero (0%) Adjustments			Pay Adjustments EXCLUDING Zero (0%) Adjustments		
	# Firms Reporting	Average	Median	# Firms Reporting	Average	Median
NEx Production – Budgeted 2021	175	2.9%	3.0%	166	3.1%	3.0%
NEx Production – Actual 2021	196	4.6%	3.0%	193	4.7%	3.0%
NEx Production – Budgeted 2022	184	4.0%	3.0%	184	4.0%	3.0%
NEx Non-Production – Budgeted 2021	173	2.7%	3.0%	162	2.9%	3.0%
NEx Non-Production – Actual 2021	184	3.8%	3.0%	181	3.8%	3.0%
NEx Non-Production – Budgeted 2022	178	3.7%	3.0%	178	3.7%	3.0%
Exempt – Budgeted 2021	177	2.7%	3.0%	163	2.9%	3.0%
Exempt – Actual 2021	191	3.5%	3.0%	188	3.6%	3.0%
Exempt – Budgeted 2022	182	3.8%	3.0%	182	3.8%	3.0%
Management – Budgeted 2021	173	2.7%	3.0%	154	3.0%	3.0%
Management – Actual 2021	181	3.4%	3.0%	175	3.5%	3.0%
Management – Budgeted 2022	177	3.7%	3.0%	173	3.8%	3.0%

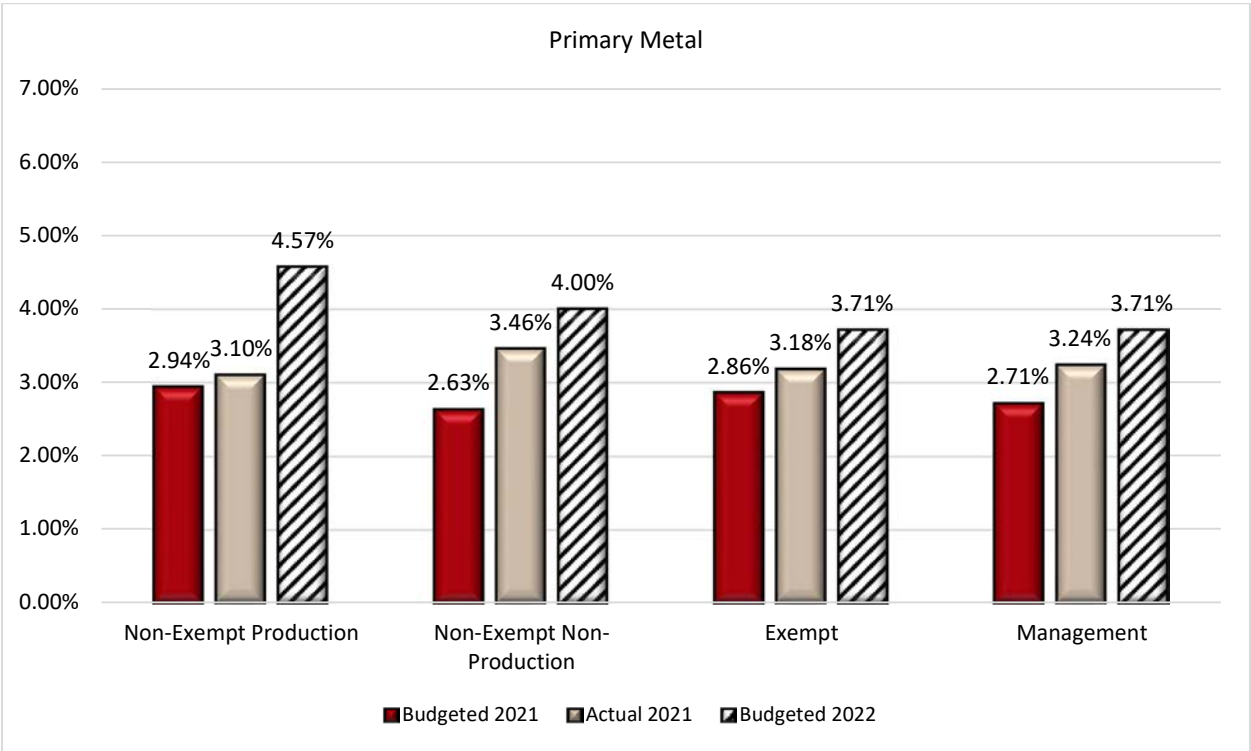
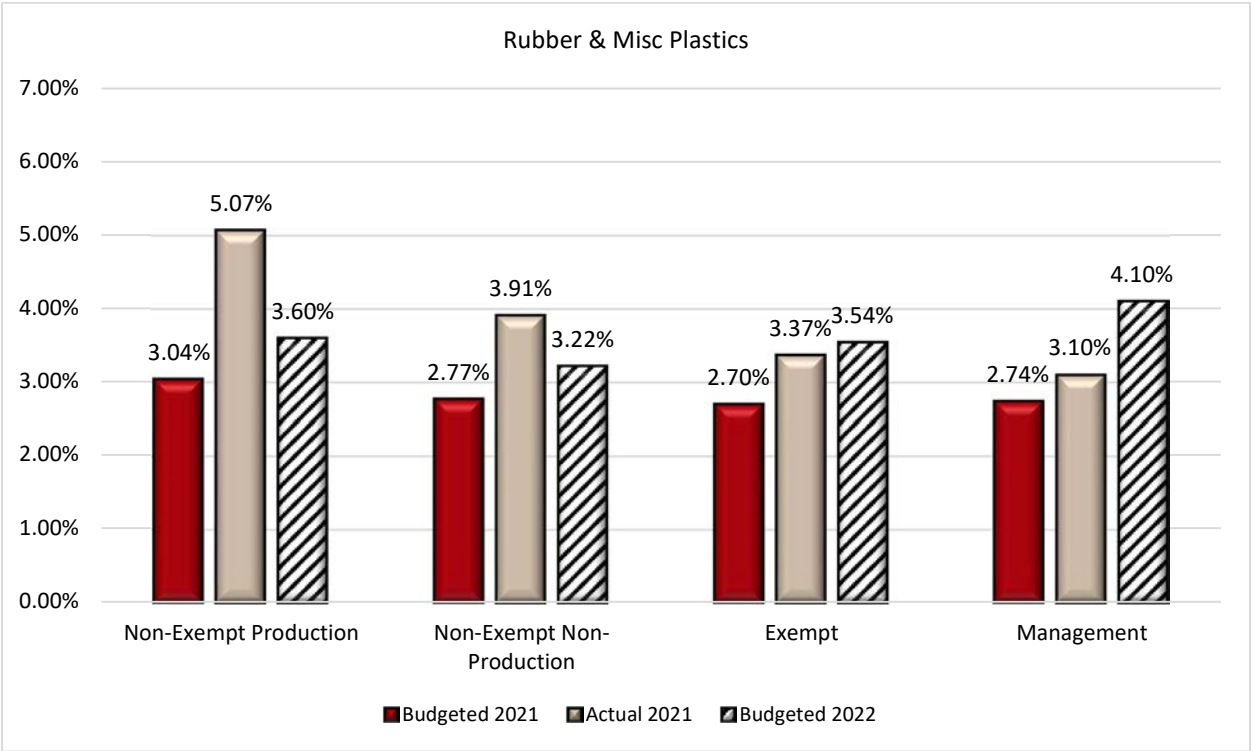


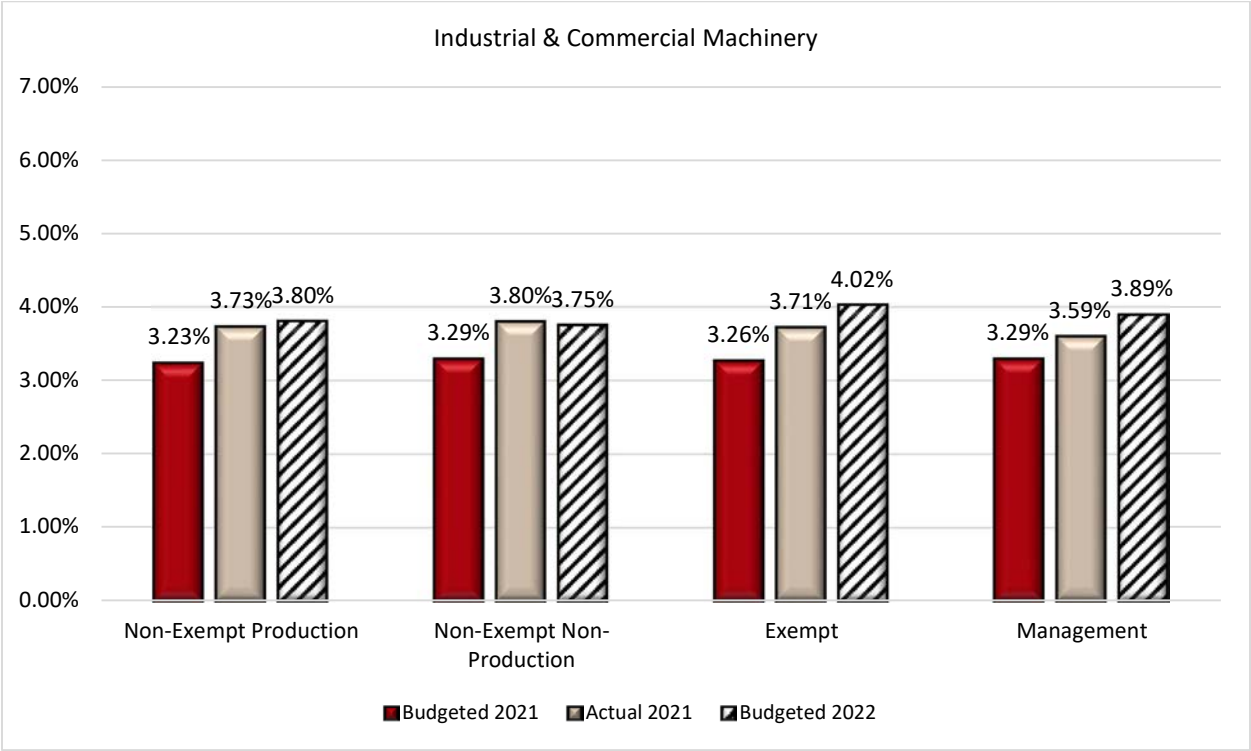
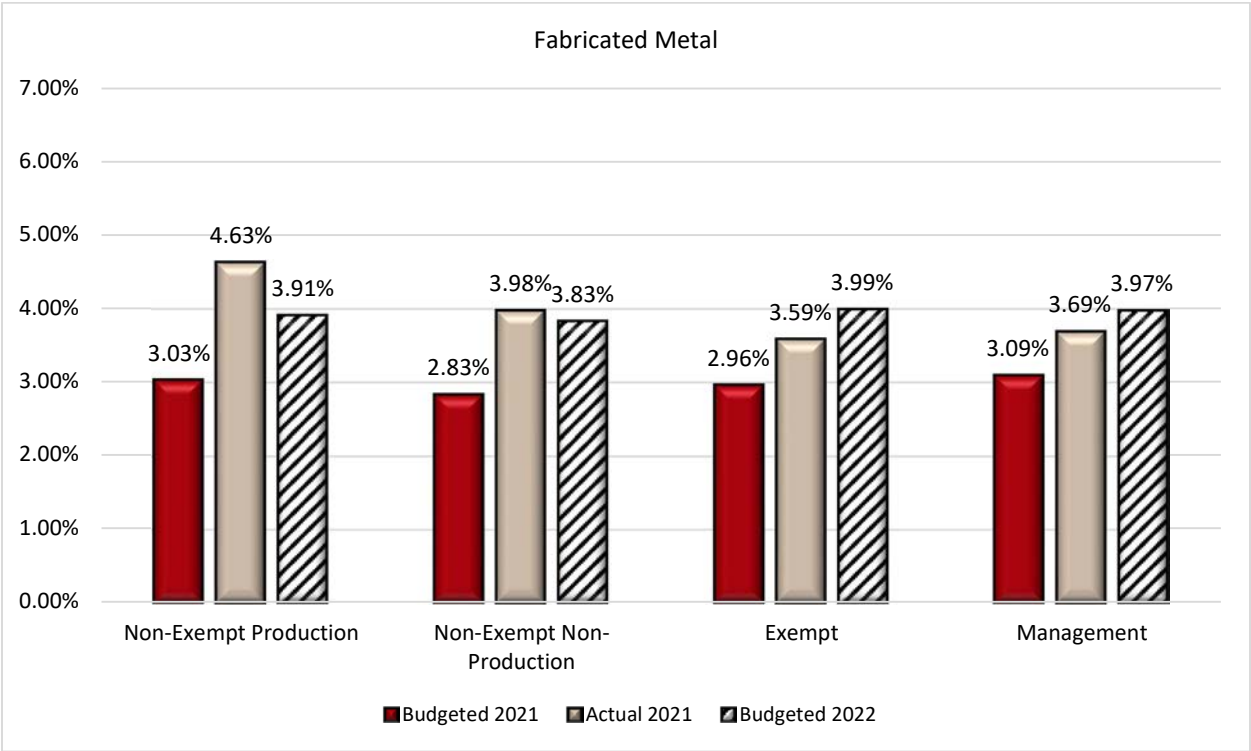
Average Percent Wage/Salary Adjustment by Industry

