

# RAPID

## ROBOTICS



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# Who is Rapid Robotics?

We are the robotic workforce company making it possible to close the gap between the labor shortage limiting the growth of American manufacturing and the insignificant number of manufacturing robots in service.

While robotics adoption is growing, the industry remains plagued by complexity and outdated business models. That's why, in 2019, our founders Jordan Kretchmer and Ruddick Lawrence created Rapid Robotics and the Rapid Machine Operator (RMO, for short) that breaks down barriers to traditional automation and enables the fastest average deployment times in the biz.

Using state of the art technology like AI-driven motion planning and digital simulation alongside a true "as-a-service" business model that prioritizes customer support, we deliver robotic automation that is not only affordable and accessible, but quick-to-deploy and scalable for manufacturers of all sizes.

**We are accelerating the workforce of the future.**



**RAPID**  
ROBOTICS



# Who is Rapid Robotics?

## Fast Facts

- **FOUNDED** – 2019
- **OFFICES** – HQ in San Francisco, CA  
» Deployment Hub in Novi, Michigan
- **THE TEAM** – 100+ experts
- **100% ROBOT RETENTION** –  
No RMOs have ever been returned
- **SERIES A/B FUNDING** – \$54.2 M
- **INVESTORS** – Kleiner Perkins,  
Bee Partners, Tiger Global, NEA,  
Greycroft & 468 Capital
- **MILLIONS SAVED** – In aggregate,  
customers have saved millions of  
dollars per year in production costs





# Who is Rapid Robotics?

## Markets

- AUTOMOTIVE
- HOME APPLIANCES
- FOOD & BEVERAGE
- HIGH-END ELECTRONICS
- CONSUMER PRODUCTS
- HEALTH & BEAUTY
- MEDICAL DEVICES & LAB EQUIPMENT
- METAL & METALWARE MANUFACTURING
- PLASTICS



# Who is Rapid Robotics?

## Target Customers

- **MID-LARGE CAP MANUFACTURERS**  
who are well-acquainted with traditional automation and may have significant internal teams but still don't have enough resources to scale their automation efforts
- **SOPHISTICATED SMALL TO MEDIUM-SIZED ENTERPRISES**  
who are ready to automate to achieve growth but don't have the necessary internal expertise.
- **EVERYBODY IN BETWEEN**



# Our Solution

**More than a robot:  
True “Robotics-as-a-Service” or RaaS is  
about so much more than renting a robot.**

**It’s about...**

- **RAPID PEOPLE** – A custom engineering, design, and 24/7 support and service team that functions as an always-on extension of your engineering and automation team.
- **RAPID PROCESS** – We deliver the fastest deployment speeds in the industry, testing, training, and getting robots up and running in weeks with guaranteed success.
- **RAPID RESULTS** – Customers can bid new business at labor rates as low as \$6/hr with the millions of dollars in ROI they’ll achieve with our robotic workforce solutions. RMOs also produce parts with a 99.9% approval rate (15% higher than a human operator, on average).

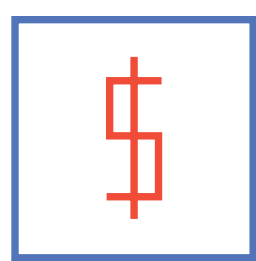




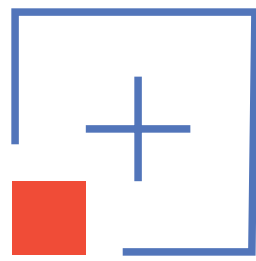
# Our Solution

## The Rapid Way

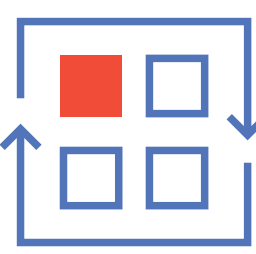
Robotics-as-a-Service (RaaS) from Rapid Robotics eliminates the challenges of traditional robotic automation by offering:



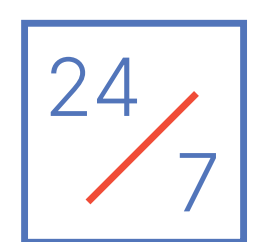
Low, predictable monthly OpEx



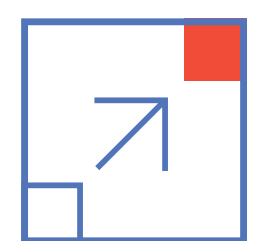
Turnkey programming & installation of fully-equipped robotic arms



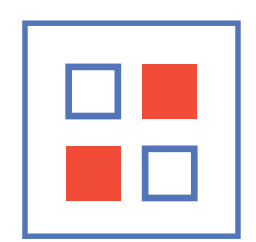
Task-switching flexibility



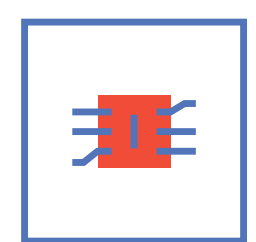
24/7, ongoing remote monitoring, maintenance and support



Total maintenance & repair coverage



Cloud-based software upgrades for continuous performance improvements



A hassle-free automation option that doesn't require robotics expertise



**The Rapid Way vs. Traditional Way**



# Our Solution

## The Rapid Way vs. Traditional Way

	Rapid	Traditional
<b>Time to Deploy</b>	Weeks	5+ months
<b>3<sup>rd</sup> Party Integration</b>	None	Required
<b>Complete Solution</b>	Yes	Robot Only
<b>ROI Timeframe</b>	Instant	1+ year
<b>Repair Timeframe</b>	Remote: 1 hour On site: 1 shift	Days or Weeks
<b>Task Flexibility</b>	Yes	None
<b>Cost</b>	Equivalent labor rate from \$6-\$16/hour	\$250k+
<b>Support</b>	All-inclusive 24/7 support and service	Requires significant fees
<b>Risk</b>	None	High
<b>Equipment Lifetime</b>	Duration of contract	7-9 years

To learn more about the advantages of our RaaS solutions, check out [‘CapEx vs. RaaS: The True Cost of Owning Robots’](#).





# Our Solution

## Our Products

A fully integrated, pre-trained robotic workforce solution, the **Rapid Machine Operator (RMO)** comes ready to work on most secondary manufacturing tasks such as machine tending, laser etching, assembly, pick-and-place, inspection, labeling, packaging, palletizing and more.

### Cobot RMO

Fully integrated with Universal Robots' entire line of collaborative robot arms, our cobot RMOs can deploy faster and on a greater scale than ever before. UR's portfolio unlocks more capabilities for Rapid customers, like palletizing, box building, packing and other tasks that require heavy payloads or longer reach.

### Industrial RMO

Our partnership with Yaskawa Motoman allows us to offer an industrial RMO that has all the same capabilities as our cobot RMO, with added speed, reach, precision and payload.

## Anatomy of an RMO Workcell



# Our Solution

## Anatomy of an RMO Workcell

What makes our RMO special?  
Take a look for yourself!

Touch a  to learn expand info.



 [Additional RMO features](#)





# Our Solution

## Anatomy of an RMO Workcell

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**Pedestal:** Either version of our RMO can be deployed on a mobile robot pedestal that can be moved by a single person with a pallet jack. Modular fixturing reduces the need for additional peripherals, and makes the pedestal a complete, flexible workcell solution that can be configured to work alongside any common machine.


 **Additional RMO features**



# Our Solution

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**Tablet:** Rapid's tablet-based app makes the RMO simple to operate, no programming or robotics expertise required. It also helps machine operators switch between pre-programed tasks in less than the time it takes to make a cup of coffee.

