



2021 Manufacturing Workforce Trends Report[©]

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Compiled by:
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Introduction

The Manufacturers Alliance and MPMA are pleased to present *The Workforce Trends Survey – 2021*.

This survey covers issues of critical importance to Minnesota manufacturing firms and summarizes comments from 209 companies with a combined total of over 60,000 employees. Participating firms have on average 296 employees (median 107 employees) and an average annual revenue of \$427.4 million (median annual revenue of \$26.7 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 (terminations for any reason).

Total turnover rates in 2020 – on average across all groups – are nearly identical to those reported for 2019 (21.0%) and 2020 (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. Note that participants reporting turnover rates that were high outliers due to significant layoffs or business unit closures were excluded from this analysis.

Voluntary Terminations

Industry Group	# Firms Reporting	25 th Percentile	Average	Median	75 th Percentile
All Industry Groups	185	6.1%	12.0%	10.0%	15.0%
Food & Kindred Products	5	*	22.6%	20.0%	*
Textile Mill Products	1	*	*	*	*
Apparel & Other Fabric Products	2	*	*	*	*
Lumber & Wood ex Furniture	4	*	*	*	*
Furniture & Fixtures	3	*	*	*	*
Paper & Allied Products	4	*	*	*	*
Printing, Publishing & Allied	6	7.6%	10.3%	9.8%	10.5%
Chemicals & Allied Products	4	*	*	*	*
Petroleum Refining & Related	2	*	*	*	*
Rubber & Plastic Products	20	7.2%	13.9%	12.9%	18.7%
Primary Metal Industries	10	3.0%	9.2%	10.5%	13.1%
Fabricated Metal Products	48	5.0%	10.6%	8.7%	12.3%
Industrial Machinery Computer Equip	23	6.7%	10.6%	10.0%	14.0%
Electronic & Other Electrical	18	6.0%	15.3%	12.6%	21.5%
Transportation Equipment	3	*	*	*	*
Measur, Anal & Control Instruments	9	8.0%	10.7%	10.0%	12.3%
Misc Manufacturing Industries	23	7.8%	12.8%	10.0%	14.0%

Involuntary Terminations

Industry Group	# Firms Reporting	25 th Percentile	Average	Median	75 th Percentile
All Industry Groups	182	2.4%	8.8%	6.0%	12.0%
Food & Kindred Products	5	*	8.4%	7.0%	*
Textile Mill Products	1	*	*	*	*
Apparel & Other Fabric Products	2	*	*	*	*
Lumber & Wood ex Furniture	4	*	*	*	*
Furniture & Fixtures	3	*	*	*	*
Paper & Allied Products	4	*	*	*	*
Printing, Publishing & Allied	6	2.3%	11.0%	4.0%	13.3%
Chemicals & Allied Products	4	*	*	*	*
Petroleum Refining & Related	2	*	*	*	*
Rubber & Plastic Products	20	4.0%	10.8%	6.4%	12.4%
Primary Metal Industries	10	3.0%	10.4%	7.8%	14.4%
Fabricated Metal Products	46	2.5%	8.8%	7.7%	12.8%
Industrial Machinery Computer Equip	23	2.4%	9.8%	5.0%	14.4%
Electronic & Other Electrical	17	0.0%	7.3%	3.0%	7.0%
Transportation Equipment	3	*	*	*	*
Measur, Anal & Control Instruments	9	3.2%	8.3%	6.9%	11.6%
Misc Manufacturing Industries	23	2.2%	7.1%	4.5%	8.8%

Total Turnover Rates (Voluntary & Involuntary)

Industry Group	# Firms Reporting	25 th Percentile	Average	Median	75 th Percentile
All Industry Groups	184	12.0%	20.9%	18.2%	28.0%
Food & Kindred Products	6	26.0%	30.7%	29.5%	30.0%
Textile Mill Products	1	*	*	*	*
Apparel & Other Fabric Products	2	*	*	*	*
Lumber & Wood ex Furniture	4	*	*	*	*
Furniture & Fixtures	3	*	*	*	*
Paper & Allied Products	4	*	*	*	*
Printing, Publishing & Allied	6	12.6%	21.3%	16.4%	22.2%
Chemicals & Allied Products	4	*	*	*	*
Petroleum Refining & Related	2	*	*	*	*
Rubber & Plastic Products	20	15.9%	24.6%	23.1%	31.8%
Primary Metal Industries	10	7.8%	19.6%	20.9%	27.8%
Fabricated Metal Products	46	11.7%	19.6%	16.7%	26.9%
Industrial Machinery Computer Equip	23	13.6%	20.4%	17.0%	22.8%
Electronic & Other Electrical	17	9.7%	22.7%	19.1%	32.0%
Transportation Equipment	3	*	*	*	*
Measur, Anal & Control Instruments	9	12.0%	19.0%	19.2%	20.0%
Misc Manufacturing Industries	24	10.0%	19.6%	16.2%	22.8%

General Comments

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

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Manufacturers Alliance
 763-533-8239
 kirbys@mfrall.com

Compensation Practices

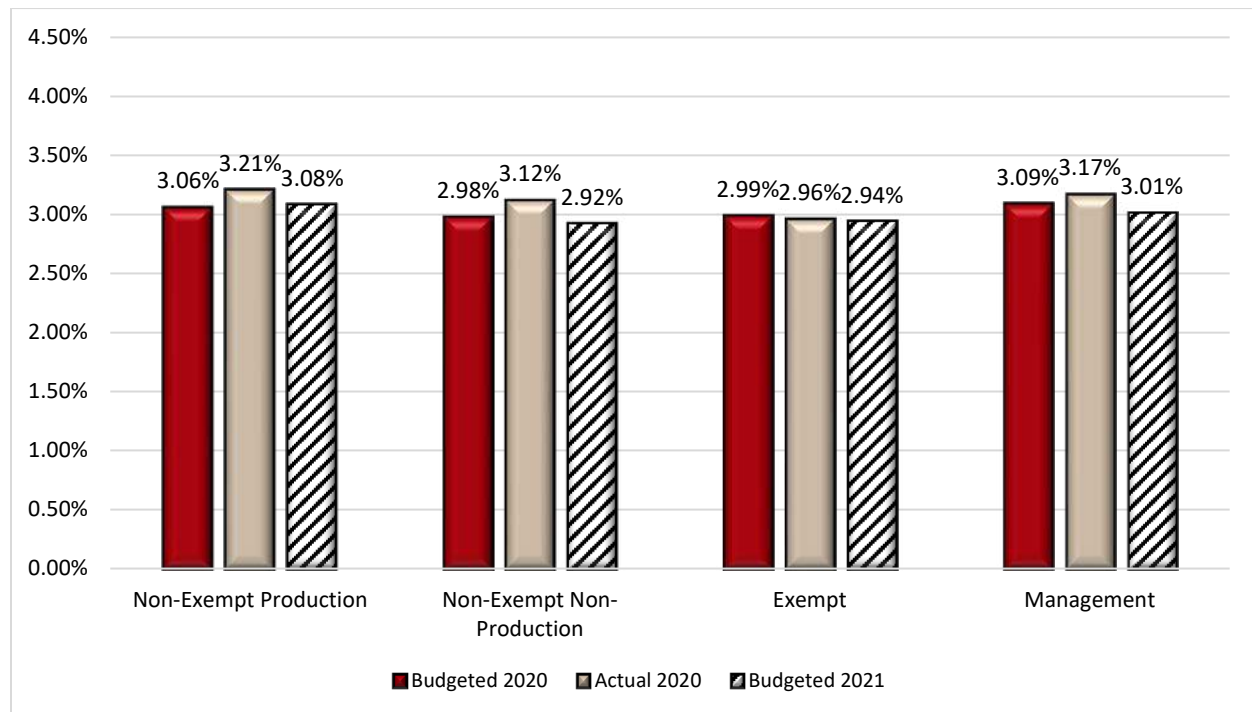
Compensation Adjustments

Average Percent Wage/Salary Adjustment

Participating companies reported actual 2020 and budgeted 2021 pay increases by employee group. The average budgeted 2020 pay increase data are from last year's survey results. In general, participants are planning for 2021 pay adjustments that fall between budgeted and actual 2020 adjustments. See details in the table and chart below.

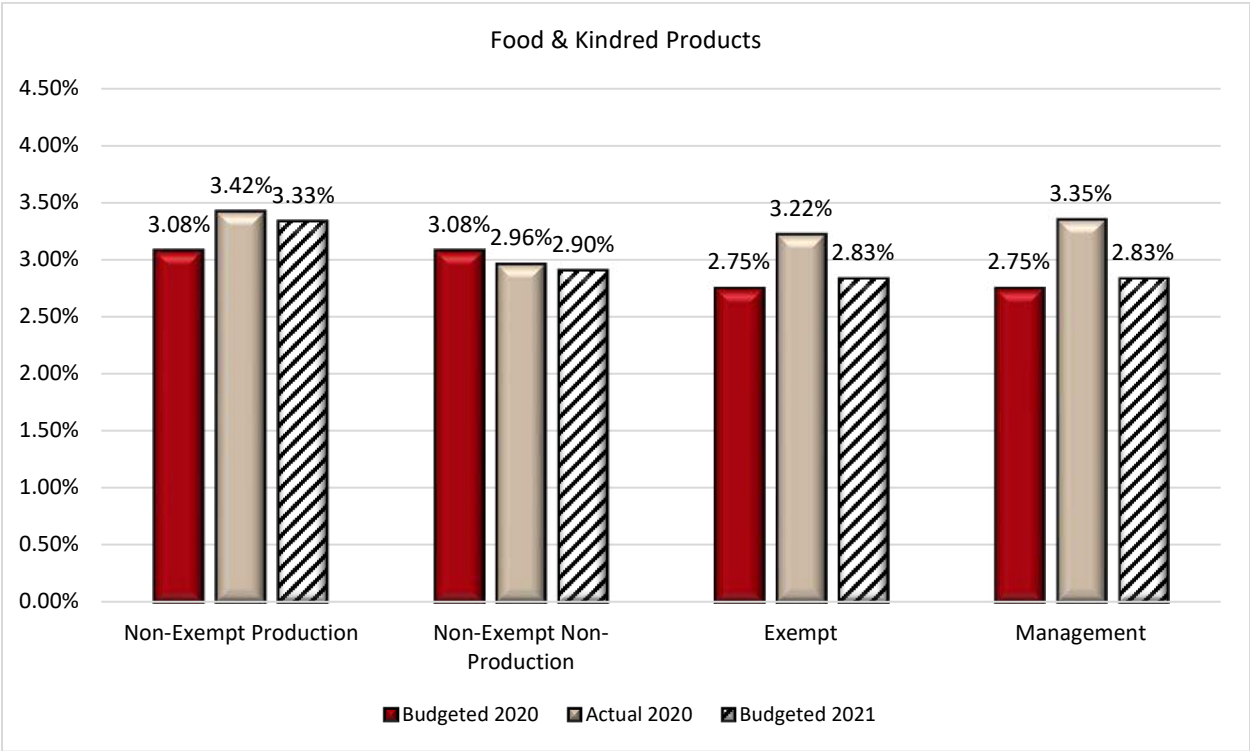
Note the results in the chart following the table exclude firms reporting no planned pay adjustments (zero percent). They also do not include participants planning adjustments of more than 10 percent.