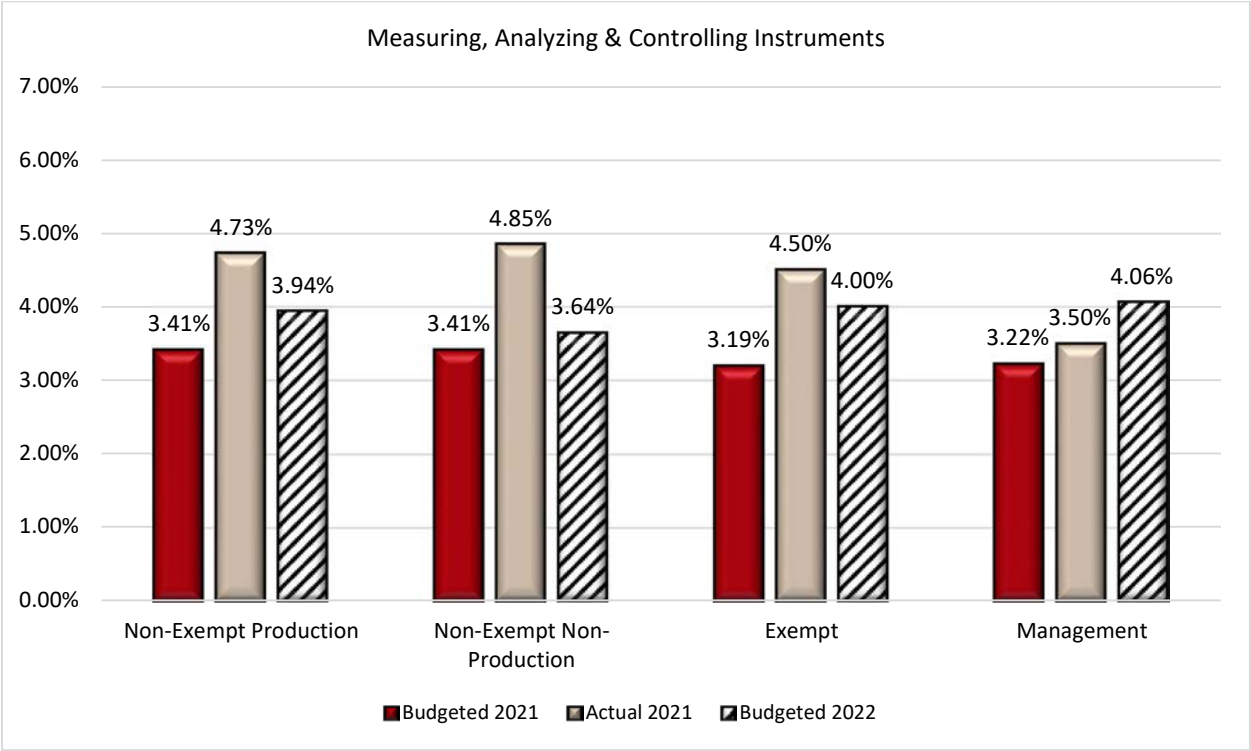
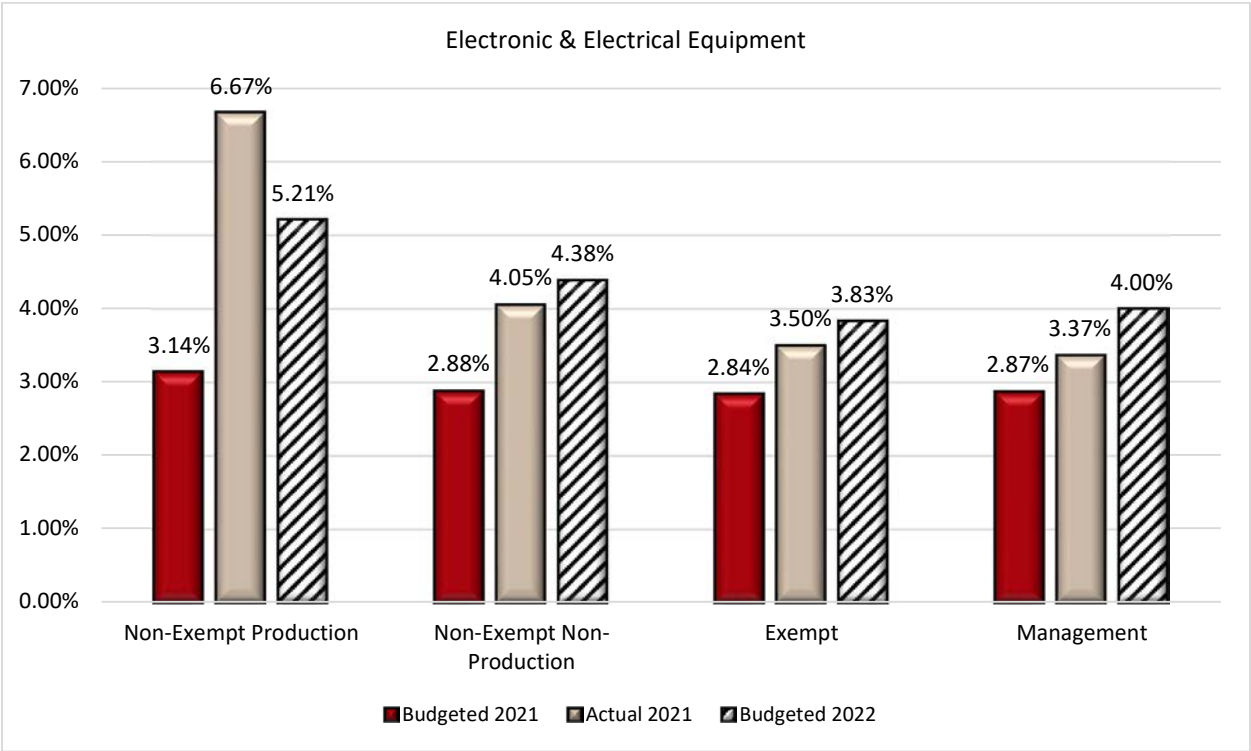
The following eleven charts indicate the average percent pay adjustments, including (as reportable) budgeted 2021, actual 2021 and budgeted 2022, by industry. Average budgeted 2021 pay increase data are from last year's results. Adjustments exclude zero percent reported adjustments. Results are not shown for industries where fewer than five participants reported information.