 **Additional RMO features**

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# Our Solution

## Anatomy of an RMO Workcell

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**Custom 3D-printed grippers:** Rapid Robotics custom designs and prints most of the end-of-arm tooling (EOAT) we provide to customers. This enables us to automate some tasks that were previously impossible, maximize the robotic arm payload, and quickly replace broken parts if necessary.

 **Additional RMO features**






# Our Solution

## Anatomy of an RMO Workcell

What makes our RMO special?  
Take a look for yourself!

Touch a  to learn expand info.



**Vision Systems:** Rapid Robotics' RMOs are equipped with vision systems – cameras and sensors to help the robot get a sense of its surroundings and facilitate instant-on 24/7 support. RMO's can also be integrated with more comprehensive vision systems to complete tasks that previously seemed impossible, such as part inspection or picking.

 [Additional RMO features](#)





# Our Solution



## Additional RMO Features

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**Digital Simulation:** We completely design and program applications in a digital environment, using advanced digital twin technology to train our RMOs. Then, we can deploy operations to the RMO at the literal touch of a button. This helps us produce concept designs faster and with the right level of fidelity so reachability and cycle time studies can be quickly generated to ensure the solution meets customer expectations.

**AI:** RMOs show up smart and get smarter over time. With our regular AI updates, RMOs are constantly learning new tasks and getting better at the ones they already know. Your monthly subscription stays the same, but your RMOs become more versatile — and valuable— by the day.

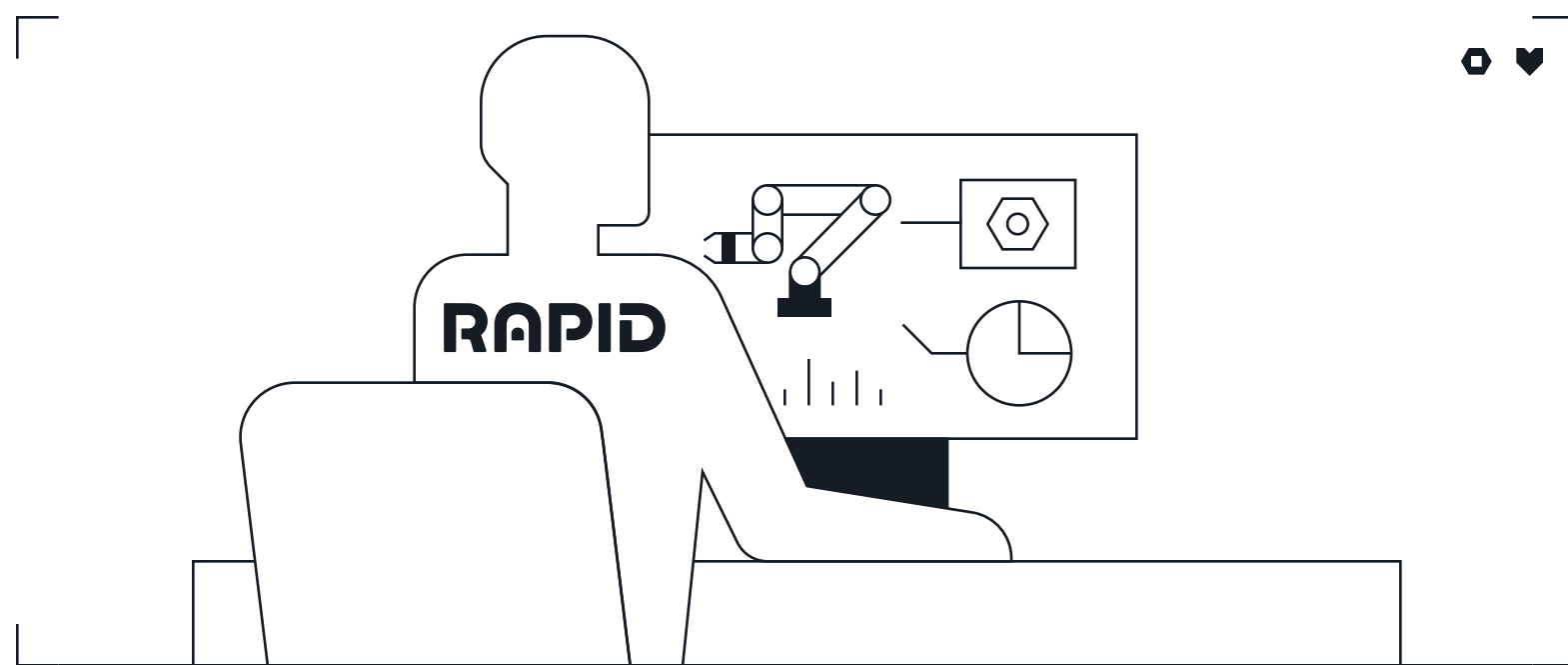
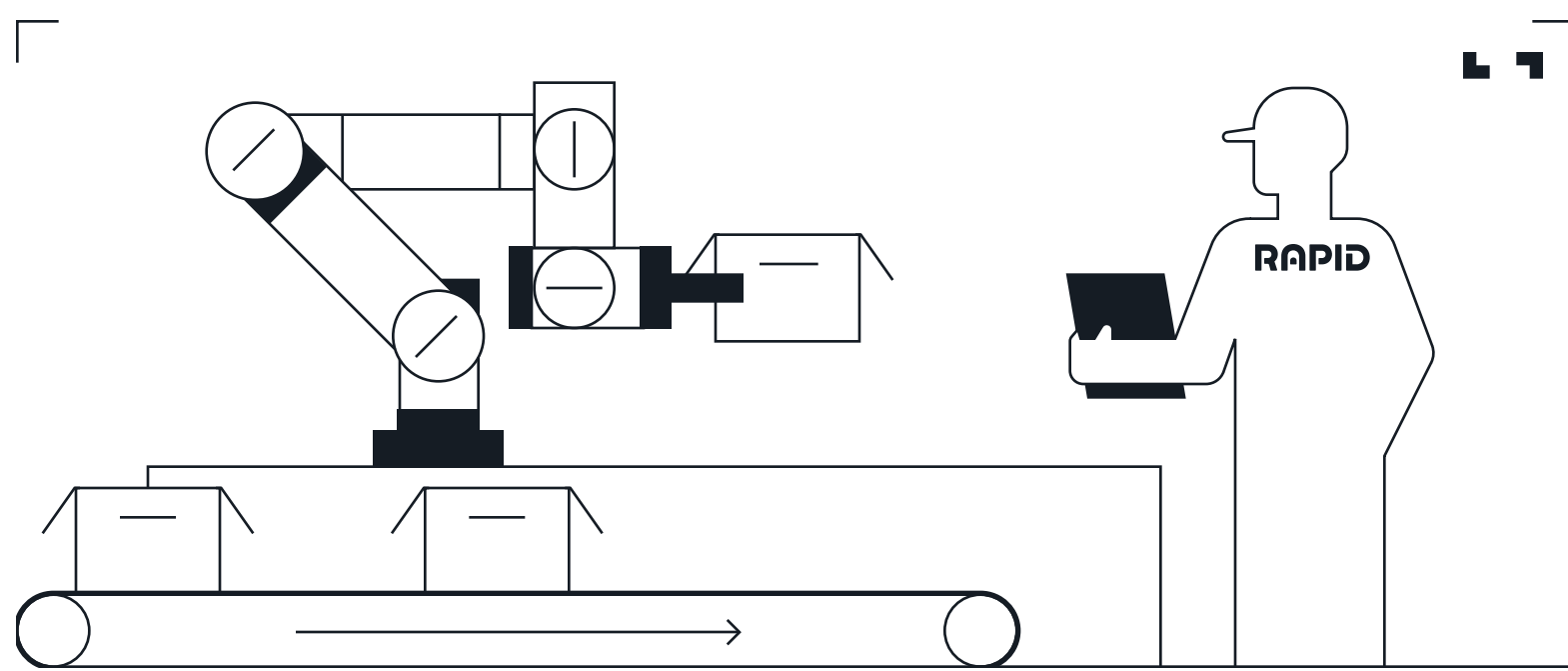
**Cloud Connectivity:** All RMOs are cloud-connected, enabling us to provide customers with 24/7 support and access to expanded tasks capabilities as needed. Another benefit of connectivity? Scalability. It's now possible to efficiently support thousands of robots, removing the need to physically go on site to address each support call.