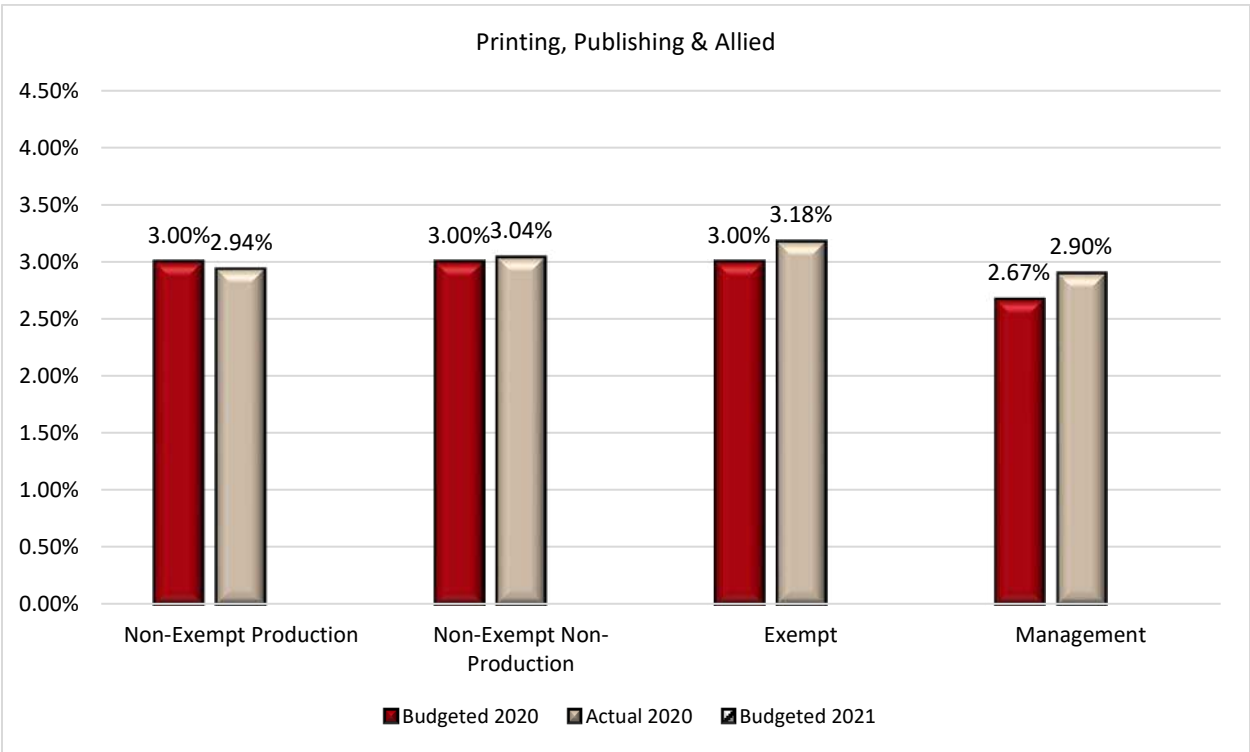
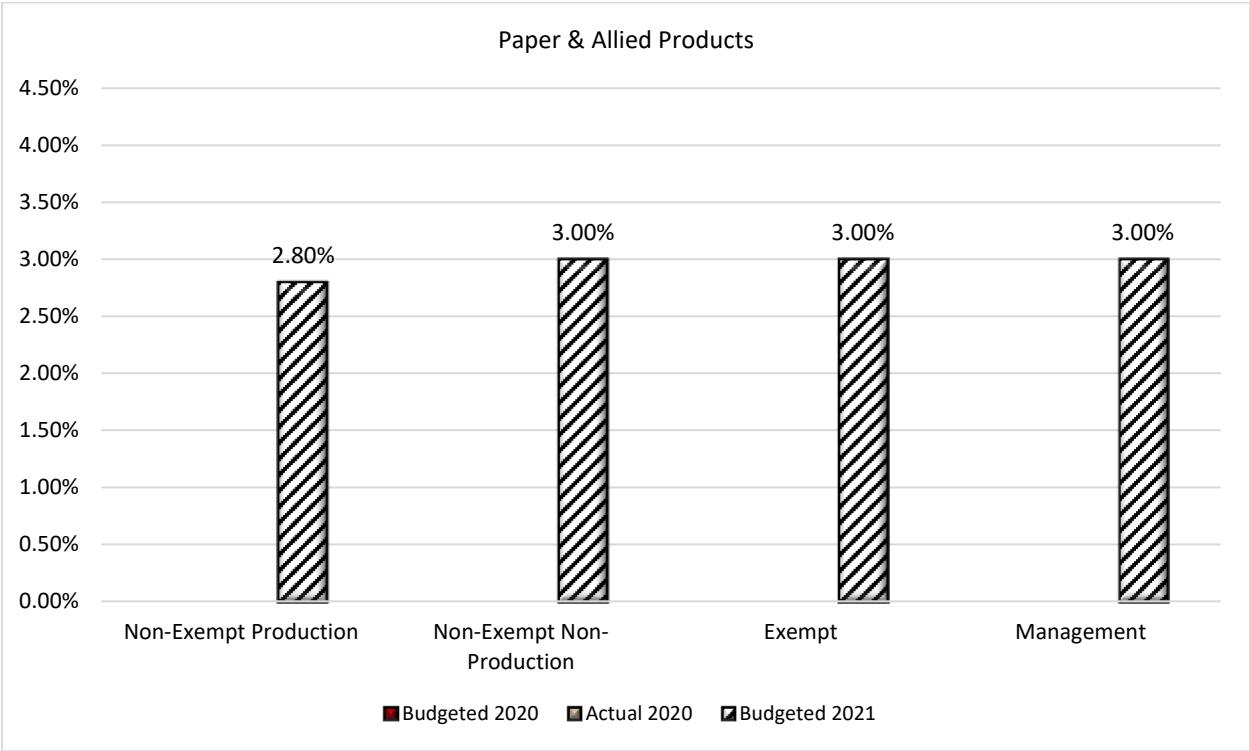
Employee Group	Pay Adjustments INCLUDING Zero (0%) Adjustments			Pay Adjustments EXCLUDING Zero (0%) Adjustments		
	# Firms Reporting	Average	Median	# Firms Reporting	Average	Median
NEx Production – Budgeted 2020	179	3.0%	3.0%	175	3.1%	3.0%
NEx Production – Actual 2020	194	2.5%	3.0%	153	3.2%	3.0%
NEx Production – Budgeted 2021	175	2.9%	3.0%	166	3.1%	3.0%
NEx Non-Production – Budgeted 2020	175	2.9%	3.0%	171	3.0%	3.0%
NEx Non-Production – Actual 2020	193	2.4%	3.0%	151	3.1%	3.0%
NEx Non-Production – Budgeted 2021	173	2.7%	3.0%	162	2.9%	3.0%
Exempt – Budgeted 2020	180	2.9%	3.0%	175	3.0%	3.0%
Exempt – Actual 2020	192	2.3%	3.0%	147	3.0%	3.0%
Exempt – Budgeted 2021	177	2.7%	3.0%	163	2.9%	3.0%
Management – Budgeted 2020	175	2.9%	3.0%	165	3.1%	3.0%
Management – Actual 2020	188	2.4%	3.0%	141	3.2%	3.0%
Management – Budgeted 2021	173	2.7%	3.0%	154	3.0%	3.0%

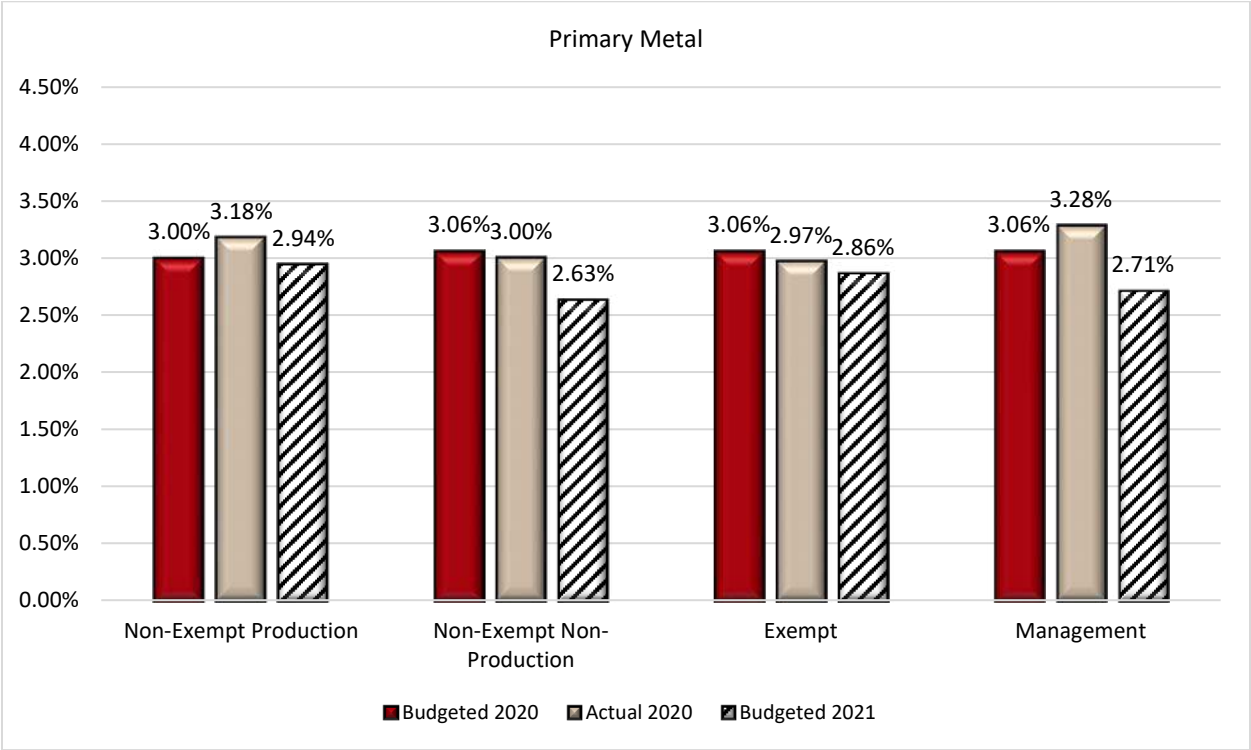
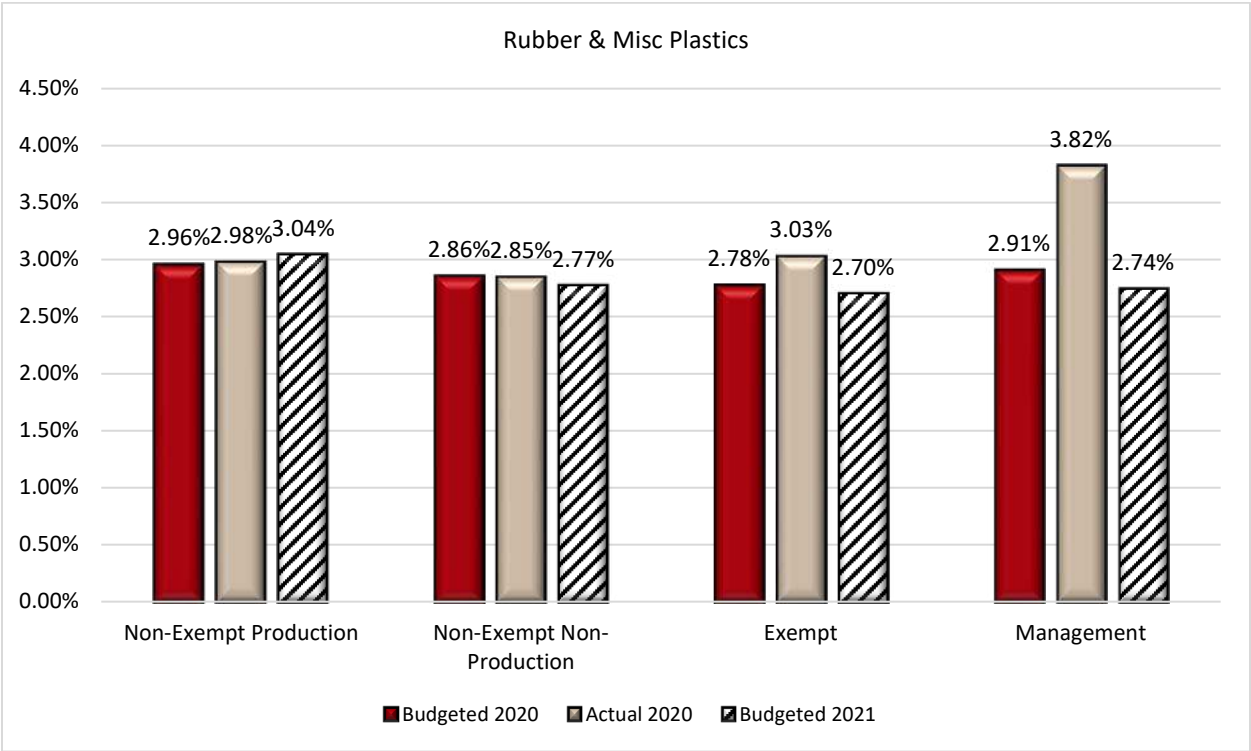