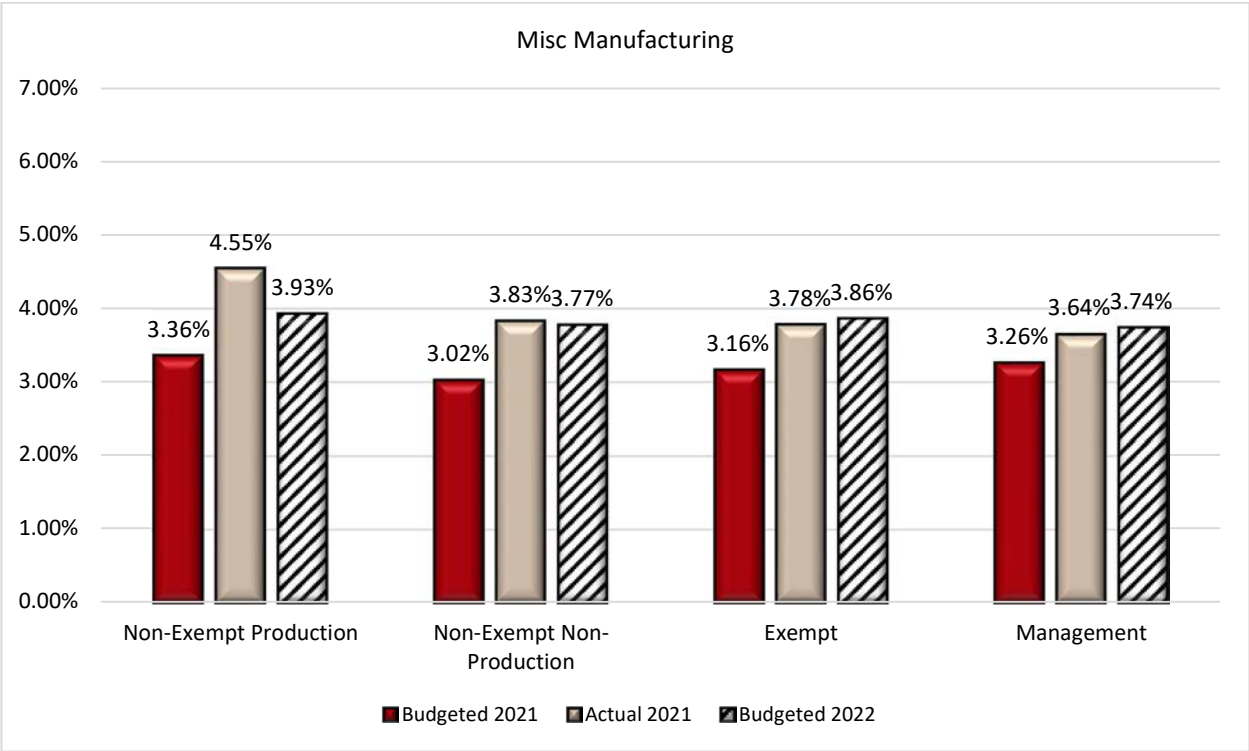












Workforce Trends

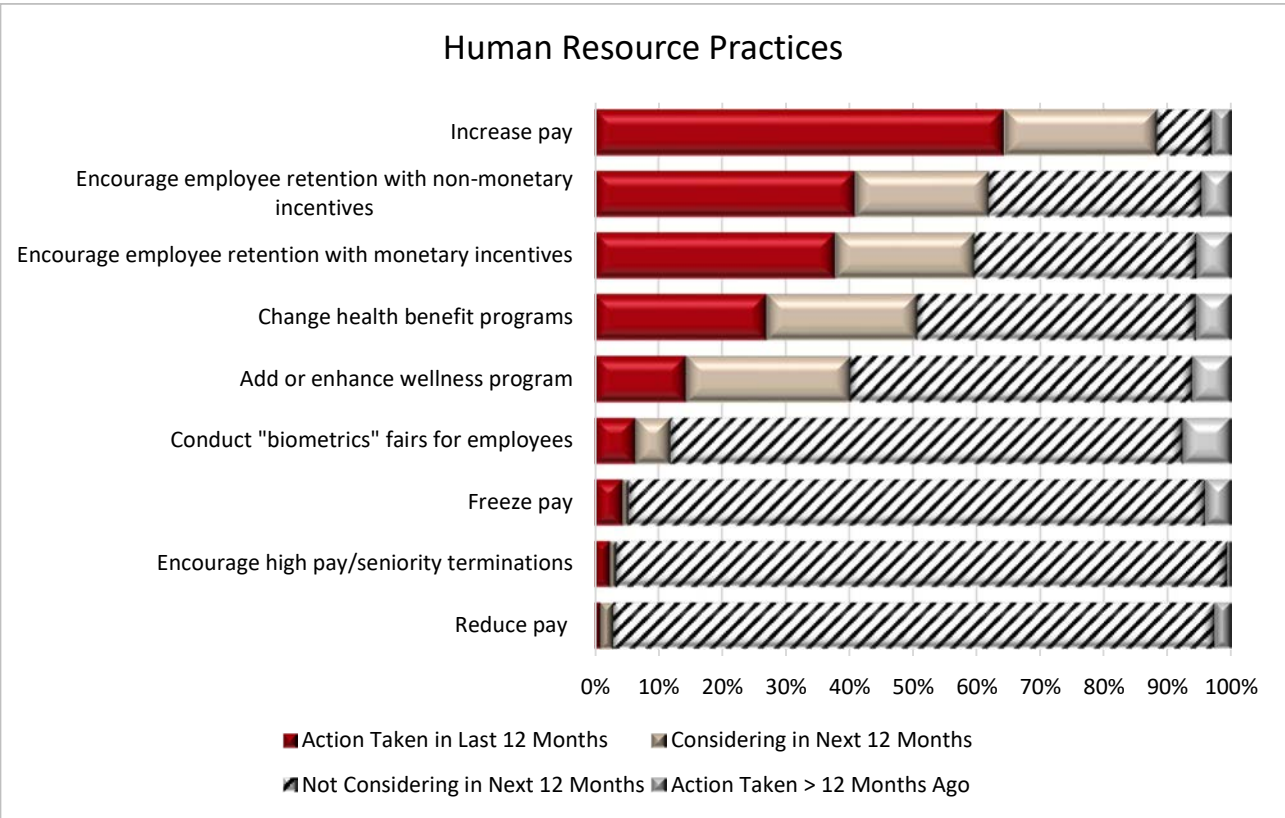
Management Practices

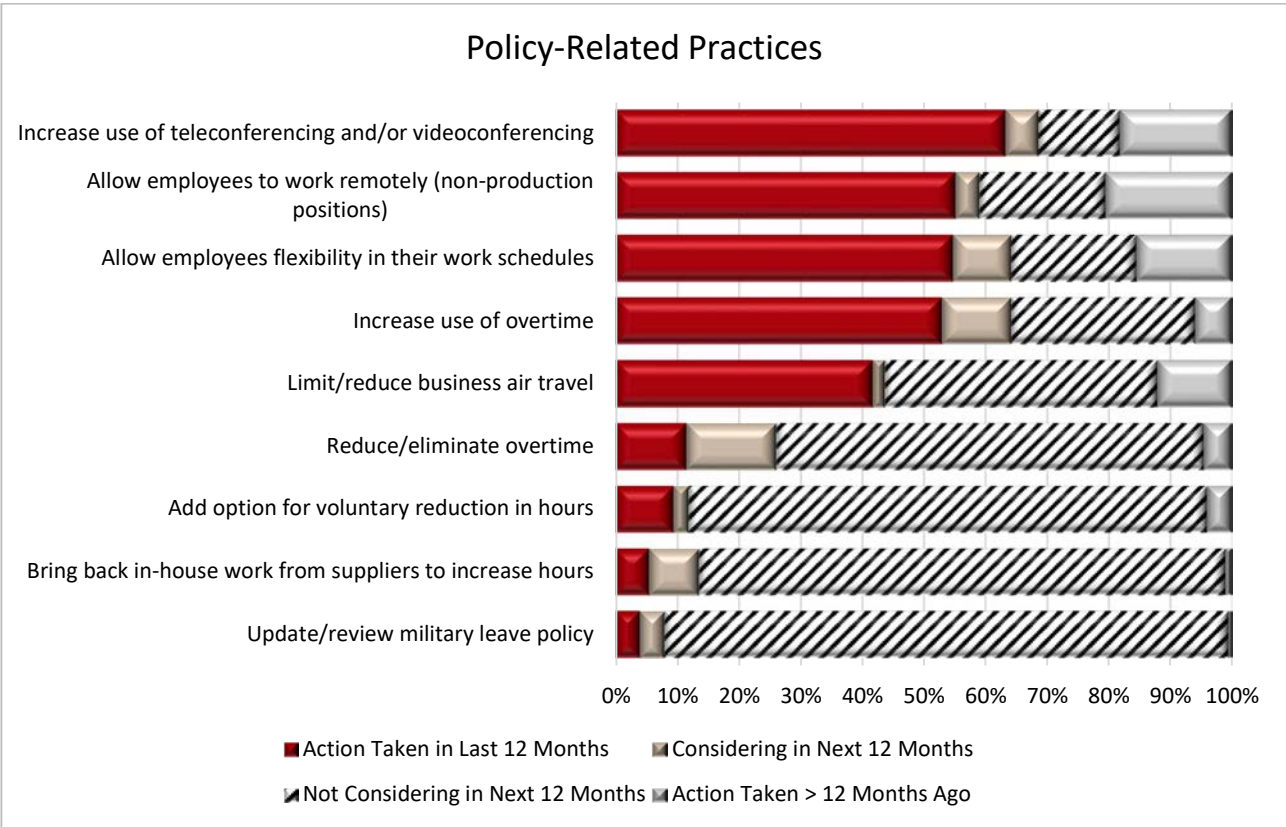
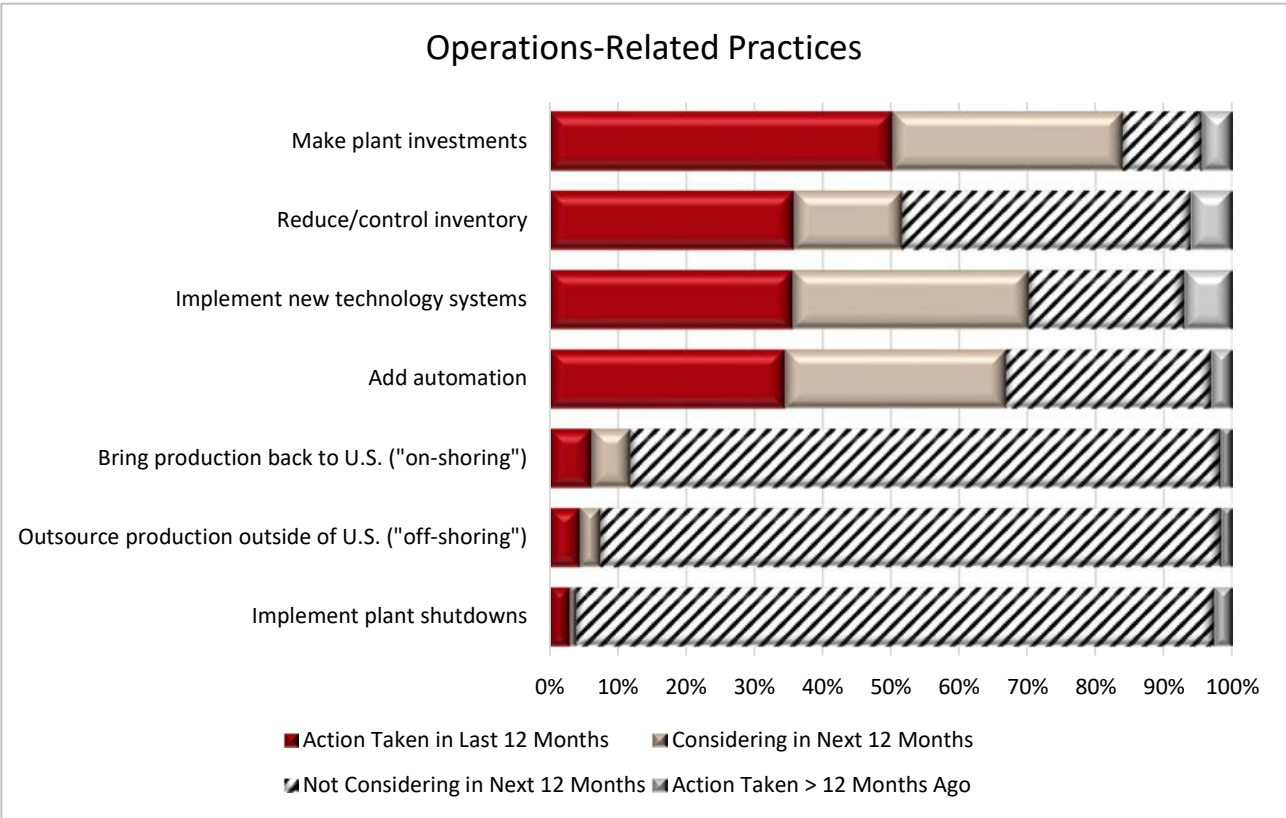
Survey participants indicated from a list of general management trends whether each trend was put in place over the past 12 months, under consideration for putting in place in the next 12 months, not under consideration for implementation, or put in place more than 12 months ago. The most common practices currently in place or under consideration this survey cycle are clearly responses to the challenges brought on by the pandemic; yet, investments in people remains a top priority even after a uniquely challenging year for manufacturers.