# Our Solution

## The Rapid Deployment Process

Rapid Robotics is on a mission to deploy robots at scale quickly to close the labor gap. Our teams function an extension of the customers' engineering and automation teams to deliver a fully integrated machine operator designed for minimal cost and maximum impact and reliability.



## ➔ 5 Stages of a Rapid Deployment





# Our Solution

## How We Work: 5 Stages of a Rapid Deployment



### Feasibility Assessment

Rapid engineers go on site for task discovery and issue go/no-go decision



### Automation Design

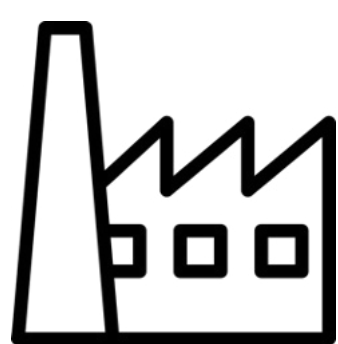
End-to-end solution design, gripper & fixture concept development

2-3  
weeks



### Solution Proposal

Gripper unit testing, work cell build, full system tests, design validation & iteration



### On-site deployment

System delivery and installation, final waypoint testing, robot begins working

4-8  
hours



### Support

Ongoing, free, 24/7 support and maintenance, including remote monitoring

24/7



# Our Solution

## Our Partners

The robotics and manufacturing industries are historically siloed and protective. But to breathe new life into American manufacturing, we know we cannot do it alone. That's why we've partnered with experts across the robotics and automation ecosystem – to provide manufacturers with the highest performing, integrated solutions at record speeds.

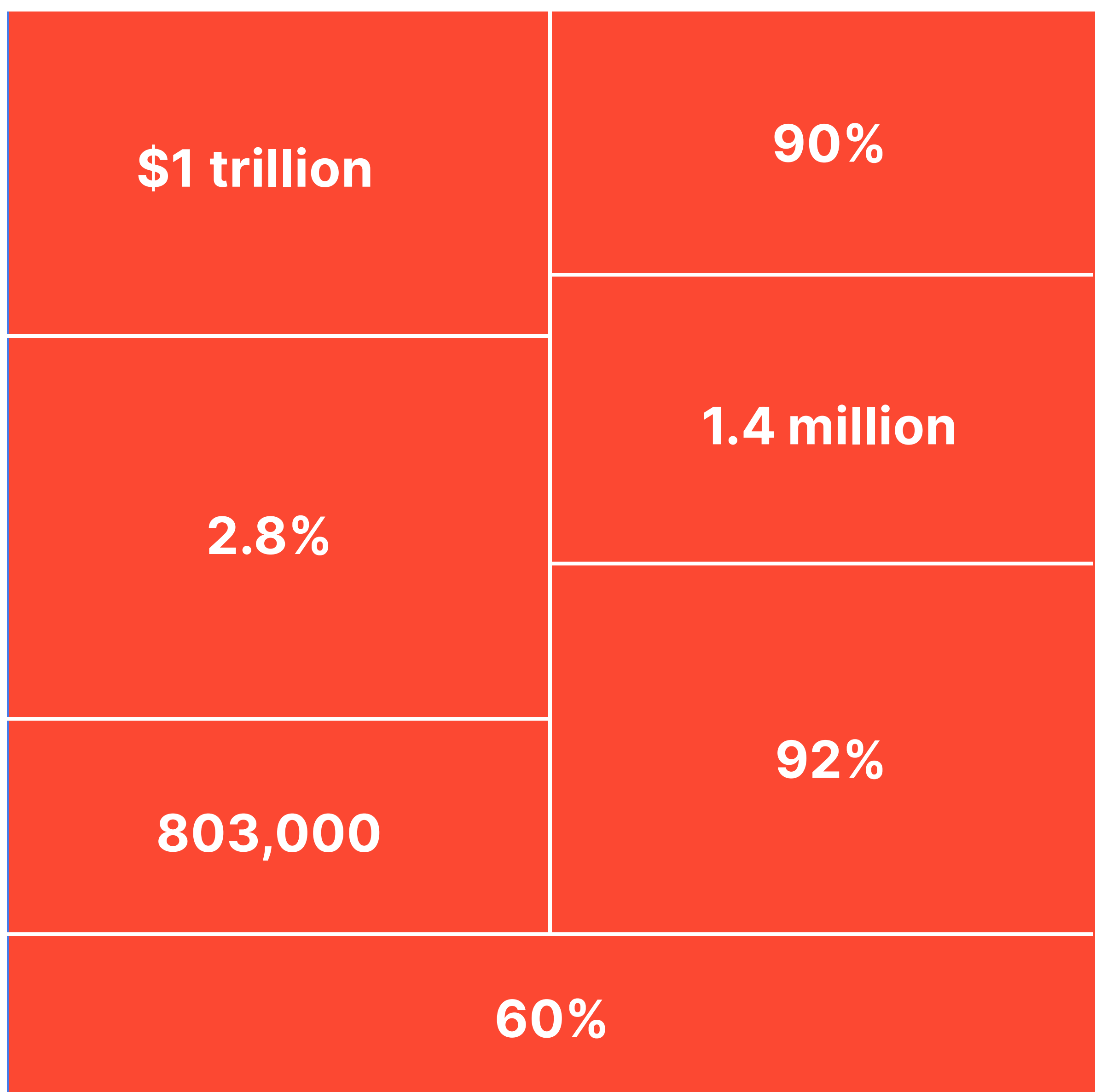




# The State of Manufacturing & Automation

## A Call to Robotic Arms:

America used to be an international powerhouse of manufacturing. It was a job infused with dignity and a pursuit of innovation. But America's leadership in manufacturing has been declining for decades.