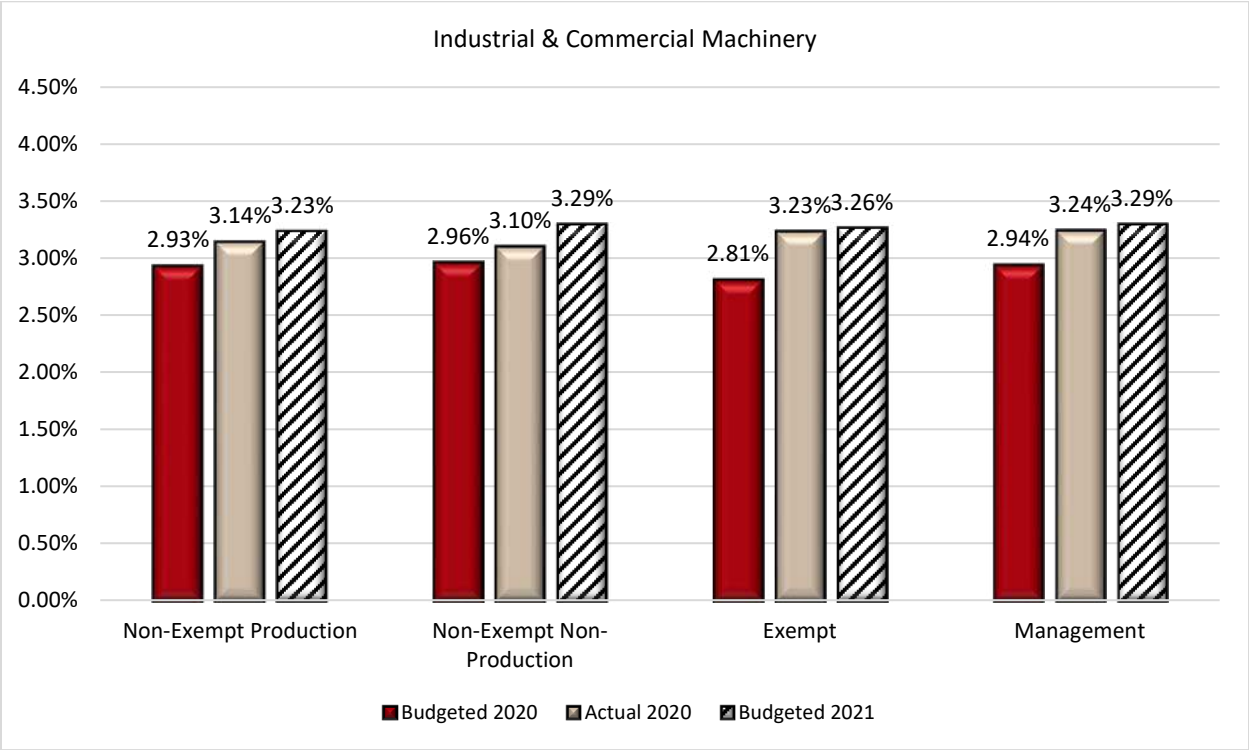
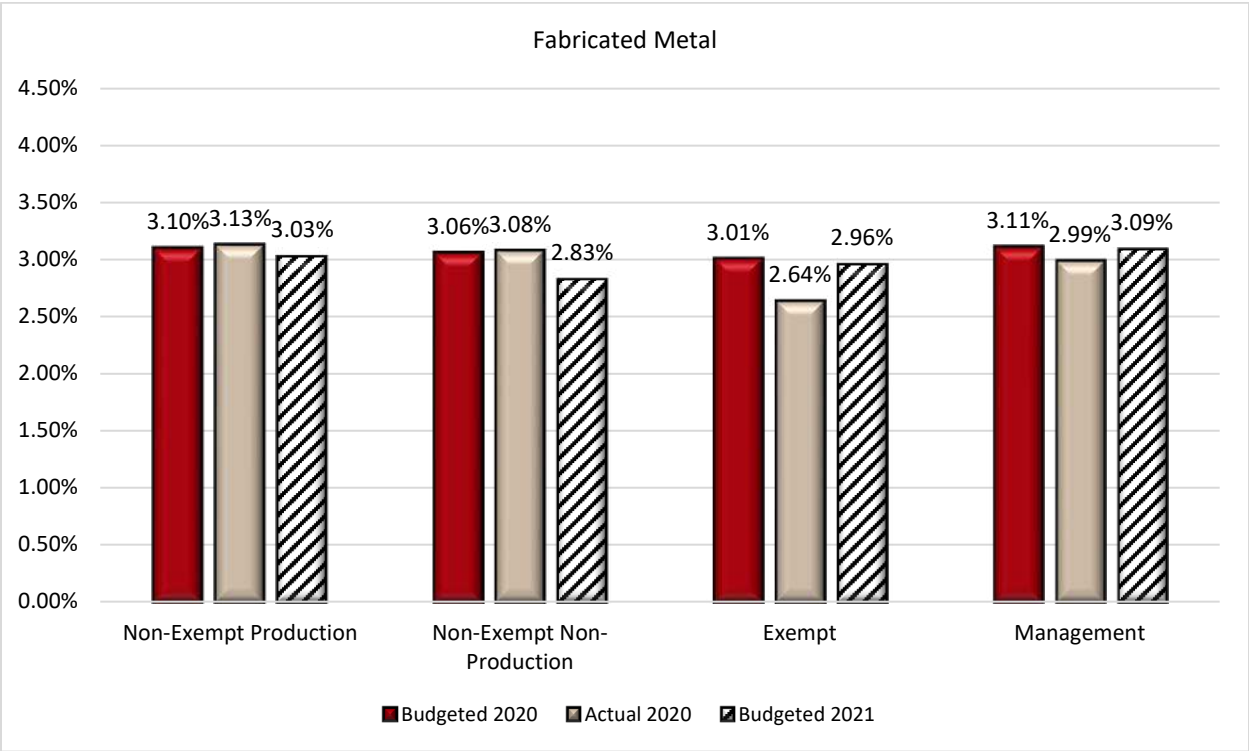
Average Percent Wage/Salary Adjustment by Industry

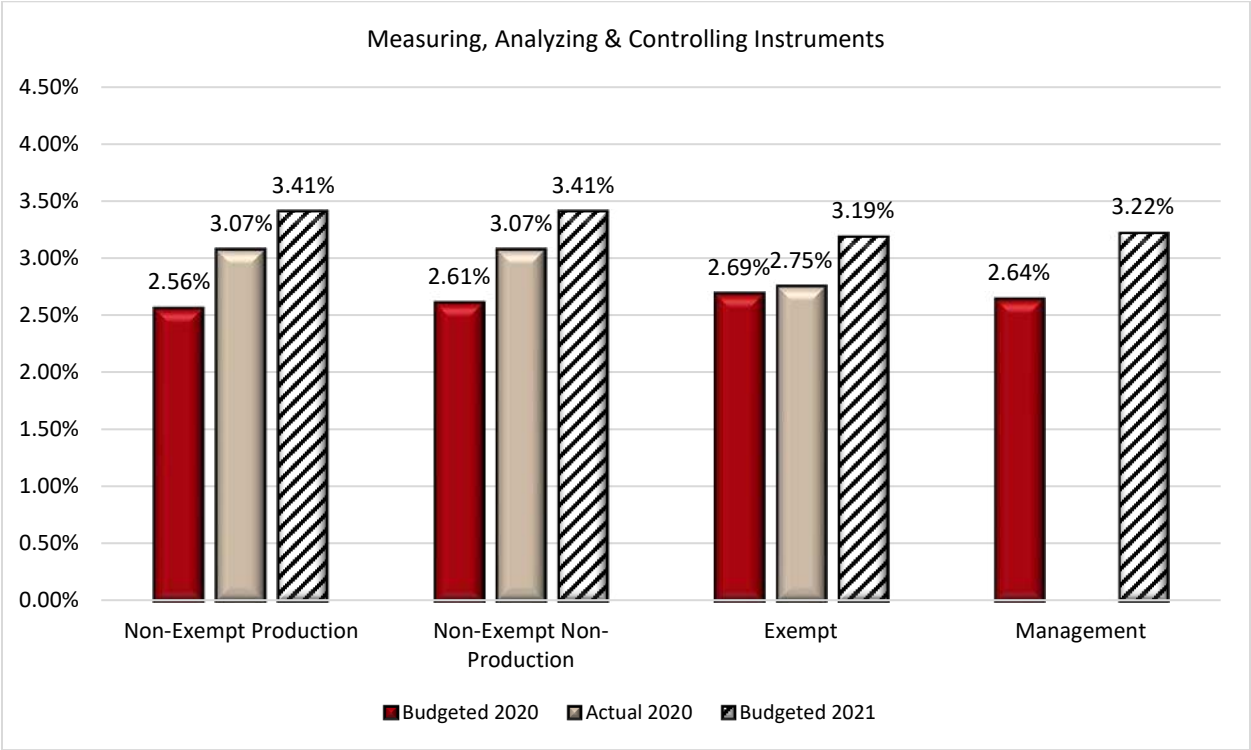
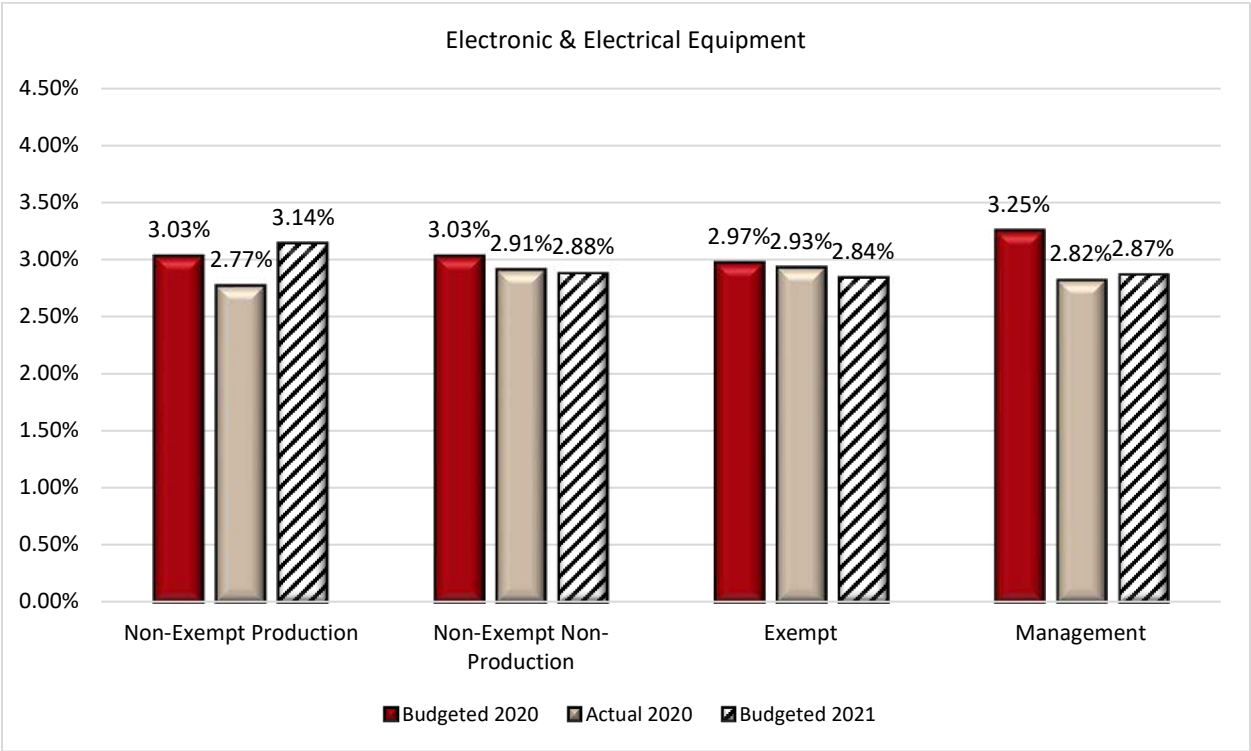
The following eleven charts indicate the average percent pay adjustments, including (as reportable) budgeted 2020, actual 2020 and budgeted 2021, by industry. Average budgeted 2020 pay increase data are from last year's results. Adjustments exclude zero percent reported adjustments. Results are not shown for industries where fewer than five participants reported information.