The list below highlights top actions taken in the 2021 or being considered for 2022 across all practice categories.

- **Human Resources Practices:** Increasing employee pay remains the top action taken in the last 12 months and is the second most frequently cited action being considered in the next 12, which undoubtedly reflects the recruiting and retention challenges faced in today's labor market. The top HR action being considered in the next 12 months is adding or enhancing wellness programs, a logical choice in the wake of COVID and its impact.
- **Operations-Related Practices:** Reducing/controlling inventory and making plant investments, which have held the first two places for actions taken in the last 12 months for the past 3 years, are once again at the top of the chart. However, this year reducing/controlling inventory is tied with implementing new technology systems for third place. Making plant investments and implementing new technology are also tied for first place in actions being considered for the next 12 months.
- **Policy-Related Practices:** Not surprisingly, an increase in the use of teleconferencing and videoconferencing for meetings, allowing employees to work from home and allowing employees flexibility in their work schedule are the top policy actions taken in 2021.

See the following charts for details.



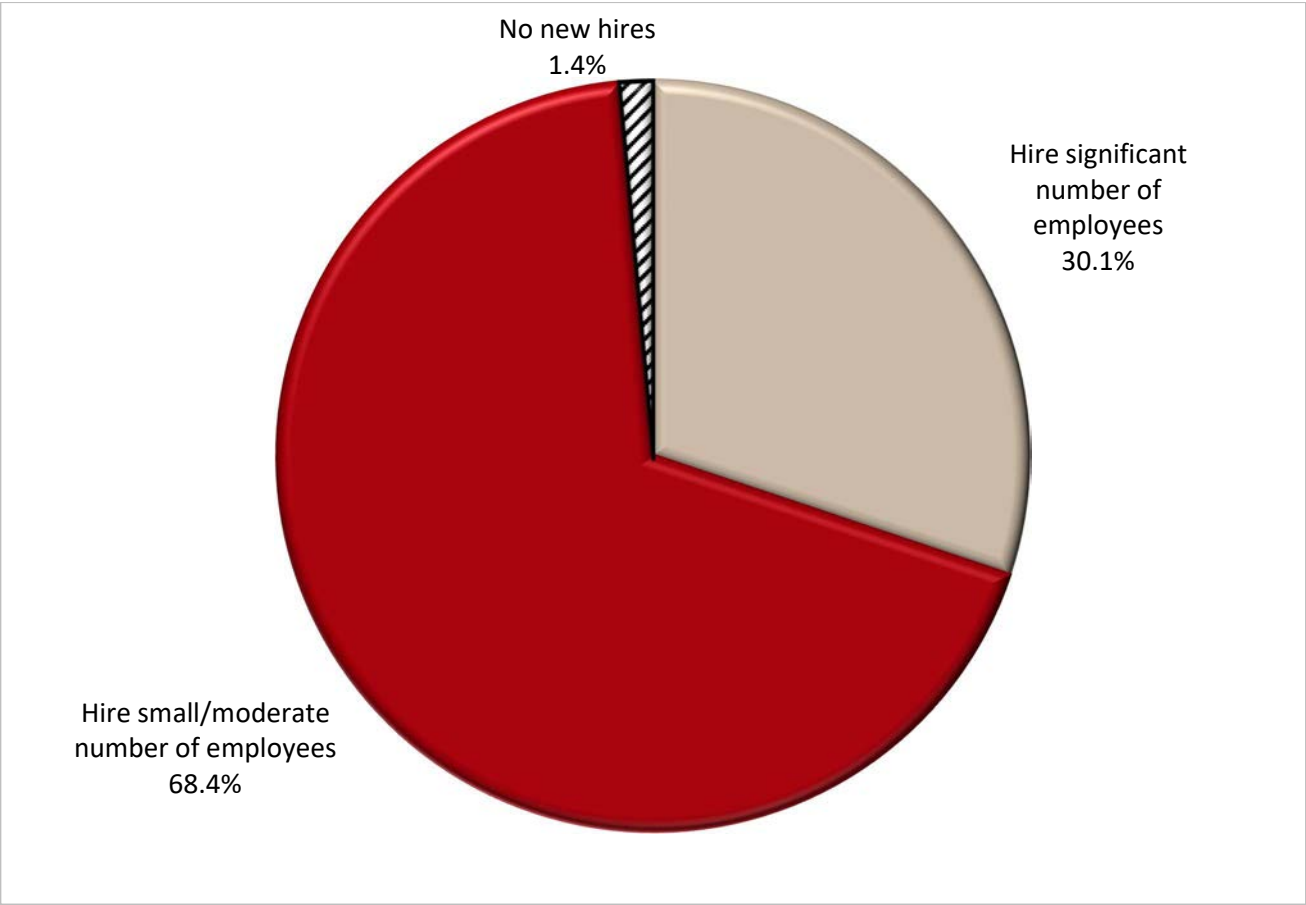


Workforce Practices

Hiring Plans in 2022

Hiring is an even higher priority in 2022 than it was in 2021, with the percent of participants reporting plans to hire in the coming year increasing from 92.7% in 2021 to 98.5% in 2022.

The chart below summarizes these hiring plans.