## ➔ What can we do about it?

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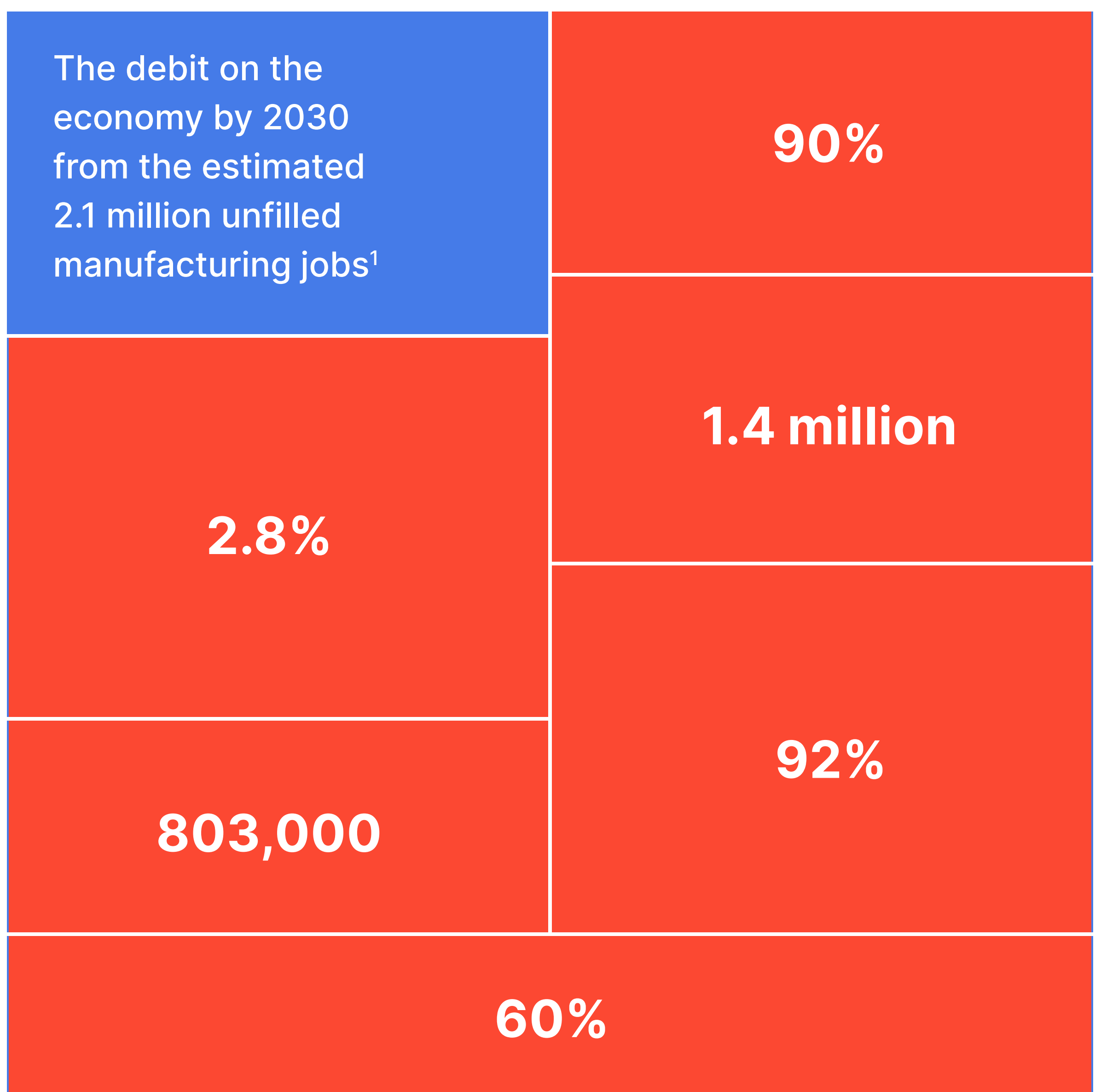
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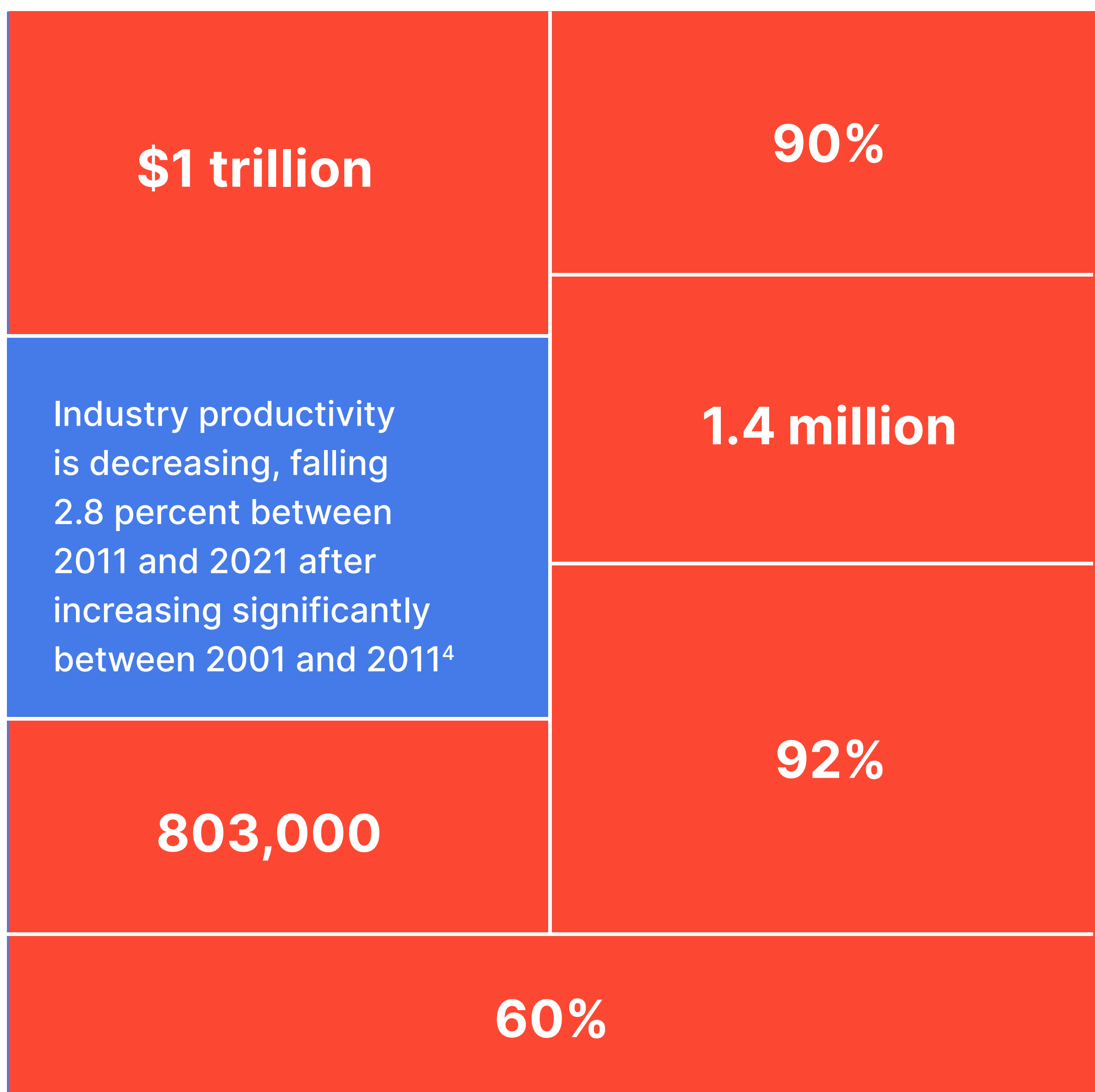