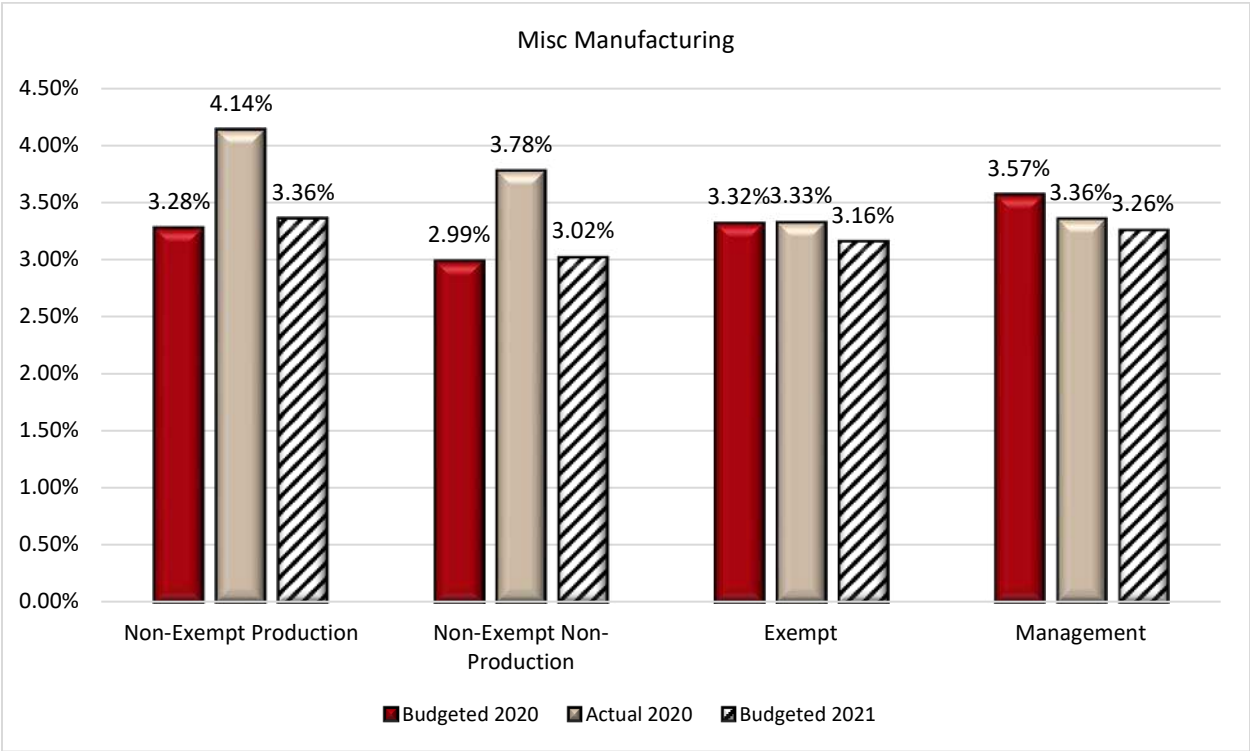












Workforce Trends

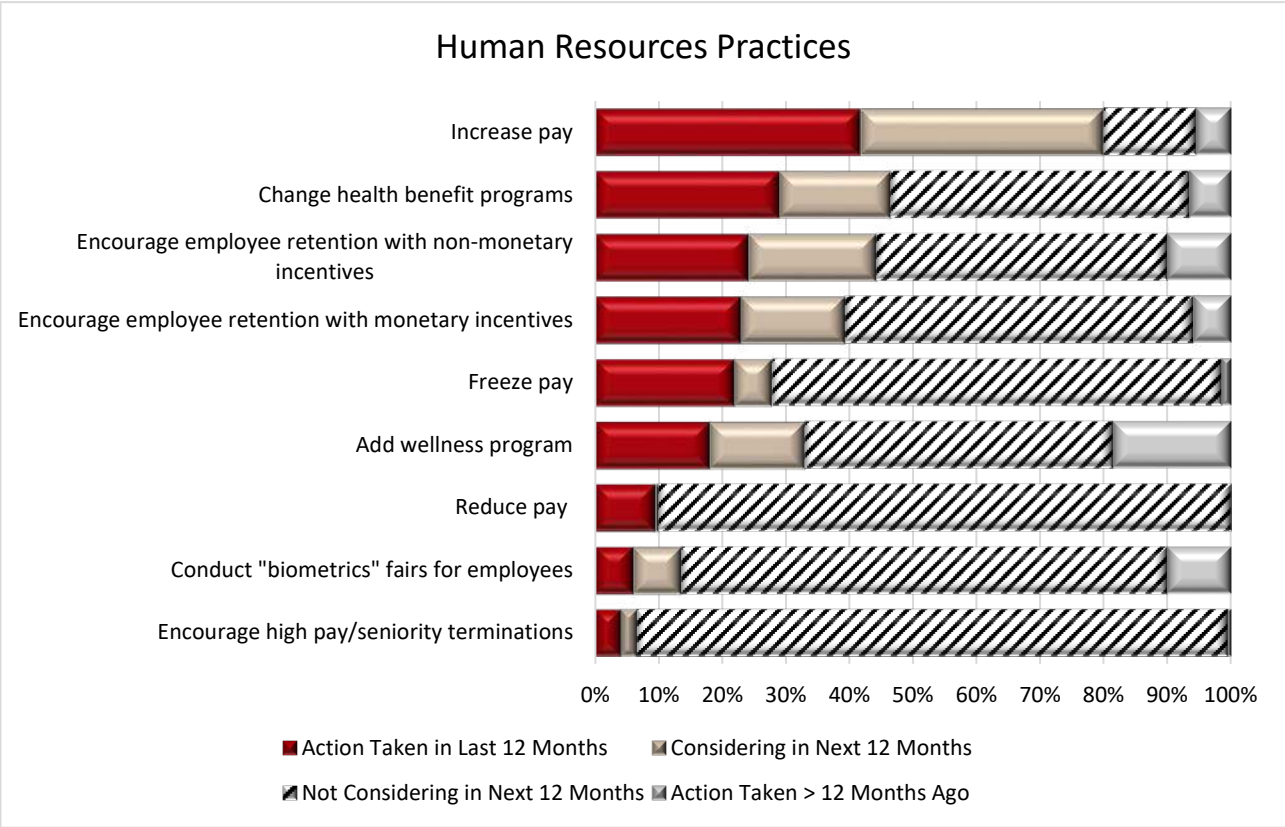
Management Practices

Survey participants reported general management trends put in place over the past 12 months, under consideration for putting in place in the next 12 months, not under consideration for implementation and actions taken 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 by the pandemic; yet, investments in people remains a top priority even after a uniquely challenging year for manufacturers.

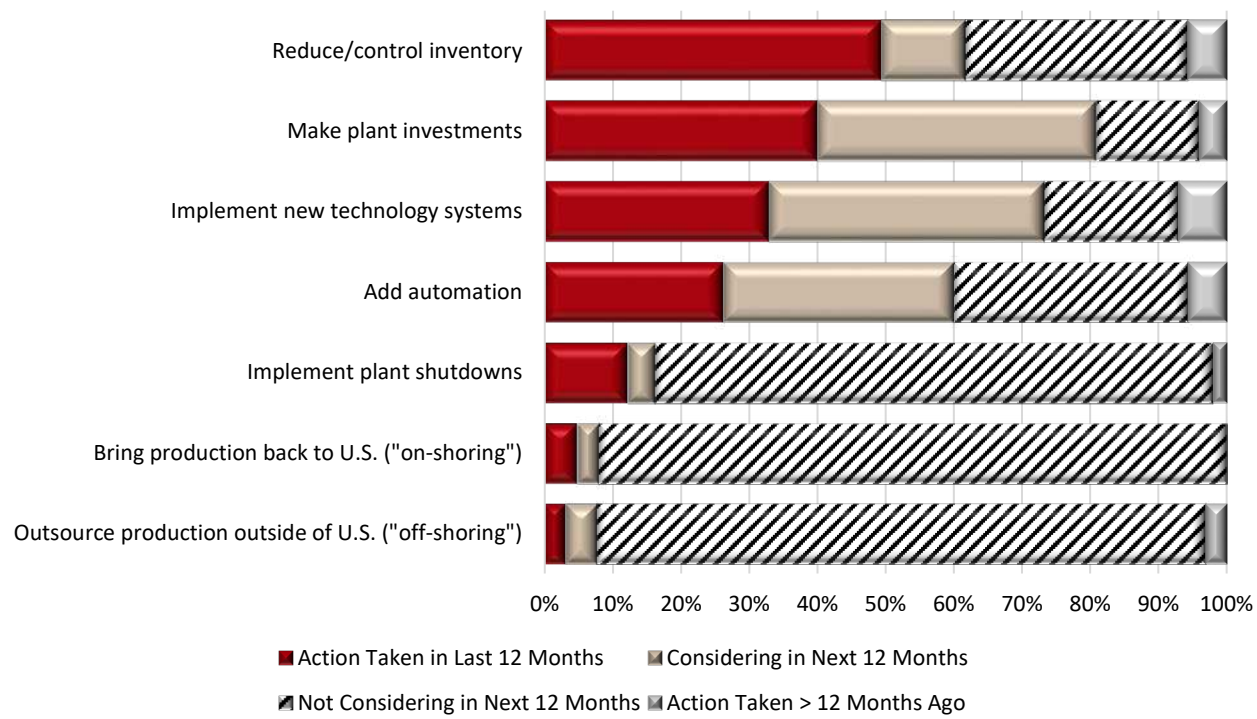
The list below highlights top actions taken in the 2020 or being considered for 2021 across all practice categories.

- **Human Resources Practices:** Increasing employee pay remains the top action taken in the last 12 months and being considered in the next 12, despite the economic impact of the pandemic. At the same time, we see recent actions to freeze and reduce pay are somewhat more prevalent than they were in the last survey cycle.
- **Operations-Related Practices:** Reducing/controlling inventory moved to the top action taken in 2020 from second place the last survey cycle, essentially switching places with making plant investments, which held first place in 2019.
- **Policy-Related Practices:** Not surprisingly, an increase in the use of teleconferencing, videoconferencing for meetings, allowing employees to work from home and limiting/reducing business travel are the top policy actions taken in 2020.

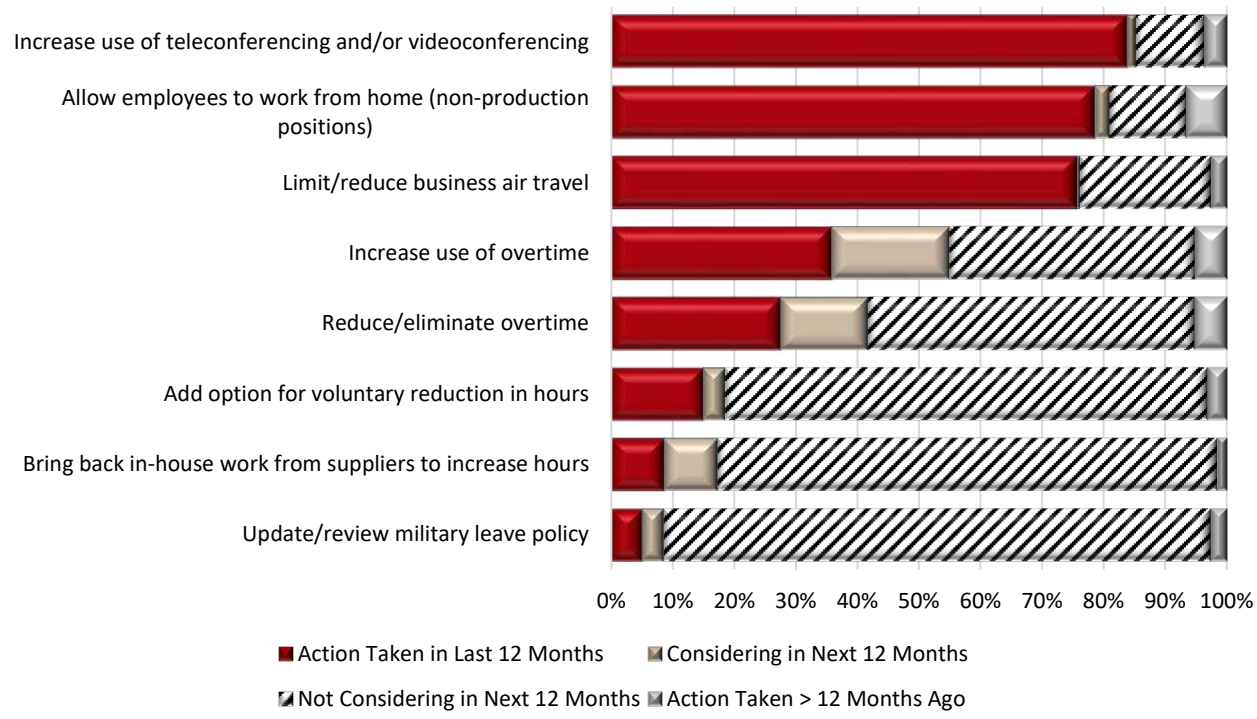
See the following charts for details.



Operations-Related Practices



Policy-Related Practices

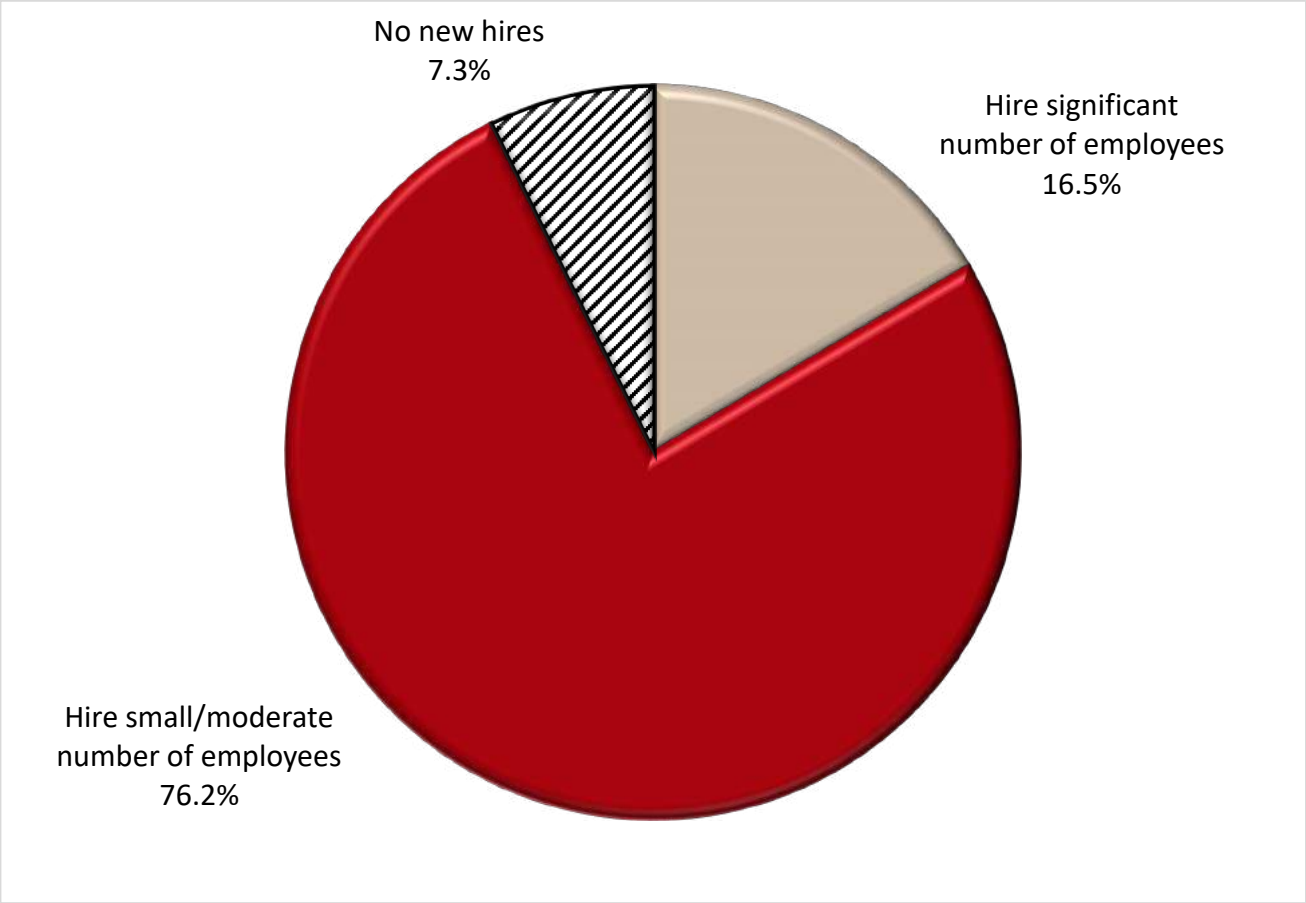


Workforce Practices

Hiring Plans in 2021

Nearly all participants (92.7%) report plans to hire in 2021, either a small/moderate number (76.2%) or a significant number (16.5%) of employees.