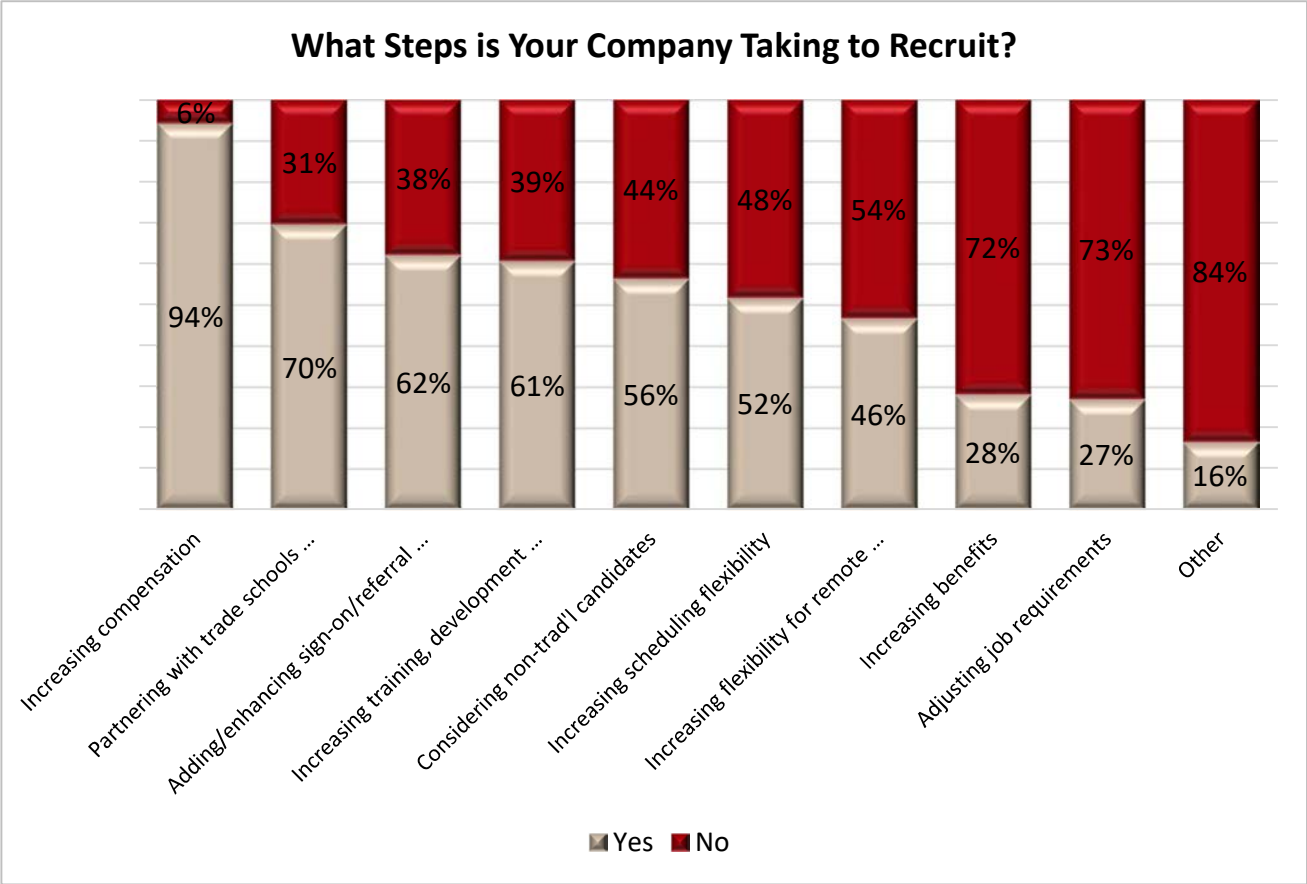


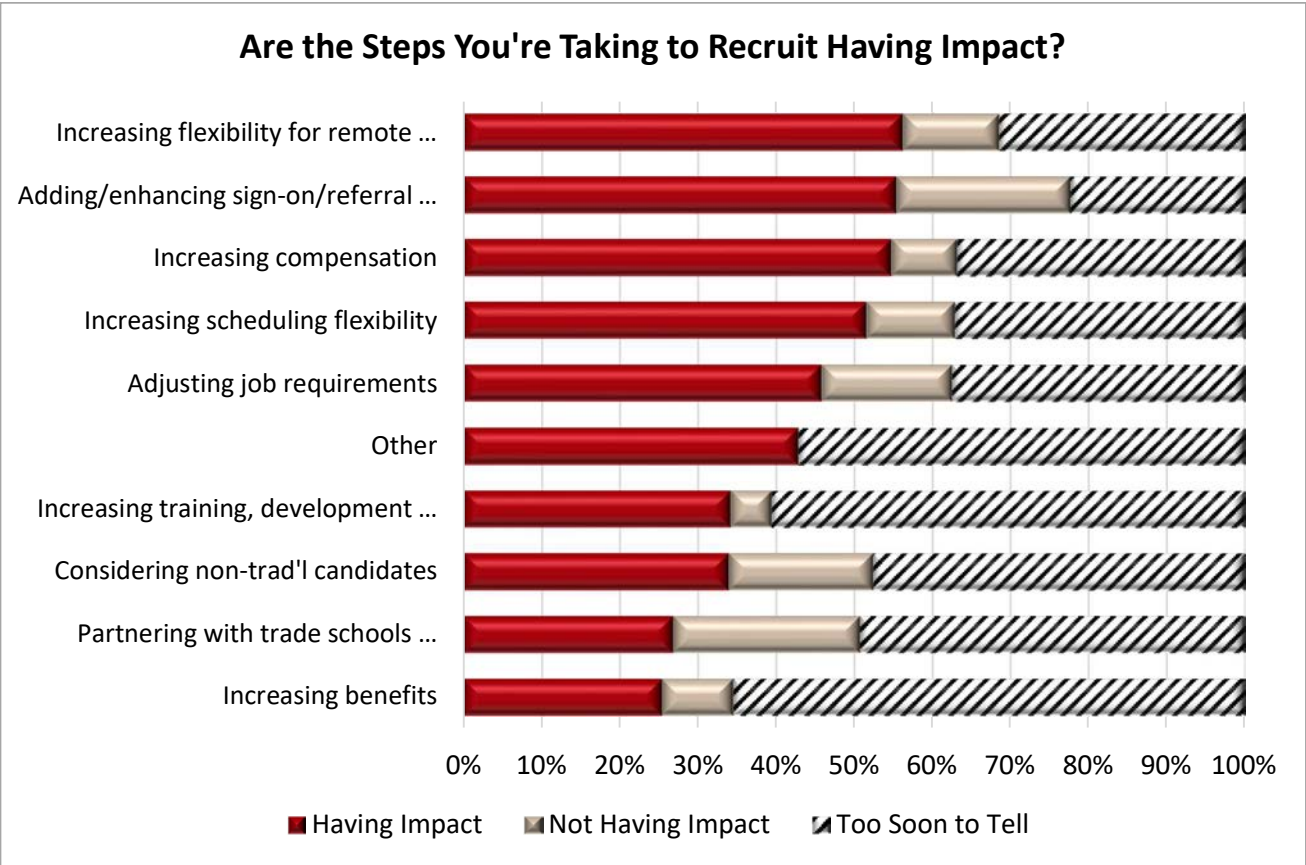
Steps Being Taken to RECRUIT Employees

Participants this year responded to a list of potential steps (noted below) being taken to recruit employees in the current labor market, indicating which ones they are taking, sharing any “other” steps they are pursuing and reporting whether their steps are having an impact on recruitment.

- Increasing compensation
- Increasing benefits
- Increasing scheduling flexibility
- Increasing flexibility for remote work
- Increasing training, development and/or mentoring opportunities
- Adding or enhancing sign-on or referral bonuses
- Adjusting job requirements
- Considering of non-traditional candidates
- Partnering with trade schools, colleges or other entities

The chart immediately below summarizes the prevalence of the different steps among participating companies and the chart that follows it highlights their responses about whether each step taken is having an impact on recruiting success. Observations about the findings are presented on the next page.





Other Recruiting Steps Reported:

- Taking steps to raise company profile in community - 2 participants (1 having impact, 1 too soon to tell).
- Reducing hiring time, improving on-boarding - 1 participant (having impact).
- Including employee videos in job postings - 1 participant (having impact).
- Holding open interviews every week - 1 participant (too soon to tell).
- Moved plant further outside Twin Cities - 1 participant (too soon to tell).
- Redefined employment brand - 1 participant (too soon to tell).
- Hiring more part-time help - 1 participant (impact not reported).
- Utilizing temp to hire - 1 participant (impact not reported).

In reviewing the findings about recruiting steps that participants are taking in today’s labor market, it’s interesting to compare the steps chosen by the most companies with those where the companies are seeing the greatest potential impact. The table below highlights the top five most popular recruiting steps and the five steps that are reported as having the highest impact on recruiting so far. Only two steps appear in the top five of both lists: increasing compensation and adding sign-on/referral bonuses. Beyond those two, the most popular steps are ones that have been traditionally used to enhance recruiting while the steps with the greatest impact reflect priorities in the aftermath of COVID and tailoring work to employee needs and circumstances.

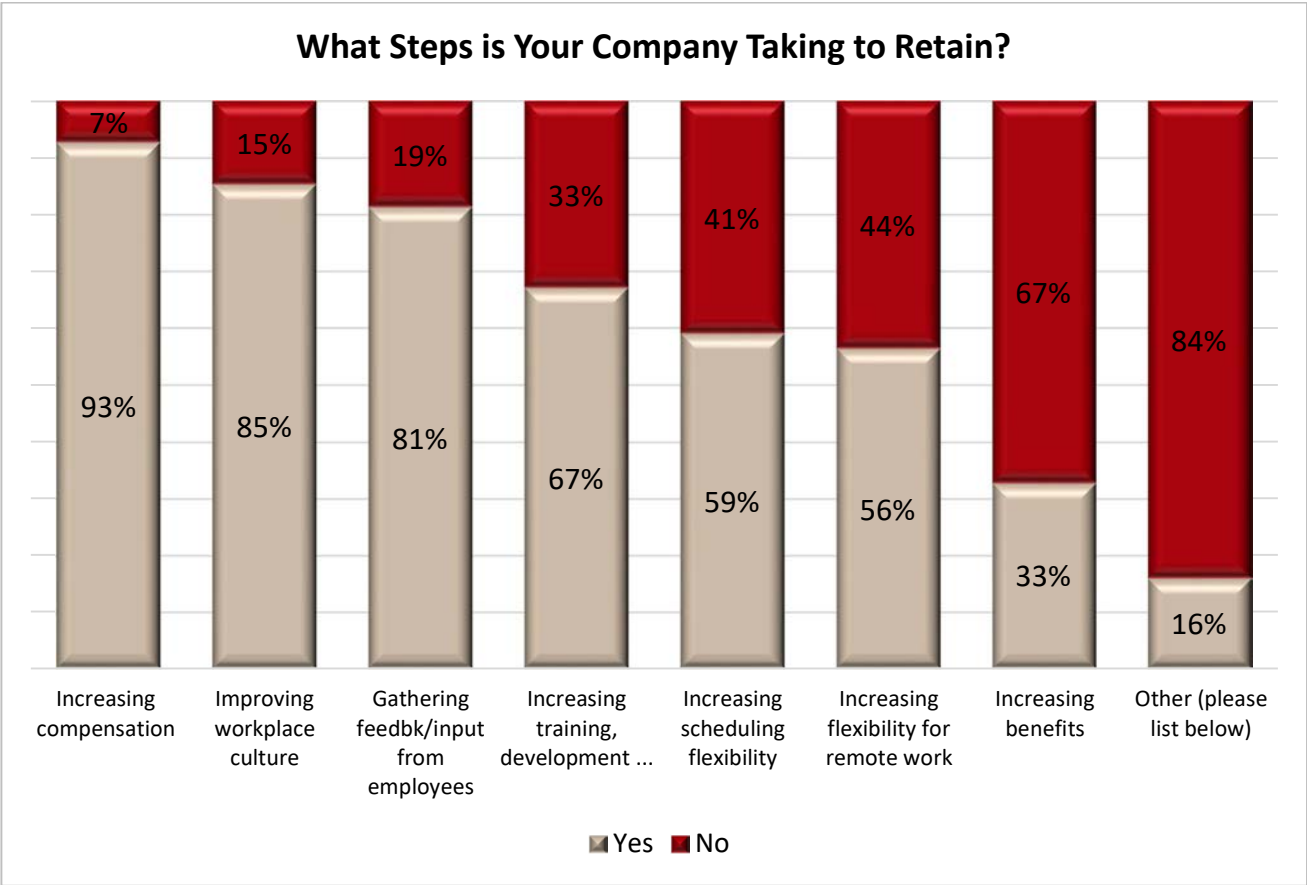
Most Popular Steps	% Firms Rptg	Steps with Greatest Impact	% Firms Rptg
Increasing compensation	94%	Increasing flexibility for remote work	56%
Partnering with trade schools, colleges ...	70%	Adding/enhancing sign-on/referral bonuses	55%
Adding/enhancing sign-on/referral bonuses	62%	Increasing compensation	55%
Increasing training, development ...	61%	Increasing scheduling flexibility	52%
Considering of non-traditional candidates	56%	Adjusting job requirements	46%