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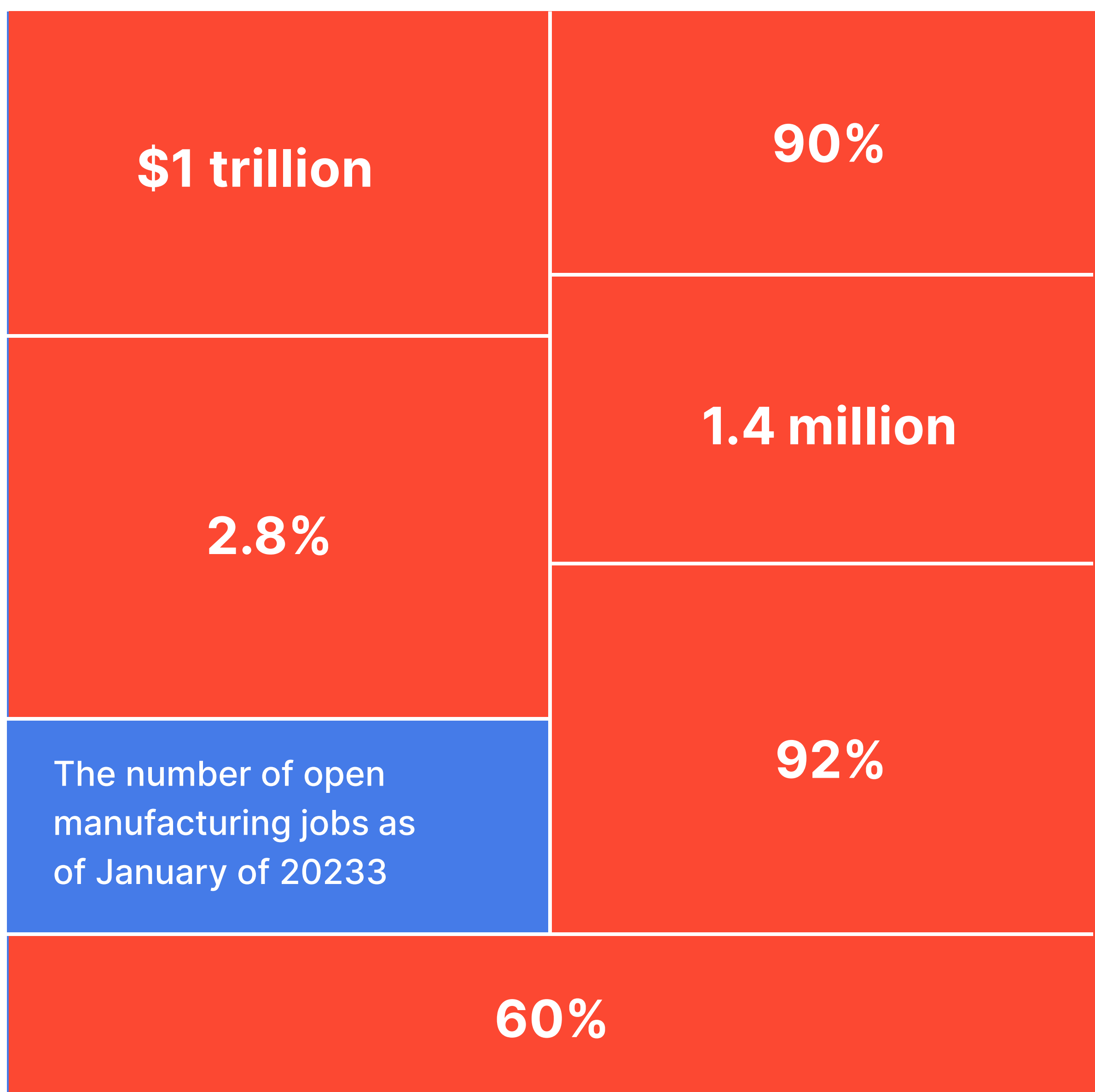
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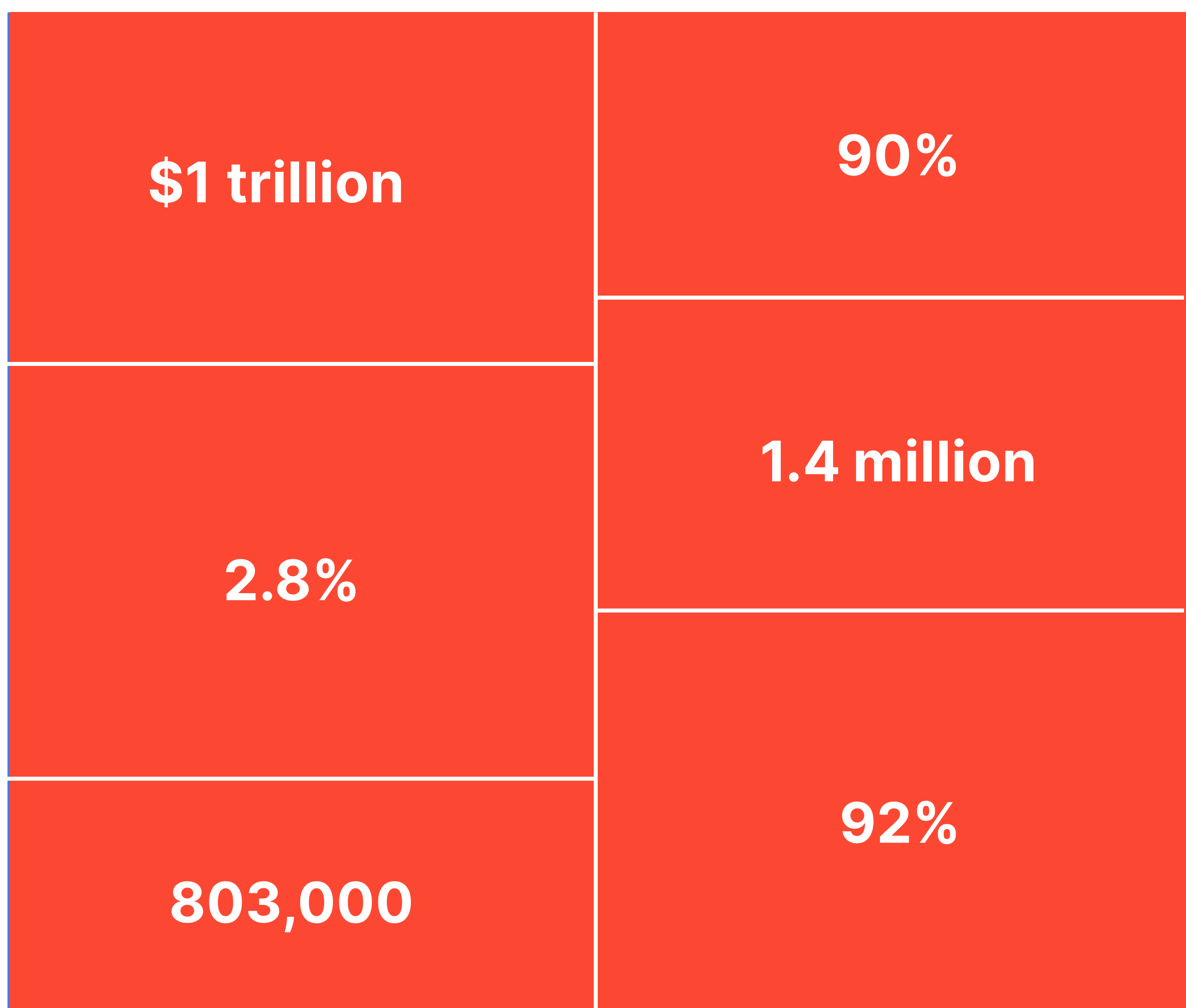
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The percentage of manufacturers unable to take on new business because of machine operator shortages<sup>6</sup>