The chart below summarizes these hiring plans.

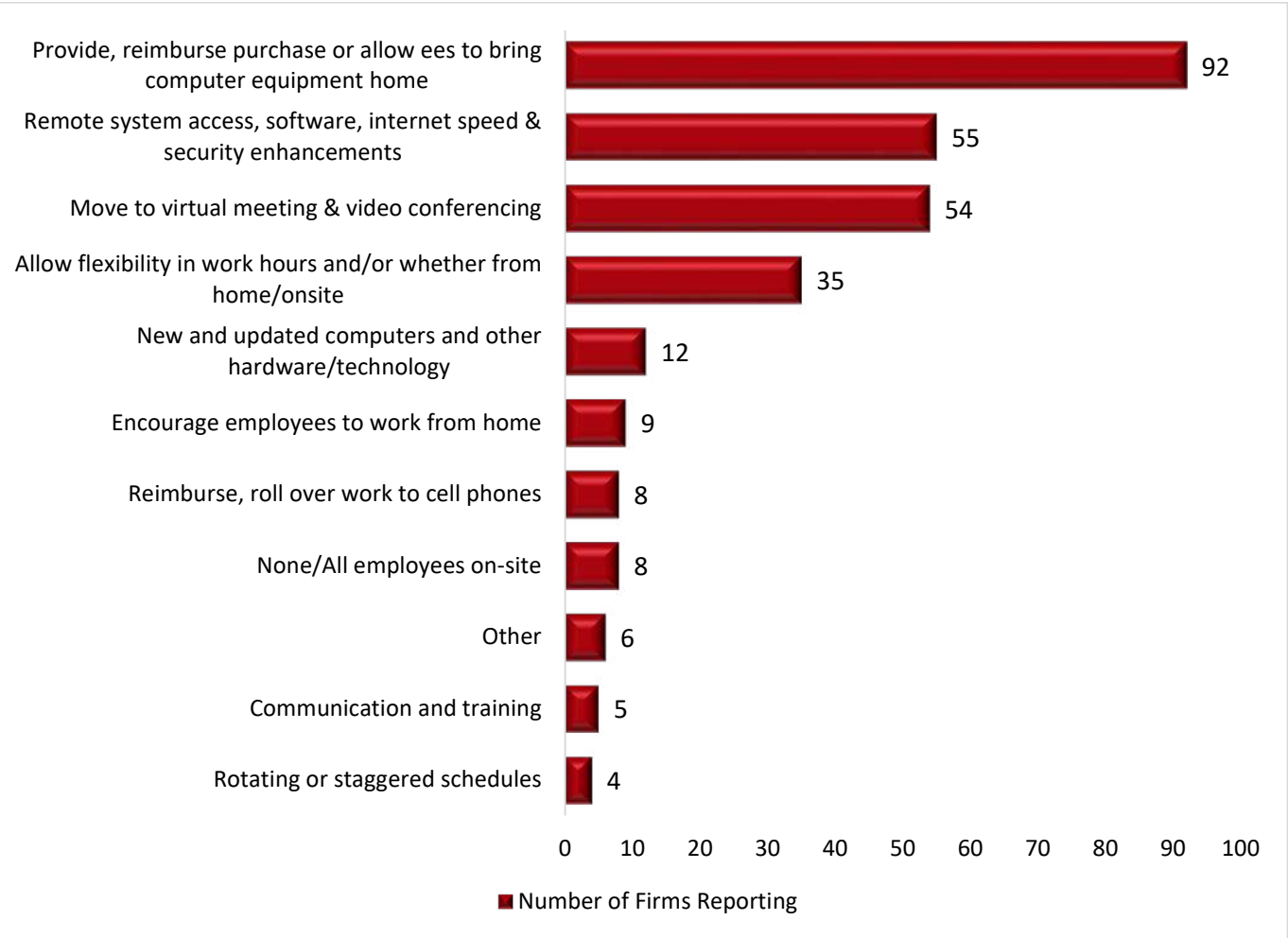


Top Investments and Adaptations for Remote Work

Participants reported up to three investments or adaptations that their company has made to allow more employees to work remotely.

The top priority reported – by a significant margin – was getting employees the computer equipment needed to allow them to work remotely, whether by purchasing new equipment, reimbursing for employee equipment purchases or simply allowing employees to bring home the equipment used at the office. Second and third on the list are steps taken to enable employees, now equipped with the necessary hardware, to work effectively – namely insuring internet access/speed/security and moving to virtual meeting and video conferencing platforms.

The chart below summarizes the reported plans and practices.



Top Steps to Encourage Collaboration Among Remote Workers

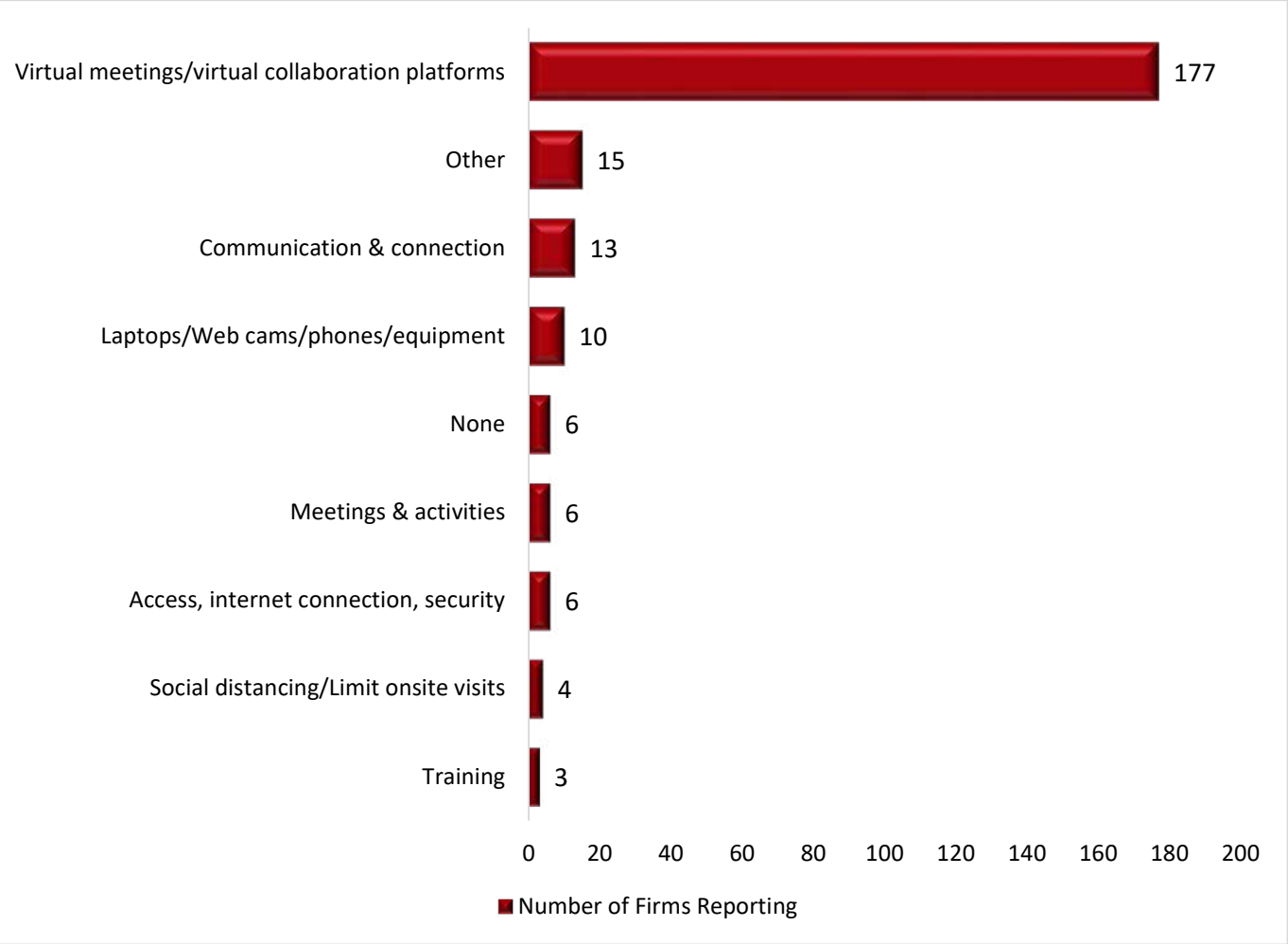
Participants reported up to three steps or actions that their company is taking to encourage collaboration among employees who are working remotely.

The top response, one cited by nearly every participant responding to this question, is the use of virtual meeting and video collaboration platforms. To gain a better understanding of how these companies are using these tools to encourage collaboration, we did an analysis of the comments included in their statements about the platforms. The list below provides us with a few insights from the 37 companies who elaborated on their use of virtual meeting/video collaboration platforms.

- Company-wide meetings and communication – 30%
- Social/non work-related events and activities – 27%
- Managers/supervisors doing regular check-ins with employees – 22%
- Regular team/department meetings – 22%

In addition to the comments listed above, 6 participants also noted that they had implemented a policy either encouraging or requiring cameras during video meetings.

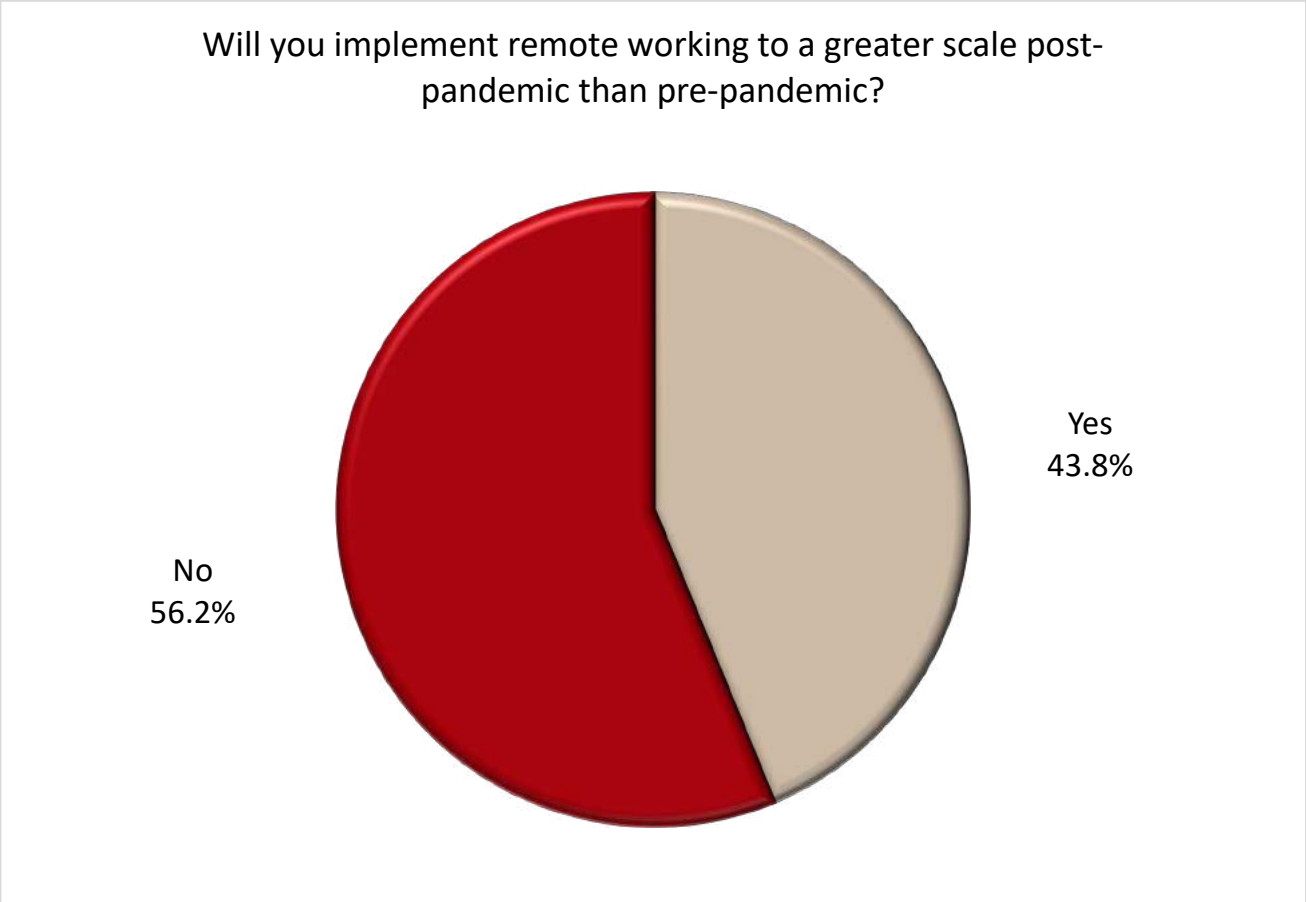
The chart below summarizes the reported plans and practices.