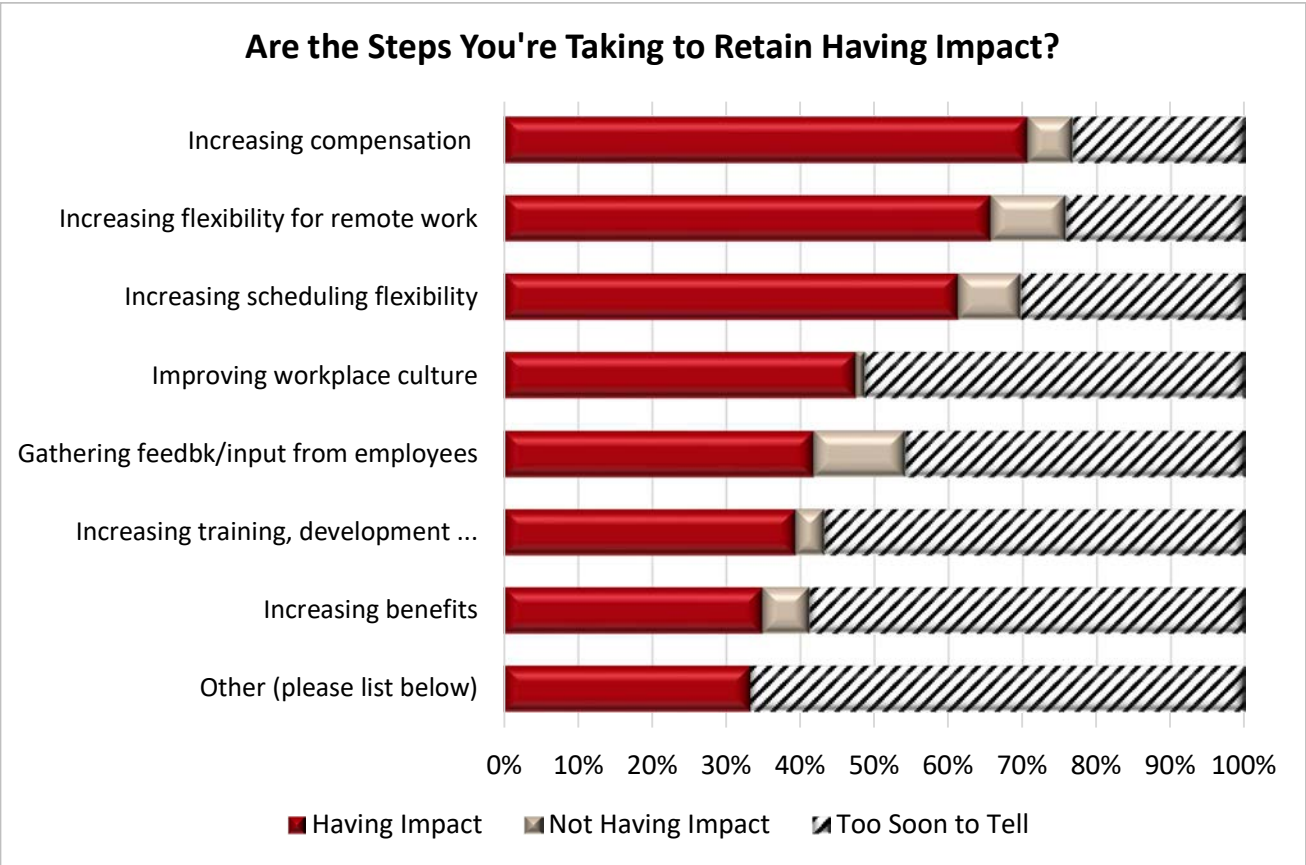
Steps Being Taken to RETAIN Employees

Participants this year responded to a list of potential steps (noted below) being taken to retain employees in the current labor market, indicating which ones they are taking, sharing any “other” steps they are pursuing and reporting whether their steps are having an impact on retention.

- Increasing compensation
- Increasing benefits
- Increasing scheduling flexibility
- Increasing flexibility for remote work
- Increasing training, development and/or mentoring opportunities
- Gathering feedback and input from employees
- Improving workplace culture

The chart immediately below summarizes the prevalence of the different steps among participating companies and the chart that follows it highlights their responses about whether each step taken is having an impact on retention success. Observations about the findings are presented on the next page.





Other Retention Steps Reported:

- Continuing to bring in difficult/challenging work - 1 participant (having impact).
- Offering referral bonus to employees - 1 participant (having impact).
- Awarded retention bonus to all non-managerial employees - 1 participant (too soon to tell).
- Acquired new building, improved working conditions - 1 participant (too soon to tell).
- Redefined employment brand – 1 participant (too soon to tell).
- Hosting more company events – 1 participant (impact not reported).

In reviewing the findings about retention steps that participants are taking in today’s labor market, it’s interesting (as it was with the recruiting steps) to compare the steps chosen by the most companies with those where the companies are seeing the greatest potential impact. The table below highlights the top five most popular retention steps and the five steps that are reported as having the highest impact on retention so far. We see much more overlap between the two sets than we did for recruitment; four of the five most popular steps are also among the steps with the greatest impact. In addition to increasing compensation, we see steps associated with workplace culture, employee input and schedule flexibility featured in both sets. It’s also interesting to see that while increasing compensation is the most popular step identified for both recruiting and retaining employees, participants report higher compensation as having a more observable impact on retention success than in recruiting.

Most Popular Steps	% Firms Rptg	Steps with Greatest Impact	% Firms Rptg
Increasing compensation	93%	Increasing compensation	71%
Improving workplace culture	85%	Increasing flexibility for remote work	66%
Gathering feedback/input from employees	81%	Increasing scheduling flexibility	61%
Increasing training, development ...	67%	Improving workplace culture	48%
Increasing scheduling flexibility	59%	Gathering feedback/input from employees	42%

Positions Affected by Compensation Increases

Those participants who reported increasing compensation as a step being taken to recruit or retain employees in today's labor market were also asked which positions are being affected by the increase. 60.5% of these organizations reported that the increase of compensation affects all positions company-wide. 39.5% reported that the increase affects certain positions and skills. The second group was asked to note which positions and skills are impacted by the increases; those positions are reported below either in the table (which features the positions and skills reported by 5 or more participants) or the list of other mentions that follows.

Hourly production positions were the most frequently reported by a substantial margin.

Top Reported Positions and Skills	# Firms Reporting
Hourly Production	42
Engineering	9
Machinists	7
Skilled Trades	6
Welders	5
Warehouse	5
Technical/Technicians	5

Other Positions and Skills (mentioned by 3 or fewer companies):

- Project Managers
- Information Technology
- Human Resources
- Service Technicians
- Executives
- Nonexempt Positions
- Maintenance
- Non-Production
- Production Support
- Truck Drivers
- Painters
- All Hourly Positions
- Sanitation
- Forklift
- Shipping/Receiving
- CNC Machinists
- Toolmakers
- Logistics
- Supervisory/First Level Management
- Punch Press
- Laser
- Turret
- Press Brake

Types of Training Being Offered

Those participants who reported increasing training and development opportunities as a step being taken to improve recruitment and/or retention in today's labor market were also asked about the type(s) of training being offered by their companies. A summary of the training offerings reported is presented in the table below.

Type of Training Being Offered	% Firms Reporting
Technical skills	78%
Management/leadership	77%
Compliance/quality	61%
Soft skills	50%
Problem solving	45%
Other	8%

Other Training Being Offered:

- Safety training – 3 participants.
- Human Resources and Finance certifications – 1 participant.
- Great Game of Business – 1 participant.
- Learning Management System implemented – 1 participant.

Ideal Number of Direct Reports for Manufacturing Leadership Roles

Participants were asked to report what their company considers to be an ideal number of direct reports for three manufacturing leadership positions. Their responses are presented in the table below.

	# Firms Reporting	25 th Percentile	Average	Median	75 th Percentile
Manager (Manufacturing Manager, Production Manager, etc.)	140	5	16	7	14
Supervisor (Production Supervisor, Shift Supervisor, etc.)	138	6	15	10	20
Lead (Assembly Lead, Welding Lead, etc.)	121	5	9	8	10

Survey Participants
Alphabetical Participant List

7-SIGMA, Inc.	Jones Metal Inc.
Aagard	Kasco Marine, Inc.
Advanced Molding Technologies, LLC	Kendall Howard
Agility EMS	Kurt Manufacturing
Air Quality Engineering	La Machine Shop, Inc.
Ajax Metal Forming Solutions, LLC	Lake Air Products
American Flexible Products, Inc.	LasX Industries
American Time and Signal	Le Sueur Incorporated
Analog Technologies Corp	Life Fitness
Anchor Plastics, Inc.	Liquibox Corporation
Andersen Corporation	LISI MEDICAL Remmele
Andrew Tool & Machining Company	Louis Industries, Inc.
Apple Valley Foods-US, Inc.	Lovegreen Industrial Services
Aqseptence Group	M & N Structures, Inc.
Arc Precision	Marshall Screw Products dba Marshall Mfg Co.
ARCH Medical and Aerospace	MAS HVAC, Inc.
ARKRAY USA, Inc.	Mate Precision Technologies
Arrowhead Engineered Products	Mathias Die Company Inc.
Artistic Finishes, Inc.	Midwest Rubber Service & Supply
Astro Metal Craft	Mikros Engineering, Inc.
Aurora Pharmaceutical	Miller Manufacturing Company
Aveda Corporation	Minnesota Grinding, Inc.
AVEKA Group, Inc.	MN Concrete Products, Inc.
AWT Labels & Packaging	Modern Molding, Inc.
Banner Engineering Corp	Mold-Tech Inc.
Bauer Welding & Metal Fabricators	MultiSource Manufacturing, LLC
Beacon Engineered Solutions	MVP Logistics, LLC
Bermo	National Flooring Equipment
Biomerics	Navy Island, Inc.
Birchwood Laboratories LLC	New Team LLC
Bondhus Corporation	Nortech Systems
Bowman Tool & Machining Inc.	Northwire, Inc.
Branches LLC	nVent Enclosures
BTD	Nystrom, Inc.
C4 Welding, Inc.	Olsen Tool & Plastics, Inc.
Carley Foundry, Inc.	P&F Machining, Inc.
Ceramic Industrial Coatings	PACA Inc.
Chandler Exhibits, Inc.	Pallet Service Corporation
Chandler Industries	Park Industries
Clarus Medical / Laser Peripherals / Urologix	Pearson's Candy Company
Clean Air Products	Peli BioThermal USA
Cloth & Clay, Inc. dba Deneen Pottery	Phillips and Temro Industries
Conagra Brands	PHS West, LLC
Conagra Brands - Mankato	Plato Woodwork, Inc.
Condux International	Plymouth Industries, Inc.
Continental Machines (DBA DoALL Sawing Products)	PNE Inc. DBA IRD Glass DBA IRD Ceramics
Cretex Companies	Precision Associates, Inc.
Crystal Distribution Inc.	Precision Coatings Inc.
Custom Products of Litchfield, Inc.	Precision Gasket Company dba PGC
Daikin Applied Americas, Inc.	Premier Marine, LLC
Data Metalcraft, Inc.	Prima Power Laserdyne
Data Recognition Corporation	Priority Envelope, Inc.

DCI, Inc.	Processed Metals Innovators, Inc.
DecoPac, Inc.	Product Development Solutions, Inc.
Design Ready Controls	Production Engineering Corporation
Die Technology Inc./Nanotech Precision LLC	Quadion LLC
Diversified Plastics, Inc.	Quali Mac
Door Engineering, a division of Senneca Holdings	Rapid Packaging, Inc.
DriSteem	Rational Energies
Dynamic Group	RC Smith Company
Dynamic Sealing Technologies, Inc.	Reviva, Inc.
E.A. Sween Company	Rice Lake Weighing Systems
ECO Finishing Company	Rise Baking Company
Electronic Systems, Inc.	RiteWay Conveyors, Inc.
Elemet Group, Inc.	Rosemount, Inc.
Ellicott Dredge Technologies	RSG - Nor-Lake, Inc.
EMERGE Enterprises	Schreiber Foods
Engage Technologies Corp	Shippers Supply Inc.
Engineered Materials	Showdown Displays
Engineered Products Company	Smead Manufacturing
FAST Global Solutions, Inc.	St. Paul Stamp Works, Inc.
FasTest, Inc.	Star Exhibits and Environments, Inc.
Federal Package	Stylmark Inc.
Flex Craft, LLC	Sure Cast Foundry
FlexMation Inc.	T.O. Plastics
Foldcraft DBA Plymold	Tapemark
Gemini Inc.	Teleflex Inc.
General Label Inc.	Tenere Inc.
Global Finishing Solutions, LLC	Tennant Company
GLS Companies	Tescom Corporation
Gopher Resource	The Imagine Group
Graco Inc.	The Meyers Printing Companies, Inc.
Granger Machine Inc.	The Outdoor Greatroom Company LLC
Grede LLC	The Pinske Edge
Greenheck Group	The Sierra Company LLC (dba Fenix Group)
H.B. Fuller Company	Thermo-Tech Windows LLC
Health Services Cooperative Laundries	Tjernlund Products
Hi-Lo Manufacturing	Trelleborg Sealing Solutions US, Inc.
Horton Inc.	TT Electronics
Huot Manufacturing	Turfco Mfg Inc.
Hutchinson Technology Incorporated	Twin City Die Castings Company
Hydra-Flex Inc.	Twin City Plating
ICA Corporation	Uponor Inc.
IDC Group, Inc.	Viking Engineering
Incertec	Waconia Manufacturing, Inc. dba Sackett-Waconia
Industrial Fabrication Services, Inc.	Wagner Spray Tech
Industrial Louvers, Inc.	Water Gremlin
Industrial Netting Inc.	Waymouth Farms Inc., dba Good Sense Foods
In'Tech Industries Inc.	West Central Steel, Inc.
Intek Plastics, Inc.	Western Spring Manufacturing
International Precision Machining, Inc.	Whirltronics
Interscapes	Wilson Wolf Manufacturing Corporation
IPS Cranes, Inc.	Winco, Inc.
J&B Group, Inc.	Windings, Inc.
JEM Technical	Wipaire, Inc.
Jet Edge Acquisition, LLC	Zero-Max
Jonaco Machine	