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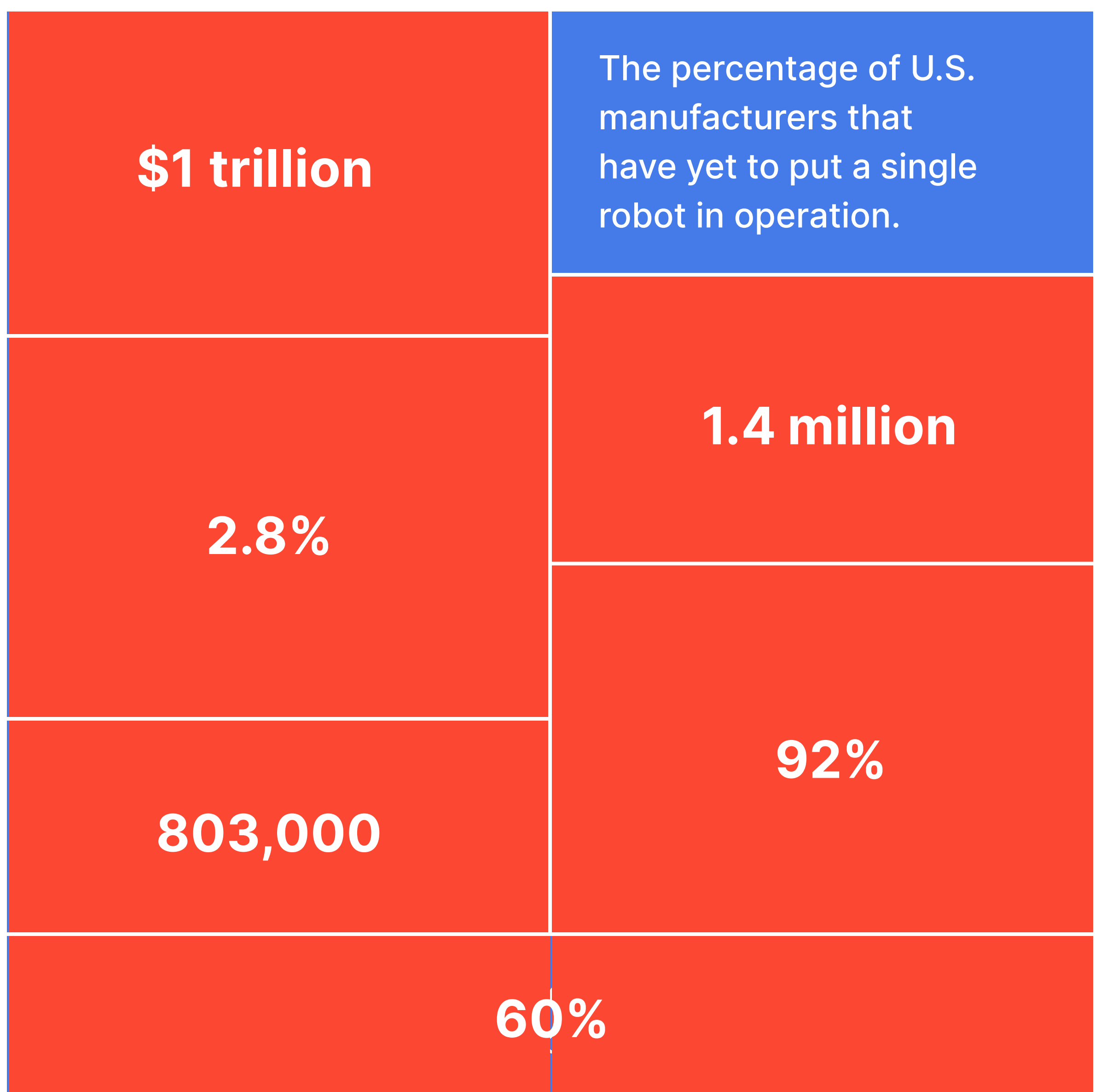
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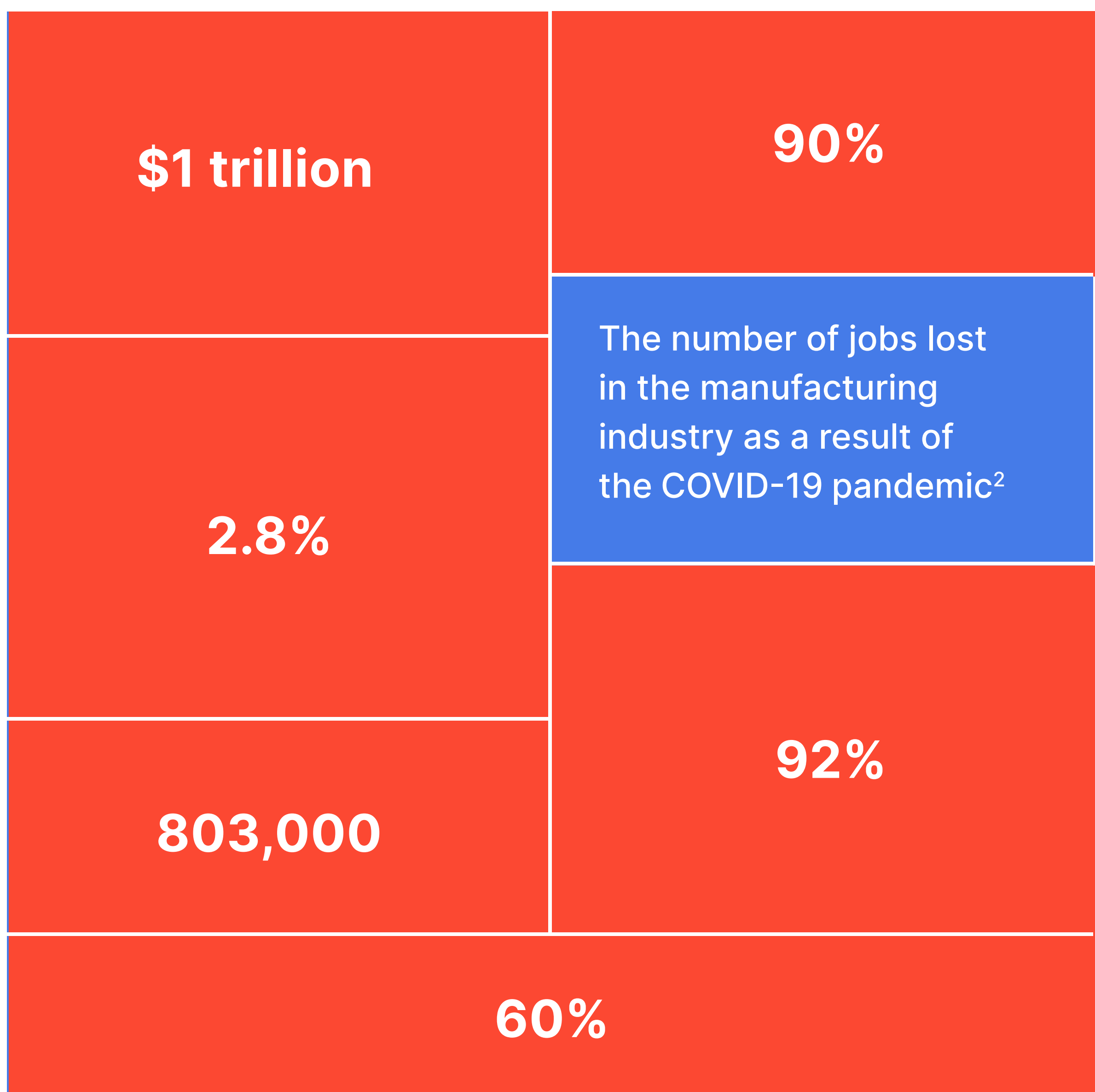




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<sup>4</sup> Clay, Ian. "Recent U.S. Manufacturing Employment Growth Hides the Sector's Abysmal Productivity Performance." Itif.org, 23 Feb. 2023, [itif.org/publications/2023/02/23/recent-us-manufacturing-employment-growth-hides-the-sectors-abysmal-productivity-performance/](http://itif.org/publications/2023/02/23/recent-us-manufacturing-employment-growth-hides-the-sectors-abysmal-productivity-performance/).

<sup>5</sup> Rapid Robotics. "The State of Manufacturing Automation: How Pre-Trained Robotics Can Solve Workforce Challenges and Increase Competitiveness." 19 Dec. 2022.