Post-Pandemic Remote Work

Participants were asked whether they will implement remote working to a greater scale post-pandemic than pre-pandemic.

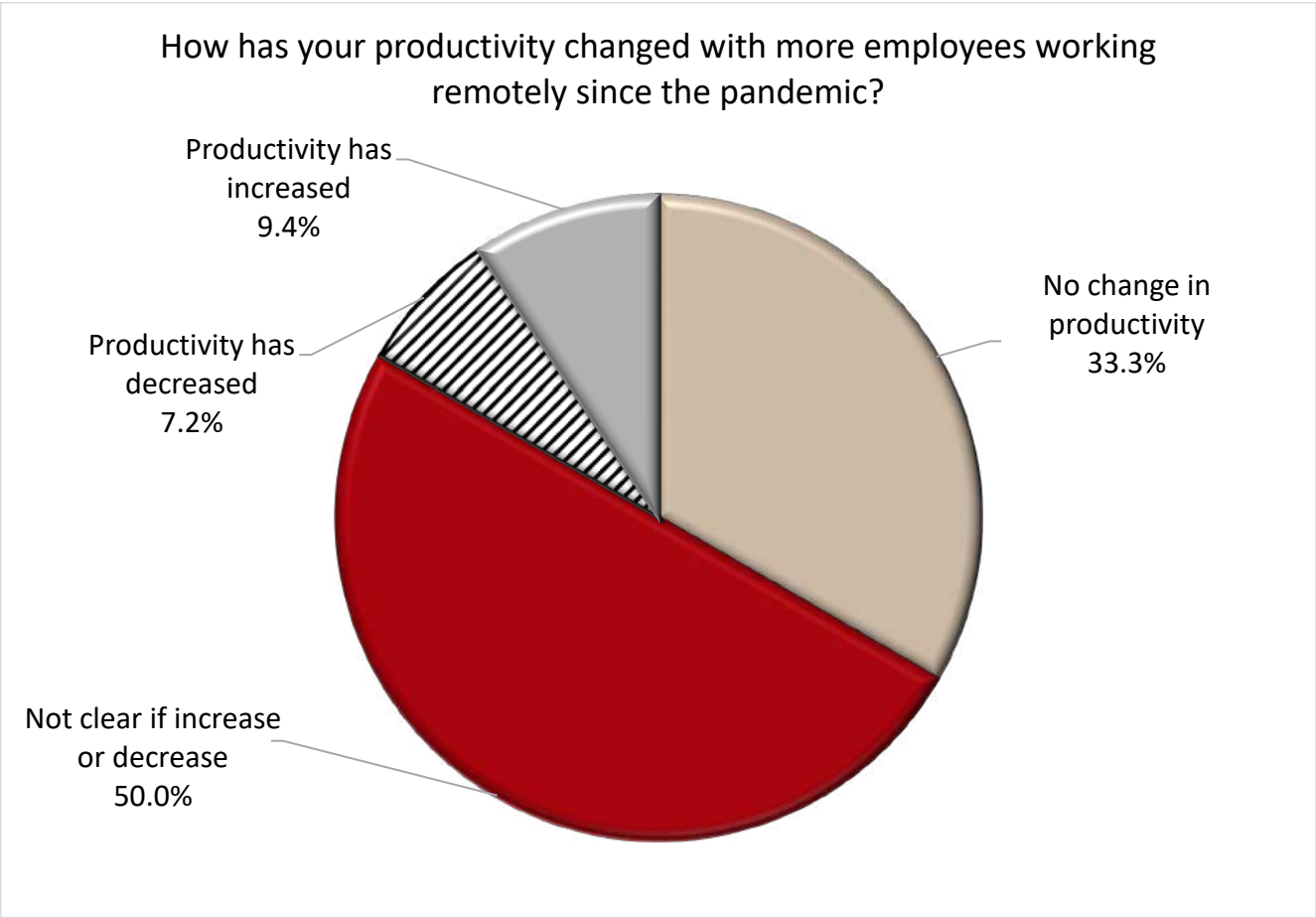
203 participants responded to this question. As the chart below shows, slightly less than half (43.8%) indicated that they will be implementing remote work more widely post-pandemic than they did pre-pandemic, while the slight majority (56.2%) anticipate returning to pre-pandemic levels.



Productivity

Participants were asked how their productivity has changed with more employees working remotely since the pandemic.

180 participants responded to this question, but their responses don't indicate a clear consensus one way or the other. As the chart below shows, the vast majority of respondents are either not clear whether productivity has increased/decreased or report that there as been no change in productivity. Those who did report a change one way or the other are nearly split as to whether productivity has increased or decreased.



Home Office Stipends

Participants were asked whether they award stipends to their employees to set up a home office.

179 participants responded to this question, and they are nearly unanimous (97.8%) in responding that this practice is not in place. As the data on page 14 notes, the more common practices for supporting employees in establishing a home office appear to be purchasing new equipment, reimbursing for employee equipment purchases that they make or simply allowing employees to bring home the equipment used at the office.

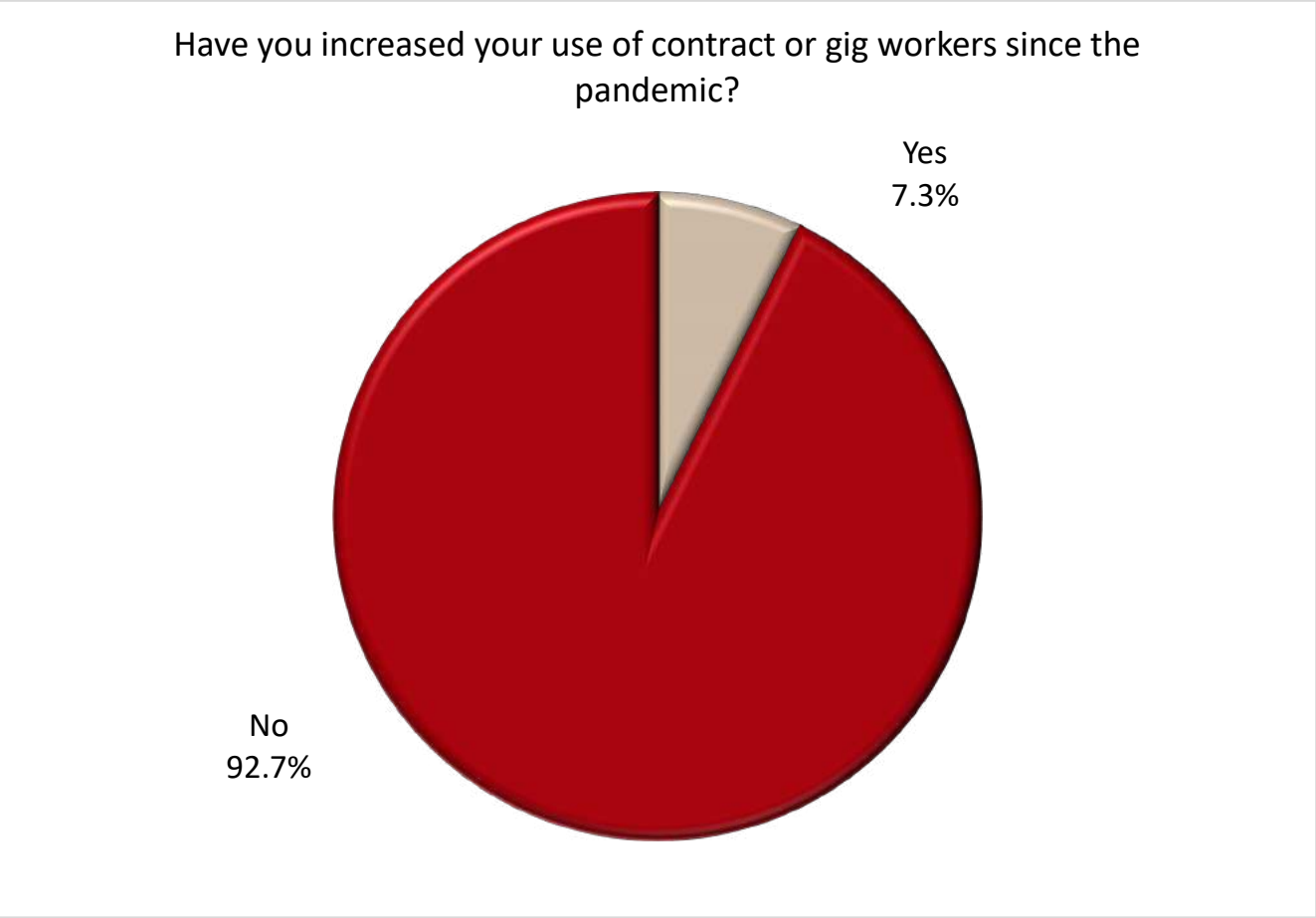
Benefits

Participants were asked whether employee benefits will differ by the amount of time an employee spends working remotely.

171 participants responded to this question, and they are nearly unanimous (99.4%) in responding that this practice is not in place or planned.

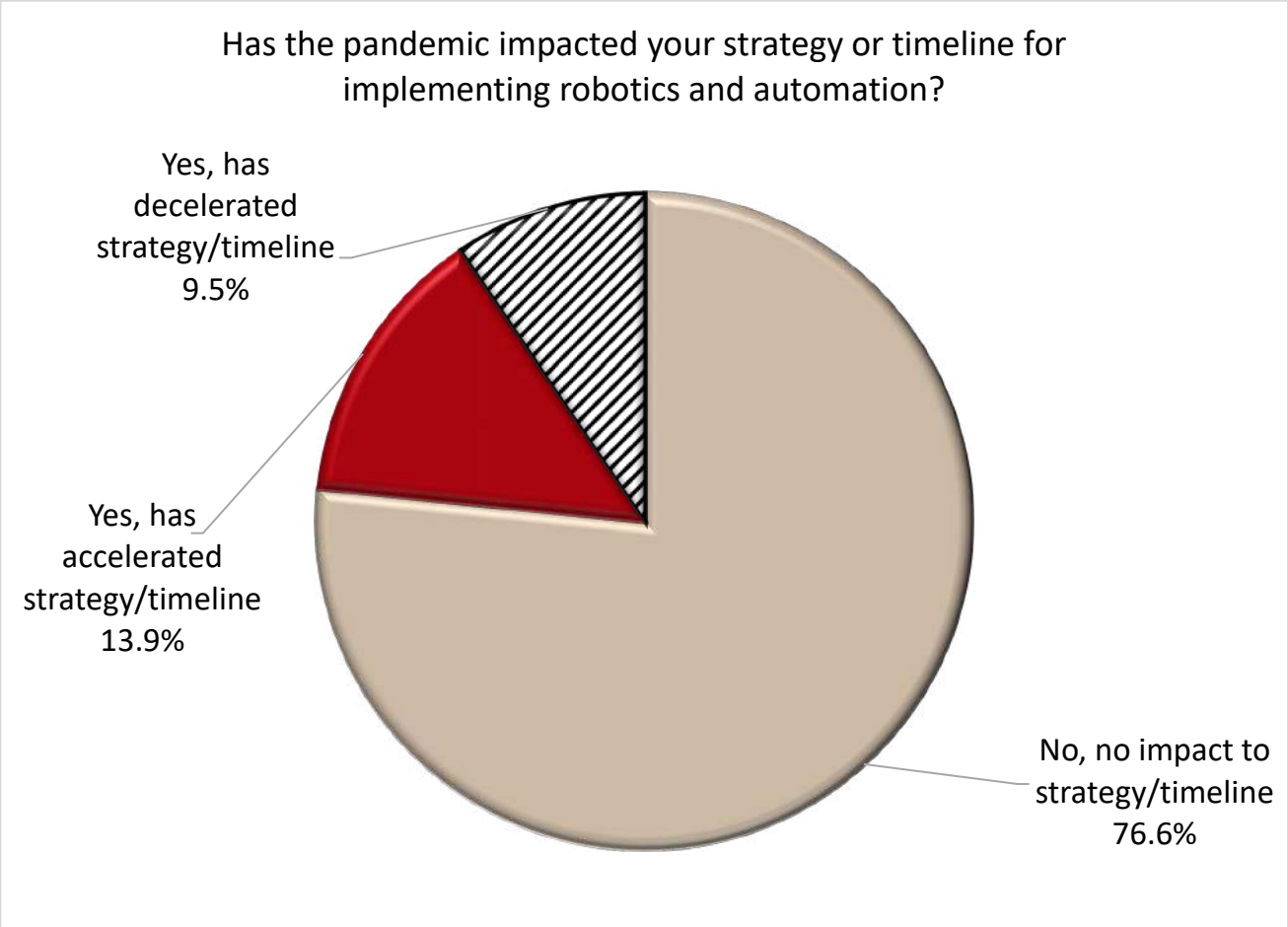
Use of Contract or Gig Workers

Participants were asked whether they have increased their use of contract or gig workers since the pandemic. 206 participants responded to this question. The chart below shows that while 15 companies (7.3%) note that they have increased their use of contract or gig workers since the pandemic began, a large majority of respondents (92.7%) report that they have not.