Total Participant Count: 213

Participants by Industry Type

Food & Kindred Products (8 participants)

Apple Valley Foods-US, Inc.	Pearson's Candy Company
Conagra Brands - Mankato	Rise Baking Company
E.A. Sween Company	Schreiber Foods
J&B Group, Inc.	Waymouth Farms Inc., dba Good Sense Foods

Lumber & Wood except Furniture (5 participants)

Artistic Finishes, Inc.	Pallet Service Corporation
Interscapes	Star Exhibits and Environments, Inc.
Navy Island, Inc.	

Furniture & Fixtures (4 participants)

Chandler Exhibits, Inc.	Plato Woodwork, Inc.
Foldcraft DBA Plymold	RC Smith Company

Paper & Allied Products (2 participants)

Shippers Supply Inc.	Smead Manufacturing
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Printing, Publishing & Allied (9 participants)

AWT Labels & Packaging	Showdown Displays
Conagra Brands	St. Paul Stamp Works, Inc.
Data Recognition Corporation	The Imagine Group
GLS Companies	The Meyers Printing Companies, Inc.
Priority Envelope, Inc.	

Chemicals & Allied Products (7 participants)

Aurora Pharmaceutical	H.B. Fuller Company
Aveda Corporation	PACA Inc.
AVEKA Group, Inc.	The Sierra Company LLC (dba Fenix Group)
Ceramic Industrial Coatings	

Petroleum Refining & Related (1 participant)

Rational Energies	
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Rubber & Plastic Products (24 participants)

7-SIGMA, Inc.	Midwest Rubber Service & Supply
Advanced Molding Technologies, LLC	Mikros Engineering, Inc.
American Flexible Products, Inc.	Modern Molding, Inc.
Anchor Plastics, Inc.	Mold-Tech Inc.
Beacon Engineered Solutions	New Team LLC
Diversified Plastics, Inc.	Olsen Tool & Plastics, Inc.
Dynamic Group	Precision Associates, Inc.
Engineered Materials	Precision Gasket Company dba PGC
Industrial Netting Inc.	Quadion LLC
In'Tech Industries Inc.	T.O. Plastics
Intek Plastics, Inc.	Thermo-Tech Windows LLC
Liquibox Corporation	Uponor Inc.

Stone, Clay, Glass & Concrete (4 participants)

Cloth & Clay, Inc. dba Deneen Pottery	PNE Inc. DBA IRD Glass DBA IRD Ceramics
MN Concrete Products, Inc.	The Pinske Edge

Primary Metal Industries (8 participants)

Aqseptence Group	Grede LLC
Astro Metal Craft	IDC Group, Inc.
Carley Foundry, Inc.	Sure Cast Foundry
Gopher Resource	Twin City Plating

Fabricated Metal Products (60 participants)

Air Quality Engineering	La Machine Shop, Inc.
Ajax Metal Forming Solutions, LLC	Lake Air Products
Arc Precision	Le Sueur Incorporated
ARCH Medical and Aerospace	Life Fitness
Bauer Welding & Metal Fabricators	LISI MEDICAL Remmele
Bermo	Louis Industries, Inc.
Bondhus Corporation	Lovegreen Industrial Services
Bowman Tool & Machining Inc.	M & N Structures, Inc.
BTD	Mate Precision Technologies
C4 Welding, Inc.	Mathias Die Company Inc.
Chandler Industries	Minnesota Grinding, Inc.
Crystal Distribution Inc.	nVent Enclosures
Custom Products of Litchfield, Inc.	Nystrom, Inc.
Data Metalcraft, Inc.	P&F Machining, Inc.
DCI, Inc.	Precision Coatings Inc.
Door Engineering, a division of Senneca Holdings	Processed Metals Innovators, Inc.
Dynamic Sealing Technologies, Inc.	Production Engineering Corporation
Elemet Group, Inc.	Quali Mac
EMERGE Enterprises	Stylmark Inc.
Flex Craft, LLC	Tenere Inc.
FlexMation Inc.	Tescom Corporation
Gemini Inc.	Tjernlund Products
Global Finishing Solutions, LLC	Turfco Mfg Inc.
Huot Manufacturing	Twin City Die Castings Company
ICA Corporation	Waconia Manufacturing, Inc. dba Sackett-Waconia
Industrial Fabrication Services, Inc.	Water Gremlin
Industrial Louvers, Inc.	West Central Steel, Inc.
International Precision Machining, Inc.	Western Spring Manufacturing
Jonaco Machine	Whirltronics
Jones Metal Inc.	Wipaire, Inc.

Industrial Machinery & Computer Equipment (24 participants)

Aagard	MAS HVAC, Inc.
Continental Machines (DBA DoALL Sawing Products)	MultiSource Manufacturing, LLC
Daikin Applied Americas, Inc.	National Flooring Equipment
DriSteem	Park Industries
Ellicott Dredge Technologies	PHS West, LLC
Engage Technologies Corp	Prima Power Laserdyne
FAST Global Solutions, Inc.	Reviva, Inc.
Granger Machine Inc.	Rice Lake Weighing Systems
Greenheck Group	RiteWay Conveyors, Inc.
IPS Cranes, Inc.	RSG - Nor-Lake, Inc.
JEM Technical	Tennant Company
Jet Edge Acquisition, LLC	Viking Engineering

Electronic & Other Electrical (14 participants)

Agility EMS	Hutchinson Technology Incorporated
American Time and Signal	Kendall Howard
Analog Technologies Corp	LasX Industries
Banner Engineering Corp	Nortech Systems
Design Ready Controls	Northwire, Inc.
Electronic Systems, Inc.	Winco, Inc.
Engineered Products Company	Windings, Inc.

Transportation Equipment (1 participant)

Phillips and Temro Industries

Measuring, Analyzing & Controlling Instruments (9 participants)

ARKRAY USA, Inc.	Rosemount, Inc.
Biomerics	Teleflex Inc.
Clarus Medical / Laser Peripherals / Urologix	Trelleborg Sealing Solutions US, Inc.
Cretex Companies	TT Electronics
Die Technology Inc./Nanotech Precision LLC	

Misc Manufacturing Industries (33 participants)

Andersen Corporation	Incertec
Andrew Tool & Machining Company	Kasco Marine, Inc.
Arrowhead Engineered Products	Kurt Manufacturing
Birchwood Laboratories LLC	Marshall Screw Products dba Marshall Mfg Co.
Branches LLC	Miller Manufacturing Company
Clean Air Products	MVP Logistics, LLC
Condux International	Peli BioThermal USA
DecoPac, Inc.	Plymouth Industries, Inc.
ECO Finishing Company	Premier Marine, LLC
FasTest, Inc.	Product Development Solutions, Inc.
Federal Package	Rapid Packaging, Inc.
General Label Inc.	Tapemark
Graco Inc.	The Outdoor Greatroom Company LLC
Health Services Cooperative Laundries	Wagner Spray Tech
Hi-Lo Manufacturing	Wilson Wolf Manufacturing Corporation
Horton Inc.	Zero-Max
Hydra-Flex Inc.	

Participants by Number of Company Employees

Note: Participants were classified into an employee size group according to the total number of employees reported. Size groups were structured to establish five groups of approximately equal numbers of participants and by significant breaks in size. Each group represents roughly twenty percent of all survey participants.

Group 1: Less than 50 Total Employees (41 participants)

7-SIGMA, Inc.	La Machine Shop, Inc.
Agility EMS	Lovegreen Industrial Services
Air Quality Engineering	M & N Structures, Inc.
American Flexible Products, Inc.	MAS HVAC, Inc.
Anchor Plastics, Inc.	Minnesota Grinding, Inc.
Andrew Tool & Machining Company	MN Concrete Products, Inc.
Arc Precision	Olsen Tool & Plastics, Inc.
Astro Metal Craft	PHS West, LLC
Continental Machines (DBA DoALL Sawing Products)	Precision Coatings Inc.
Engineered Materials	Quali Mac
Flex Craft, LLC	Rapid Packaging, Inc.
FlexMation Inc.	Rational Energies
General Label Inc.	RC Smith Company
Granger Machine Inc.	RiteWay Conveyors, Inc.
Hi-Lo Manufacturing	St. Paul Stamp Works, Inc.
Huot Manufacturing	Sure Cast Foundry
Industrial Netting Inc.	The Pinske Edge
International Precision Machining, Inc.	Twin City Plating
Interscapes	Western Spring Manufacturing
IPS Cranes, Inc.	Wilson Wolf Manufacturing Corporation
Jet Edge Acquisition, LLC	

Group 2: 50 to 99 Total Employees (56 participants)