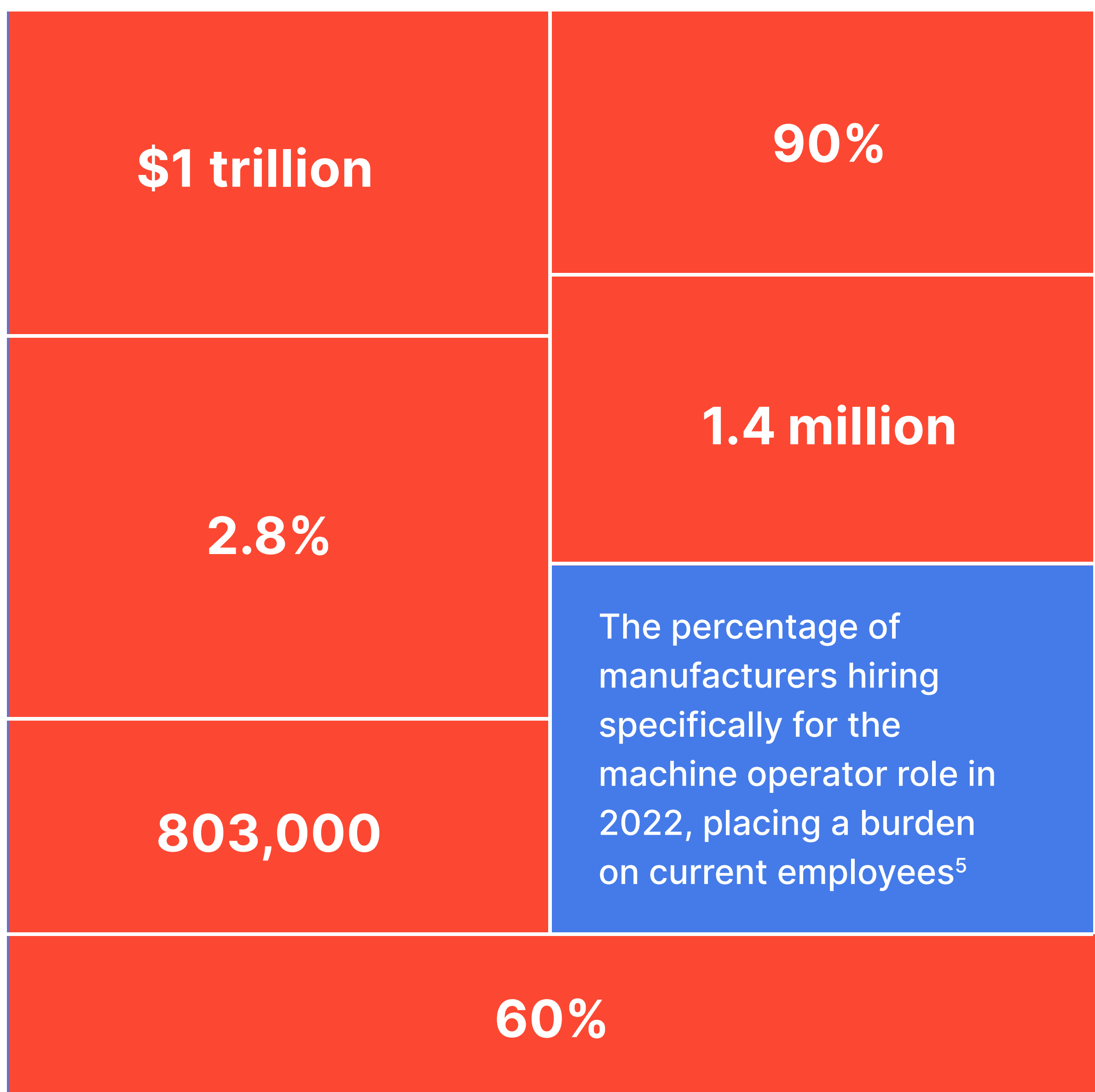
<sup>6</sup> Rapid Robotics. "The State of Manufacturing Automation: How Pre-Trained Robotics Can Solve Workforce Challenges and Increase Competitiveness." 19 Dec. 2022.



# The State of Manufacturing & Automation

## A Call to Robotic Arms:

America used to be an international powerhouse of manufacturing. It was a job infused with dignity and a pursuit of innovation. But America's leadership in manufacturing has been declining for decades.



## ➔ What can we do about it?

<sup>1</sup> NAM News Room. "2.1 Million Manufacturing Jobs Could Go Unfilled by 2030." NAM, 4 May 2021, [www.nam.org/2-1-million-manufacturing-jobs-could-go-unfilled-by-2030-13743/](http://www.nam.org/2-1-million-manufacturing-jobs-could-go-unfilled-by-2030-13743/).