Pandemic Impact on Robotics and Automation

Participants were asked whether the pandemic has impacted their strategy or timeline for robotics and automation. 158 participants responded to this question. The chart below shows that the majority of respondents (76.6%) report that the pandemic has had no impact on their strategy or timeline for robotics and automation. Of those participants reporting that the pandemic has impacted their strategy or timeline, most (13.9% versus 9.5%) indicate that it has *accelerated* their strategy or timeline.



Survey Participants

Alphabetical Participant List

7-SIGMA, Inc.	Liberty Diversified International
Aagard	LimPro Metal Fabrication
AbelConn Electronics	Lind Electronic Design Co. Inc.
Advanced Molding Technologies	LISI MEDICAL Remmele
Agility Engineering & Manufacturing Solutions	Loram Maintenance of Way
Air Quality Engineering	Louis Industries, Inc.
Ajax Metal Forming Solutions, LLC	Lube-Tech Services, LLC
All Flex Flexible Circuits, LLC	M & L Industries, Inc.
American Flexible Products, Inc.	M & N Structures, Inc.
Analog Technologies Corp	Malco Products SBC
Andersen Corporation	Manufacturing Partners, Inc.
Anderson Dahlen, Inc.	Massman Automation Designs, LLC
Andrew Tool & Machining Company	Mate Precision Technologies
Aqseptence Group	Mathias Die Company
ARKRAY USA	Meribel Enterprises, LLC DBA Atlas Manufacturing
Arrowhead Engineered Products	Micro Control Company
Artistic Finishes, Inc.	Midland Technologies
Atrix	Midwest Rubber Service & Supply
Aveda Corporation	Mikros Engineering, Inc.
AVEKA Group, Inc.	Miller Manufacturing
AWT Labels & Packaging	Minco Products Inc.
Banner Engineering	Minnesota Grinding, Inc.
Bermo	Modern Molding Inc.
Biomerics	MRG Tool and Die
Birchwood Laboratories LLC	MTS Systems Corporation
Bondhus Corporation	Nahan Printing, Inc.
Bosch Auto Service Solutions	Navy Island, Inc.
Branches LLC	New Team LLC
BTD	Northern Tool + Equipment
C4 Welding, Inc.	Northland Aluminum Products
Carley Foundry, Inc.	Northwire, Inc.
Chandler Exhibits, Inc.	Nystrom
Chandler Industries, Inc.	Olsen Tool & Plastics, Inc.
Clarus Medical, Laser Peripherals, and Urologix, LLC	Park Industries
Communications Systems Inc.	Phillips and Temro Industries
Compass Electronics Solutions, LLC DBA Logic PD, LLC	PHS West, Inc.
Conagra Brands	Pioneer Metal Finishing
Conagra Brands - Mankato	Plymouth Industries, Inc.
Continental Engineering & Manufacturing	PNE Inc. DBA IRD Glass DBA IRD Ceramics
Continental Machines, Inc.	Podiumwear Custom Sports Apparel
Crest Electronics, Inc.	Polaris Industries
Crystal Distribution Inc.	Precision Associates, Inc.
Custom Products of Litchfield, Inc.	Precision Coatings Inc.
Data Panel Acquisition Corporation	Precision Gasket Company DBA PGC
DCI, Inc.	Precision Tool Technologies, Inc.
DecoPac, Inc.	Premium Waters, Inc.
Designer Products LLC DBA Cambek	Priority Envelope, Inc.
Distinctive Floral Company DBA Len Busch Roses	Process Displays LLC
Diversified Plastics, Inc.	Processed Metals Innovators
Donaldson Company, Inc. - Baldwin	Product Development Solutions, Inc.
Donnelly Custom Manufacturing	Production Engineering Corporation
DriSteem	Protolabs

Dynamic Group	Quadion LLC
Dynamic Sealing Technologies, Inc.	QualiTech, Inc.
E.A. Sween Company	Quanex Building Products
Eaton Corporation	Rapid Packaging, Inc.
ECO Finishing Co.	Rational Energies
Electronic Systems Inc.	RC Smith Company
Elemet Group	Reviva Inc.
Ellicott Dredge Technologies	Rice Lake Weighing Systems
EMERGE Enterprises	Rise Baking Company
Emerson Control Products, Inc.	RITALKA, Inc.
Engage Technologies Corp	RiteWay Conveyors, Inc.
Engineered Products Company	Rosemount, Inc.
FAST Global Solutions, Inc.	RSG - Nor-Lake, Inc.
FasTest Inc.	Senneca Holdings
Federal Package Network, Inc.	Sharrow Lifting Products
Flame Metals Processing Corporation	Shippers Supply, Inc.
FlexMation Inc.	Showdown Displays
Foldcraft Companies	Smead Manufacturing
Frandsen Corporation	Sportech, LLC
Gemini, Inc.	Standard Iron & Wire Works, Inc.
General Label, Inc.	Star Exhibits and Environments Inc.
Global Finishing Solutions, LLC	Stylmark Inc.
Gopher Resource	Suez Water Technologies and Solutions
Graco Inc.	T.O. Plastics
Granger Machine, Inc.	Takeda Pharmaceutical Company Limited
Greenheck Group	Tennant Company
Horton, Inc.	Tescom Corporation
Huot Manufacturing	The Imagine Group
Hydra-Flex Inc.	The Outdoor Greatroom Company LLC
ILC Enercon Corp	Thermo-Tech Windows LLC
Incertec	Thymes, LLC DBA Curio Brands
Industrial Door Company, Inc. DBA IDC Spring	Tjernlund Products
Industrial Fabrication Services, Inc.	TLC Electronics, Inc.
Industrial Fabrics DBA Clear Edge Technical Fabrics	TPI Custom Solutions
Industrial Louvers, Inc.	Trelleborg Sealing Solutions Delano, LLC
Industrial Netting Inc.	TSI Incorporated
In'Tech Industries Inc.	TT Electronics
Interscapes	Turfco Manufacturing Inc.
IPS Cranes, Inc.	Twin City Die Castings Company
ISC Companies	Twin City EDM & MFG Inc.
J&B Group	Viking Engineering
JEM Technical	VitalDyne Medical, Inc.
Jet Edge Acquisition, LLC	Wagner Spray Tech
Jonaco Machine	Water Gremlin
Jones Metal Inc.	Waymouth Farms, Inc. DBA Good Sense Foods
K&G Manufacturing Co.	Webb Business Promotions, Inc.
Kasco Marine, Inc.	Western Spring Manufacturing
Kendall Howard LLC	Wilson Tool
Kurt Manufacturing Company	Wilson Wolf Manufacturing Corporation
La Machine Shop, Inc.	Winco Inc.
Lake Air Products	Wipaire
Lakeland Tool & Engineering	Zero-Max
Lexington Manufacturing LLC	

Total Participant Count: 209

Participants by Industry Type

Food & Kindred Products

Conagra Brands - Mankato	QualiTech, Inc.
E.A. Sween Company	Rise Baking Company
J&B Group	Waymouth Farms, Inc. DBA Good Sense Foods
Premium Waters, Inc.	

Textile Mill Products

Industrial Fabrics DBA Clear Edge Technical Fabrics

Apparel & Other Fabric Products

Podiumwear Custom Sports Apparel	TPI Custom Solutions
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Lumber & Wood except Furniture

Artistic Finishes, Inc.	Lexington Manufacturing LLC
Designer Products LLC DBA Cambek	Navy Island, Inc.
Interscapes	Quanex Building Products

Furniture & Fixtures

Chandler Exhibits, Inc.	RC Smith Company
Foldcraft Companies	

Paper & Allied Products

Conagra Brands	Shippers Supply, Inc.
Liberty Diversified International	Smead Manufacturing
Priority Envelope, Inc.	

Printing, Publishing & Allied

AWT Labels & Packaging	Star Exhibits and Environments Inc.
Nahan Printing, Inc.	The Imagine Group
Process Displays LLC	Webb Business Promotions, Inc.
Showdown Displays	

Chemicals & Allied Products

Aveda Corporation	Precision Coatings Inc.
AVEKA Group, Inc.	Takeda Pharmaceutical Company Limited

Petroleum Refining & Related

Lube-Tech Services, LLC	Rational Energies
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Rubber & Plastic Products

7-SIGMA, Inc.	Mikros Engineering, Inc.
Advanced Molding Technologies	Modern Molding Inc.
American Flexible Products, Inc.	New Team LLC
Diversified Plastics, Inc.	Olsen Tool & Plastics, Inc.
Donnelly Custom Manufacturing	Precision Associates, Inc.
Dynamic Group	Precision Gasket Company DBA PGC
Frandsen Corporation	Quadion LLC
Industrial Netting Inc.	Sportech, LLC
In'Tech Industries Inc.	T.O. Plastics
Lakeland Tool & Engineering	Thermo-Tech Windows LLC
Midwest Rubber Service & Supply	

Primary Metal Industries

Aqseptence Group
Bermo
Carley Foundry, Inc.
DCI, Inc.
Flame Metals Processing Corporation

Gopher Resource
Incertec
Jones Metal Inc.
Minnesota Grinding, Inc.
Processed Metals Innovators

Fabricated Metal Products

Ajax Metal Forming Solutions, LLC
Anderson Dahlen, Inc.
Andrew Tool & Machining Company
Bondhus Corporation
BTD
C4 Welding, Inc.
Chandler Industries, Inc.
Continental Engineering & Manufacturing
Crystal Distribution Inc.
Custom Products of Litchfield, Inc.
Dynamic Sealing Technologies, Inc.
Eaton Corporation
Elemet Group
EMERGE Enterprises
FasTest Inc.
FlexMation Inc.
Gemini, Inc.
Huot Manufacturing
Industrial Door Company, Inc. DBA IDC Spring
Industrial Fabrication Services, Inc.
Industrial Louvers, Inc.
Jonaco Machine
K&G Manufacturing Co.
Kendall Howard LLC
La Machine Shop, Inc.
Lake Air Products
LimPro Metal Fabrication

Louis Industries, Inc.
M & L Industries, Inc.
M & N Structures, Inc.
Malco Products SBC
Manufacturing Partners, Inc.
Mate Precision Technologies
Mathias Die Company
Meribel Enterprises, LLC DBA Atlas Manufacturing
MRG Tool and Die
Northland Aluminum Products
Nystrom
Pioneer Metal Finishing
Product Development Solutions, Inc.
Production Engineering Corporation
Protolabs
RSG - Nor-Lake, Inc.
Senneca Holdings
Standard Iron & Wire Works, Inc.
Stylmark Inc.
Tescom Corporation
Tjernlund Products
Twin City Die Castings Company
Water Gremlin
Western Spring Manufacturing
Wilson Tool
Wipaire

Industrial Machinery & Computer Equipment

Aagard
Air Quality Engineering
Bosch Auto Service Solutions
Continental Machines, Inc.
Donaldson Company, Inc. - Baldwin
DriSteem
Ellicott Dredge Technologies
Engage Technologies Corp
FAST Global Solutions, Inc.
Global Finishing Solutions, LLC
Graco Inc.
Granger Machine, Inc.
Greenheck Group

IPS Cranes, Inc.
JEM Technical
Jet Edge Acquisition, LLC
Massman Automation Designs, LLC
Midland Technologies
Park Industries
PHS West, Inc.
Rice Lake Weighing Systems
RITALKA, Inc.
RiteWay Conveyors, Inc.
Tennant Company
Turfco Manufacturing Inc.
Viking Engineering

Electronic & Other Electrical

AbelConn Electronics
All Flex Flexible Circuits, LLC
Analog Technologies Corp
Atrix
Banner Engineering
Communications Systems Inc.
Compass Electronics Solutions, LLC DBA Logic PD, LLC
Crest Electronics, Inc.
Data Panel Acquisition Corporation
Electronic Systems Inc.

Emerson Control Products, Inc.
Engineered Products Company
ILC Enercon Corp
Lind Electronic Design Co. Inc.
Northwire, Inc.
Rosemount, Inc.
TLC Electronics, Inc.
TSI Incorporated
Winco Inc.

Transportation Equipment

Loram Maintenance of Way
Phillips and Temro Industries

Polaris Industries
Reviva Inc.

Measuring, Analyzing & Controlling Instruments

ARKRAY USA
Biomerics
Clarus Medical, Laser Peripherals, and Urologix, LLC
LISI MEDICAL Remmele
Micro Control Company

MTS Systems Corporation
Precision Tool Technologies, Inc.
Trelleborg Sealing Solutions Delano, LLC
TT Electronics
VitalDyne Medical, Inc.

Misc Manufacturing Industries

Agility Engineering & Manufacturing Solutions
Andersen Corporation
Arrowhead Engineered Products
Birchwood Laboratories LLC
Branches LLC
DecoPac, Inc.
Distinctive Floral Company DBA Len Busch Roses
ECO Finishing Co.
Federal Package Network, Inc.
General Label, Inc.
Horton, Inc.
Hydra-Flex Inc.
ISC Companies
Kasco Marine, Inc.
Kurt Manufacturing Company

Miller Manufacturing
Minco Products Inc.
Northern Tool + Equipment
Plymouth Industries, Inc.
PNE Inc. DBA IRD Glass DBA IRD Ceramics
Rapid Packaging, Inc.
Sharrow Lifting Products
Suez Water Technologies and Solutions
The Outdoor Greatroom Company LLC
Thymes, LLC DBA Curio Brands
Twin City EDM & MFG Inc.
Wagner Spray Tech
Wilson Wolf Manufacturing Corporation
Zero-Max

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

- 7-SIGMA, Inc.