Ajax Metal Forming Solutions, LLC	Kasco Marine, Inc.
American Time and Signal	Kendall Howard
Analog Technologies Corp	LasX Industries
ARCH Medical and Aerospace	Marshall Screw Products dba Marshall Mfg Co.
Artistic Finishes, Inc.	Mathias Die Company Inc.
AVEKA Group, Inc.	Midwest Rubber Service & Supply
Bauer Welding & Metal Fabricators	Mold-Tech Inc.
Bowman Tool & Machining Inc.	MVP Logistics, LLC
Branches LLC	National Flooring Equipment
C4 Welding, Inc.	P&F Machining, Inc.
Ceramic Industrial Coatings	Peli BioThermal USA
Clarus Medical / Laser Peripherals / Urologix	Plymouth Industries, Inc.
Clean Air Products	PNE Inc. DBA IRD Glass DBA IRD Ceramics
Cloth & Clay, Inc. dba Deneen Pottery	Precision Gasket Company dba PGC
Condux International	Prima Power Laserdyne
Crystal Distribution Inc.	Priority Envelope, Inc.
Data Metalcraft, Inc.	Product Development Solutions, Inc.
Die Technology Inc./Nanotech Precision LLC	Production Engineering Corporation
Diversified Plastics, Inc.	Shippers Supply Inc.
Dynamic Sealing Technologies, Inc.	Star Exhibits and Environments, Inc.
Ellicott Dredge Technologies	The Outdoor Greatroom Company LLC
FasTest, Inc.	The Sierra Company LLC (dba Fenix Group)
ICA Corporation	Tjernlund Products
IDC Group, Inc.	Turfco Mfg Inc.
Industrial Fabrication Services, Inc.	Viking Engineering
Industrial Louvers, Inc.	Waymouth Farms Inc., dba Good Sense Foods
JEM Technical	Winco, Inc.
Jones Metal Inc.	Zero-Max

Group 3: 100 to 199 Total Employees (44 participants)

Advanced Molding Technologies, LLC	In'Tech Industries Inc.
ARKRAY USA, Inc.	Jonaco Machine
Aurora Pharmaceutical	Louis Industries, Inc.
Bermo	Mikros Engineering, Inc.
Biomerics	Modern Molding, Inc.
Birchwood Laboratories LLC	Navy Island, Inc.
Bondhus Corporation	Northwire, Inc.
Chandler Exhibits, Inc.	Pallet Service Corporation
Conagra Brands	Pearson's Candy Company
Custom Products of Litchfield, Inc.	Plato Woodwork, Inc.
DCI, Inc.	Processed Metals Innovators, Inc.
Door Engineering, a division of Senneca Holdings	Smead Manufacturing
DriSteem	Stylmark Inc.
Dynamic Group	Tescom Corporation
ECO Finishing Company	Thermo-Tech Windows LLC
Elemet Group, Inc.	TT Electronics
Engage Technologies Corp	Twin City Die Castings Company
Engineered Products Company	Waconia Manufacturing, Inc. dba Sackett-Waconia
Federal Package	West Central Steel, Inc.
Foldcraft DBA Plymold	Whirltronics
Hydra-Flex Inc.	Windings, Inc.
Incertec	Wipaire, Inc.

Group 4: 200 to 499 Total Employees (46 participants)

Agard	Mate Precision Technologies
Apple Valley Foods-US, Inc.	Miller Manufacturing Company
Aqseptence Group	MultiSource Manufacturing, LLC
AWT Labels & Packaging	New Team LLC
Beacon Engineered Solutions	Nortech Systems
Carley Foundry, Inc.	Nystrom, Inc.
Chandler Industries	Park Industries
Conagra Brands - Mankato	Phillips and Temro Industries
DecoPac, Inc.	Precision Associates, Inc.
Design Ready Controls	Premier Marine, LLC
Electronic Systems, Inc.	Quadion LLC
FAST Global Solutions, Inc.	Reviva, Inc.
Gemini Inc.	Rise Baking Company
Global Finishing Solutions, LLC	RSG - Nor-Lake, Inc.
GLS Companies	Showdown Displays
Grede LLC	T.O. Plastics
Greenheck Group	Tapemark
Health Services Cooperative Laundries	Teleflex Inc.
Horton Inc.	Tenere Inc.
Intek Plastics, Inc.	The Meyers Printing Companies, Inc.
Lake Air Products	Trelleborg Sealing Solutions US, Inc.
Le Sueur Incorporated	Wagner Spray Tech
LISI MEDICAL Remmele	Water Gremlin

Group 5: Over 500 Total Employees (25 participants)

Andersen Corporation	J&B Group, Inc.
Arrowhead Engineered Products	Kurt Manufacturing
Aveda Corporation	Life Fitness
Banner Engineering Corp	Liquibox Corporation
BTD	nVent Enclosures
Cretex Companies	PACA Inc.
Daikin Applied Americas, Inc.	Rice Lake Weighing Systems
Data Recognition Corporation	Rosemount, Inc.
E.A. Sween Company	Schreiber Foods
Gopher Resource	Tennant Company
Graco Inc.	The Imagine Group
H.B. Fuller Company	Uponor Inc.
Hutchinson Technology Incorporated	

Participants by Distance From Minneapolis

Group 1: Within 20 Miles of Minneapolis (137 Participants)

7-SIGMA, Inc.	Lake Air Products
Advanced Molding Technologies, LLC	LasX Industries
Agility EMS	Life Fitness
Air Quality Engineering	LISI MEDICAL Remmele
Ajax Metal Forming Solutions, LLC	Lovegreen Industrial Services
American Flexible Products, Inc.	Marshall Screw Products dba Marshall Mfg Co.
Analog Technologies Corp	MAS HVAC, Inc.
Anchor Plastics, Inc.	Mate Precision Technologies
Andrew Tool & Machining Company	Mathias Die Company Inc.
Apple Valley Foods-US, Inc.	Midwest Rubber Service & Supply
Aqseptence Group	Mikros Engineering, Inc.
ARCH Medical and Aerospace	Miller Manufacturing Company
ARKRAY USA, Inc.	Minnesota Grinding, Inc.
Arrowhead Engineered Products	MultiSource Manufacturing, LLC
Artistic Finishes, Inc.	MVP Logistics, LLC
Aveda Corporation	National Flooring Equipment
AVEKA Group, Inc.	Navy Island, Inc.
AWT Labels & Packaging	Nortech Systems
Banner Engineering Corp	nVent Enclosures
Bauer Welding & Metal Fabricators	Nystrom, Inc.
Bermo	Olsen Tool & Plastics, Inc.
Biomerics	PACA Inc.
Birchwood Laboratories LLC	Pallet Service Corporation
Carley Foundry, Inc.	Pearson's Candy Company
Ceramic Industrial Coatings	Peli BioThermal USA
Chandler Industries	Phillips and Temro Industries
Clarus Medical / Laser Peripherals / Urologix	Plymouth Industries, Inc.
Clean Air Products	Precision Associates, Inc.
Cloth & Clay, Inc. dba Deneen Pottery	Precision Coatings Inc.
Conagra Brands	Precision Gasket Company dba PGC
Continental Machines (DBA DoALL Sawing Products)	Prima Power Laserdyne
Daikin Applied Americas, Inc.	Priority Envelope, Inc.
Data Metalcraft, Inc.	Product Development Solutions, Inc.
Data Recognition Corporation	Production Engineering Corporation
DecoPac, Inc.	Quadion LLC
Design Ready Controls	Quali Mac
Diversified Plastics, Inc.	Rapid Packaging, Inc.
DriSteem	Rational Energies
Dynamic Group	RC Smith Company
Dynamic Sealing Technologies, Inc.	Reviva, Inc.
E.A. Sween Company	Rise Baking Company
ECO Finishing Company	Rosemount, Inc.
EMERGE Enterprises	Shippers Supply Inc.
Engage Technologies Corp	Showdown Displays
Engineered Materials	St. Paul Stamp Works, Inc.
Engineered Products Company	Star Exhibits and Environments, Inc.
FasTest, Inc.	Stylmark Inc.
Federal Package	Sure Cast Foundry
FlexMation Inc.	Tapemark
General Label Inc.	Teleflex Inc.
GLS Companies	Tennant Company

Gopher Resource
Graco Inc.
H.B. Fuller Company
Health Services Cooperative Laundries
Horton Inc.
Huot Manufacturing
Hydra-Flex Inc.
ICA Corporation
IDC Group, Inc.
Incertec
Industrial Netting Inc.
In'Tech Industries Inc.
Interscapes
IPS Cranes, Inc.
JEM Technical
Jonaco Machine
Kurt Manufacturing
La Machine Shop, Inc.

The Imagine Group
The Meyers Printing Companies, Inc.
The Sierra Company LLC (dba Fenix Group)
Tjernlund Products
TT Electronics
Turfco Mfg Inc.
Twin City Die Castings Company
Twin City Plating
Uponor Inc.
Viking Engineering
Wagner Spray Tech
Water Gremlin
Waymouth Farms Inc., dba Good Sense Foods
Western Spring Manufacturing
Wilson Wolf Manufacturing Corporation
Wipaire, Inc.
Zero-Max

Group 2: 20 to 45 Miles from Minneapolis (36 Participants)

Andersen Corporation
Arc Precision
Astro Metal Craft
Aurora Pharmaceutical
Bondhus Corporation
Chandler Exhibits, Inc.
Cretex Companies
Crystal Distribution Inc.
Die Technology Inc./Nanotech Precision LLC
Ellicott Dredge Technologies
Gemini Inc.
Granger Machine Inc.
Hi-Lo Manufacturing
Industrial Louvers, Inc.
Intek Plastics, Inc.
J&B Group, Inc.
Jet Edge Acquisition, LLC
Kasco Marine, Inc.

Kendall Howard
Liquibox Corporation
M & N Structures, Inc.
Modern Molding, Inc.
Mold-Tech Inc.
New Team LLC
P&F Machining, Inc.
PHS West, LLC
Plato Woodwork, Inc.
Premier Marine, LLC
RSG - Nor-Lake, Inc.
Smead Manufacturing
Tescom Corporation
The Outdoor Greatroom Company LLC
The Pinske Edge
Trelleborg Sealing Solutions US, Inc.
Waconia Manufacturing, Inc. dba Sackett-Waconia
Whirltronics

Group 3: 45 to 70 Miles from Minneapolis (20 Participants)

American Time and Signal
Branches LLC
C4 Welding, Inc.
Custom Products of Litchfield, Inc.
DCI, Inc.
Elemet Group, Inc.
Foldcraft DBA Plymold
Grede LLC
Hutchinson Technology Incorporated
International Precision Machining, Inc.

Le Sueur Incorporated
MN Concrete Products, Inc.
Northwire, Inc.
Park Industries
PNE Inc. DBA IRD Glass DBA IRD Ceramics
RiteWay Conveyors, Inc.
T.O. Plastics
Tenere Inc.
Thermo-Tech Windows LLC
Winco, Inc.

Group 4: More than 70 Miles from Minneapolis (20 Participants)

Aagard	Global Finishing Solutions, LLC
Beacon Engineered Solutions	Greenheck Group
Bowman Tool & Machining Inc.	Industrial Fabrication Services, Inc.
BTD	Jones Metal Inc.
Conagra Brands - Mankato	Louis Industries, Inc.
Condux International	Processed Metals Innovators, Inc.
Door Engineering, a division of Senneca Holdings	Rice Lake Weighing Systems
Electronic Systems, Inc.	Schreiber Foods
FAST Global Solutions, Inc.	West Central Steel, Inc.
Flex Craft, LLC	Windings, Inc.