Agility Engineering & Manufacturing Solutions

Air Quality Engineering

American Flexible Products, Inc.

Andrew Tool & Machining Company

Atrix

Continental Engineering & Manufacturing

Continental Machines, Inc.

Data Panel Acquisition Corporation

Designer Products LLC DBA Cambek

EMERGE Enterprises

FlexMation Inc.

Frandsen Corporation

General Label, Inc.

Granger Machine, Inc.

Huot Manufacturing

ILC Enercon Corp

Industrial Fabrics DBA Clear Edge Technical Fabrics

Industrial Netting Inc.

Interscapes

IPS Cranes, Inc.

Jet Edge Acquisition, LLC

Kendall Howard LLC
- La Machine Shop, Inc.

LimPro Metal Fabrication

M & L Industries, Inc.

M & N Structures, Inc.

Midland Technologies

Minnesota Grinding, Inc.

Olsen Tool & Plastics, Inc.

PHS West, Inc.

Podiumwear Custom Sports Apparel

Precision Coatings Inc.

Precision Tool Technologies, Inc.

Product Development Solutions, Inc.

Rapid Packaging, Inc.

Rational Energies

RC Smith Company

RiteWay Conveyors, Inc.

Sharrow Lifting Products

Star Exhibits and Environments Inc.

Tjernlund Products

TPI Custom Solutions

Western Spring Manufacturing

Wilson Wolf Manufacturing Corporation

Group 2: 50 to 99 Total Employees

- Ajax Metal Forming Solutions, LLC

Analog Technologies Corp

Artistic Finishes, Inc.

AVEKA Group, Inc.

Branches LLC

C4 Welding, Inc.

Clarus Medical, Laser Peripherals, and Urologix, LLC

Crest Electronics, Inc.

Crystal Distribution Inc.

Custom Products of Litchfield, Inc.

Diversified Plastics, Inc.

Dynamic Sealing Technologies, Inc.

Ellicott Dredge Technologies

Engineered Products Company

FasTest Inc.

Federal Package Network, Inc.

Flame Metals Processing Corporation

Hydra-Flex Inc.

Industrial Door Company, Inc. DBA IDC Spring

Industrial Fabrication Services, Inc.

Industrial Louvers, Inc.

ISC Companies

JEM Technical

Jones Metal Inc.

K&G Manufacturing Co.
- Kasco Marine, Inc.

Lind Electronic Design Co. Inc.

Louis Industries, Inc.

Mathias Die Company

Midwest Rubber Service & Supply

Modern Molding Inc.

MRG Tool and Die

Pioneer Metal Finishing

Plymouth Industries, Inc.

PNE Inc. DBA IRD Glass DBA IRD Ceramics

Precision Gasket Company DBA PGC

Priority Envelope, Inc.

Production Engineering Corporation

Quanex Building Products

Shippers Supply, Inc.

The Outdoor Greatroom Company LLC

TLC Electronics, Inc.

TT Electronics

Turfco Manufacturing Inc.

Twin City EDM & MFG Inc.

Viking Engineering

VitalDyne Medical, Inc.

Waymouth Farms, Inc. DBA Good Sense Foods

Winco Inc.

Zero-Max

Group 3: 100 to 199 Total Employees

AbelConn Electronics
Advanced Molding Technologies
AWT Labels & Packaging
Bermo
Biomerics
Birchwood Laboratories LLC
Bondhus Corporation
Chandler Exhibits, Inc.
Communications Systems Inc.
Compass Electronics Solutions, LLC DBA Logic PD, LLC
Conagra Brands
DCI, Inc.
DriSteem
Dynamic Group
Eaton Corporation
ECO Finishing Co.
Elemet Group
Emerson Control Products, Inc.
Engage Technologies Corp
Foldcraft Companies
Incertec
In'Tech Industries Inc.

Jonaco Machine
Lexington Manufacturing LLC
Malco Products SBC
Manufacturing Partners, Inc.
Massman Automation Designs, LLC
Meribel Enterprises, LLC DBA Atlas Manufacturing
Micro Control Company
Navy Island, Inc.
Northern Tool + Equipment
Premium Waters, Inc.
Processed Metals Innovators
QualiTech, Inc.
Senneca Holdings
Smead Manufacturing
Stylmark Inc.
T.O. Plastics
Tescom Corporation
Thermo-Tech Windows LLC
Thymes, LLC DBA Curio Brands
Webb Business Promotions, Inc.
Wipaire

Group 4: 200 to 499 Total Employees

Aagard
All Flex Flexible Circuits, LLC
Anderson Dahlen, Inc.
Aqseptence Group
ARKRAY USA
Carley Foundry, Inc.
Chandler Industries, Inc.
Conagra Brands - Mankato
DecoPac, Inc.
Distinctive Floral Company DBA Len Busch Roses
Donnelly Custom Manufacturing
Electronic Systems Inc.
Global Finishing Solutions, LLC
Greenheck Group
Horton, Inc.
Kurt Manufacturing Company
Lake Air Products
Lakeland Tool & Engineering
Liberty Diversified International
LISI MEDICAL Remmele
Mate Precision Technologies
Mikros Engineering, Inc.
Miller Manufacturing

Nahan Printing, Inc.
New Team LLC
Northland Aluminum Products
Northwire, Inc.
Nystrom
Park Industries
Phillips and Temro Industries
Precision Associates, Inc.
Process Displays LLC
Quadion LLC
Reviva Inc.
RITALKA, Inc.
RSG - Nor-Lake, Inc.
Showdown Displays
Sportech, LLC
Standard Iron & Wire Works, Inc.
Takeda Pharmaceutical Company Limited
Trelleborg Sealing Solutions Delano, LLC
Twin City Die Castings Company
Wagner Spray Tech
Water Gremlin
Wilson Tool

Group 5: Over 500 Total Employees

- Andersen Corporation

Arrowhead Engineered Products

Aveda Corporation

Banner Engineering

Bosch Auto Service Solutions

BTD

Donaldson Company, Inc. - Baldwin

E.A. Sween Company

FAST Global Solutions, Inc.

Gemini, Inc.

Gopher Resource

Graco Inc.

J&B Group
- Loram Maintenance of Way

Lube-Tech Services, LLC

Minco Products Inc.

MTS Systems Corporation

Polaris Industries

Protolabs

Rice Lake Weighing Systems

Rise Baking Company

Rosemount, Inc.

Suez Water Technologies and Solutions

Tennant Company

The Imagine Group

TSI Incorporated

Participants by Distance From Minneapolis

Group 1: Within 20 Miles of Minneapolis

7-SIGMA, Inc.	Loram Maintenance of Way
AbelConn Electronics	Lube-Tech Services, LLC
Advanced Molding Technologies	Mathias Die Company
Agility Engineering & Manufacturing Solutions	Meribel Enterprises, LLC DBA Atlas Manufacturing
Air Quality Engineering	Micro Control Company
Ajax Metal Forming Solutions, LLC	Midwest Rubber Service & Supply
Analog Technologies Corp	Mikros Engineering, Inc.
Andrew Tool & Machining Company	Minco Products Inc.
Aqseptence Group	Minnesota Grinding, Inc.
ARKRAY USA	MTS Systems Corporation
Arrowhead Engineered Products	Navy Island, Inc.
Artistic Finishes, Inc.	Northern Tool + Equipment
Atrix	Northland Aluminum Products
Aveda Corporation	Nystrom
AVEKA Group, Inc.	Phillips and Temro Industries
AWT Labels & Packaging	Pioneer Metal Finishing
Banner Engineering	Plymouth Industries, Inc.
Bermo	Podiumwear Custom Sports Apparel
Biomerics	Polaris Industries
Birchwood Laboratories LLC	Precision Associates, Inc.
Carley Foundry, Inc.	Precision Coatings Inc.
Chandler Industries, Inc.	Precision Gasket Company DBA PGC
Clarus Medical, Laser Peripherals, and Urologix, LLC	Premium Waters, Inc.
Communications Systems Inc.	Priority Envelope, Inc.
Compass Electronics Solutions, LLC DBA Logic PD, LLC	Process Displays LLC
Conagra Brands	Product Development Solutions, Inc.
Continental Machines, Inc.	Production Engineering Corporation
Data Panel Acquisition Corporation	Quadion LLC
Distinctive Floral Company DBA Len Busch Roses	Quanex Building Products
Diversified Plastics, Inc.	Rapid Packaging, Inc.
DriSteem	Rational Energies
E.A. Sween Company	RC Smith Company
Eaton Corporation	Reviva Inc.
ECO Finishing Co.	Rise Baking Company
EMERGE Enterprises	Sharrow Lifting Products
Engage Technologies Corp	Shippers Supply, Inc.
Engineered Products Company	Showdown Displays
FasTest Inc.	Star Exhibits and Environments Inc.
FlexMation Inc.	Stylmark Inc.
General Label, Inc.	Suez Water Technologies and Solutions
Gopher Resource	Takeda Pharmaceutical Company Limited
Graco Inc.	Tennant Company
Horton, Inc.	The Outdoor Greatroom Company LLC
Huot Manufacturing	Thymes, LLC DBA Curio Brands
ILC Enercon Corp	Tjernlund Products
Incertec	TLC Electronics, Inc.
Industrial Door Company, Inc. DBA IDC Spring	TPI Custom Solutions
Industrial Fabrics DBA Clear Edge Technical Fabrics	TSI Incorporated
Industrial Netting Inc.	TT Electronics
Interscapes	Turfco Manufacturing Inc.
IPS Cranes, Inc.	Twin City Die Castings Company
ISC Companies	Twin City EDM & MFG Inc.
JEM Technical	Viking Engineering
Kurt Manufacturing Company	Wagner Spray Tech

Group 1: Within 20 Miles of Minneapolis (continued)

Lake Air Products	Water Gremlin
Lexington Manufacturing LLC	Waymouth Farms, Inc. DBA Good Sense Foods
Liberty Diversified International	Webb Business Promotions, Inc.
LimPro Metal Fabrication	Wilson Wolf Manufacturing Corporation
Lind Electronic Design Co. Inc.	Wipaire
LISI MEDICAL Remmele	Zero-Max

Group 2: 20 to 45 Miles from Minneapolis

American Flexible Products, Inc.	Kasco Marine, Inc.
Andersen Corporation	La Machine Shop, Inc.
Anderson Dahlen	Lakeland Tool & Engineering
Astro Metal Craft	M & N Structures, Inc.
Bondhus Corporation	Mate Precision Tooling
Chandler, Inc.	Modern Molding Inc.
Command Tooling Systems, LLC	Olsen Tool & Plastics, Inc.
Cretex Companies	Pace Industries Product Tech Division
Dynamic Group	QualiTech, Inc.
Dynamic Sealing Technologies, Inc.	RiteWay Conveyors, Inc.
El Dorado Shipping Sack Manufacturing, Inc.	Rosemount, Inc.
Ellicott Dredge Technologies	Smead Manufacturing
Emerson Control Products Inc.	Sportech, LLC
Federal Package Network, Inc.	Standard Iron & Wire Works, Inc.
Gemini	Tescom Corporation
General Mills Chanhassen	Trelleborg Sealing Solutions Delano, LLC
Hi-Lo Manufacturing	UMC, Inc.
Hydra-Flex, Inc.	Uponor Inc.
ICA Corporation	Waconia Manufacturing, Inc. dba Sackett-Waconia
Imperial Plastics	Whirltronics Inc.
Industrial Louvers, Inc.	Wilson Tool Inc.
Intek Plastics	Zero Zone, Inc.
J&B Group	Zirc Dental Products, Inc.
Jet Edge Acquisition, LLC	Ztech Precision
Jonaco Machine	

Group 3: 45 to 70 Miles from Minneapolis

American Time	MRG Tool and Die
Branches LLC	Northern Metal Fab, Inc.
C4 Welding, Inc.	Northwire, Inc.
Custom Products of Litchfield, Inc.	Park Manufacturing Corporation
DS Smith/Worldwide Dispensers	Plastech Corporation
Glenn Metalcraft Inc.	PNE Inc. dba IRD Glass, IRD Ceramics
Ichor Systems, Inc.	Spectralytics, Inc.
International Precision Machining, Inc.	T.O. Plastics
Malco Products SBC	Tenere Inc.
Midwest Industrial Tool Grinding, Inc.	Thermo-Tech Windows LLC
Miller Manufacturing	Vanpro, Inc.

Group 4: More than 70 Miles from Minneapolis

- Aagard

Alexandria Industries

Bowman Tool & Machining Inc.

BTD Manufacturing

DCI, Inc.

Dotson Iron Castings

Electronic Systems, Inc.

FAST Global Solutions, Inc.

Global Finishing Solutions, LLC

Grede LLC

Greenheck Group
- Jones Metal Inc.

Louis Industries, Inc.

Manufacturing Partners, Inc.

Massman Automation Designs, LLC

Northern Contours, Inc.

Park Industries

Pioneer Metal Finishing, LLC

Precision Tool Technologies, Inc.

Processed Metals Innovators

Rice Lake Weighing Systems