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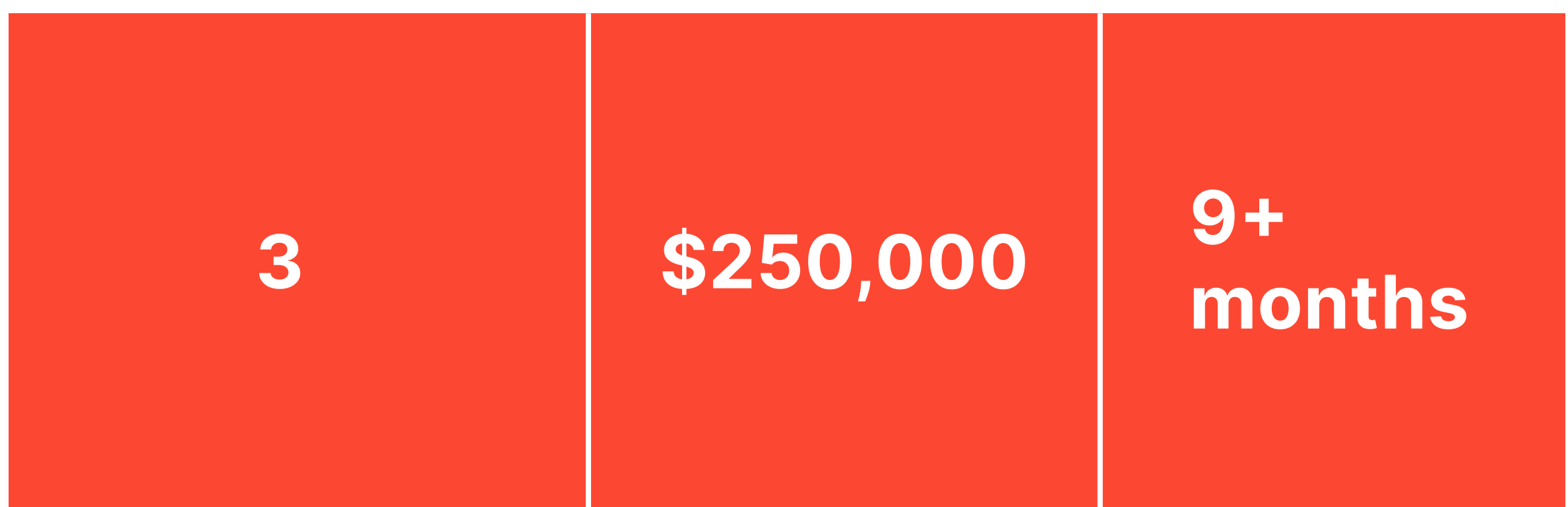
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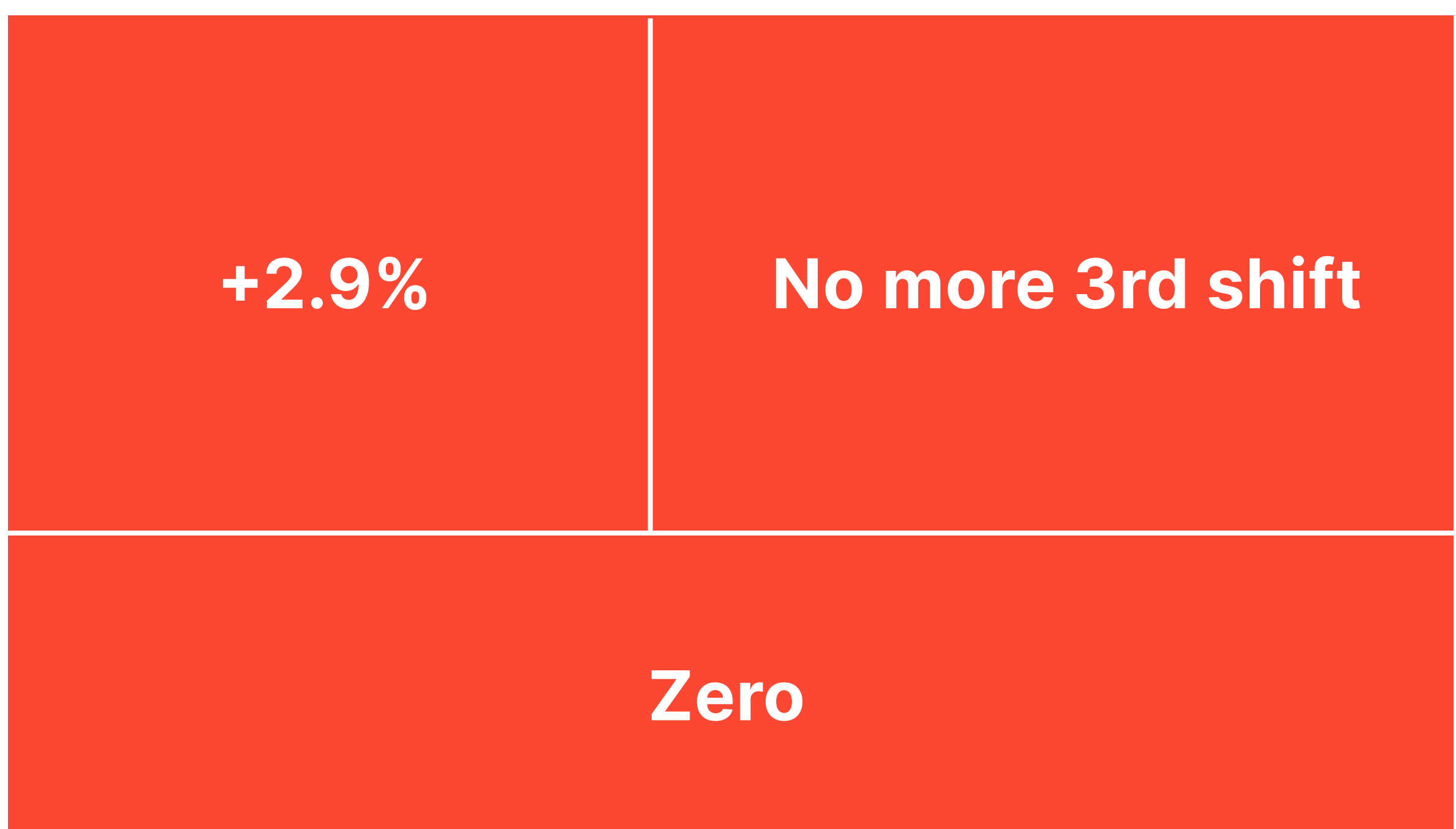
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## Creating the Workforce of the Future:

Robotic automation is a powerful and immediate solution to this long-term industry challenge – but historically, automation hasn't been accessible to many manufacturers.



Robots can help flip the script of the industry from “dirty, dark and dangerous” to “innovative, interesting and safe,” bringing renewed momentum not just to production but the work itself and inspiring tech-driven young professionals to imagine a future in manufacturing.



 **What can we do about it?**

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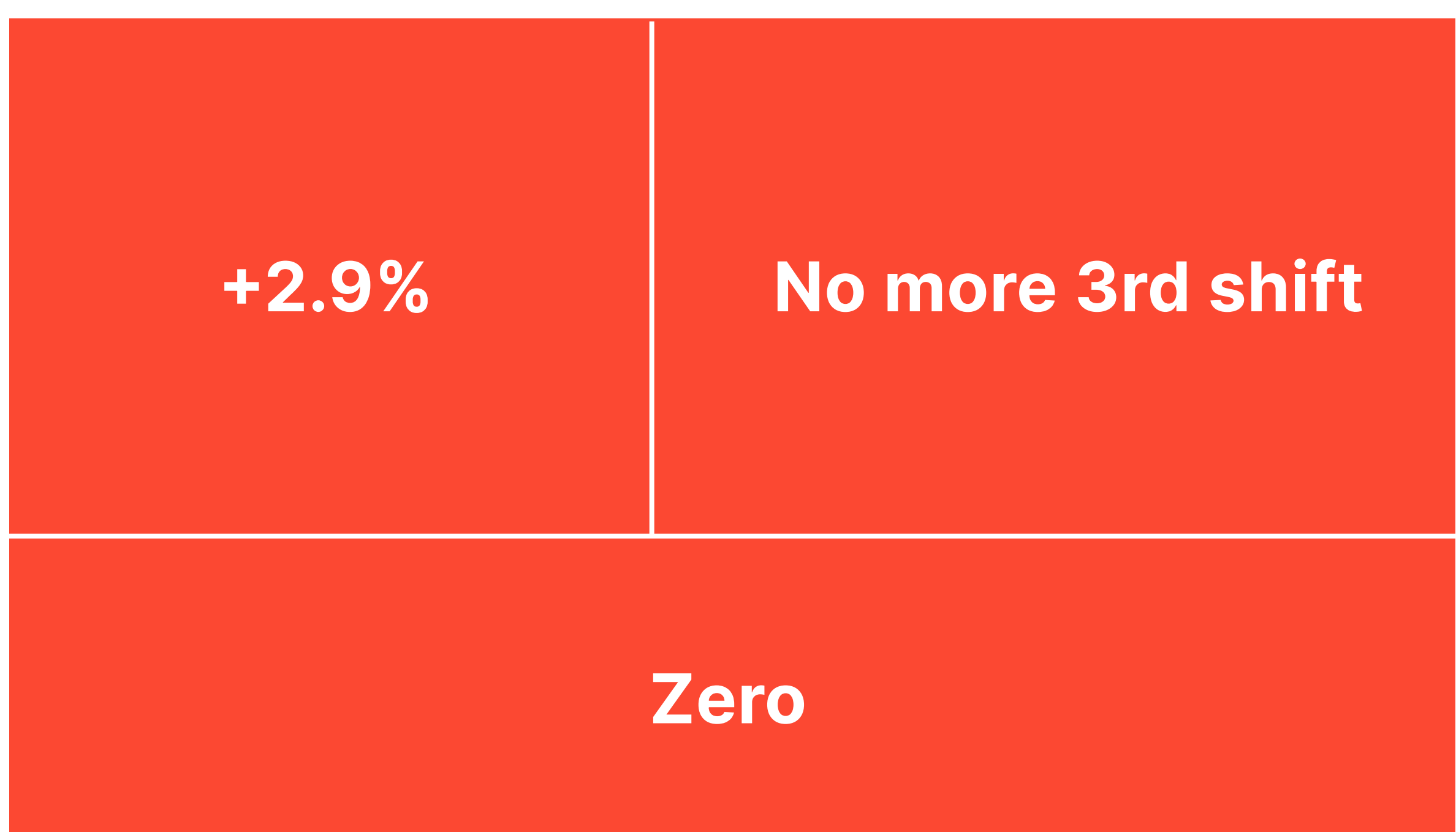
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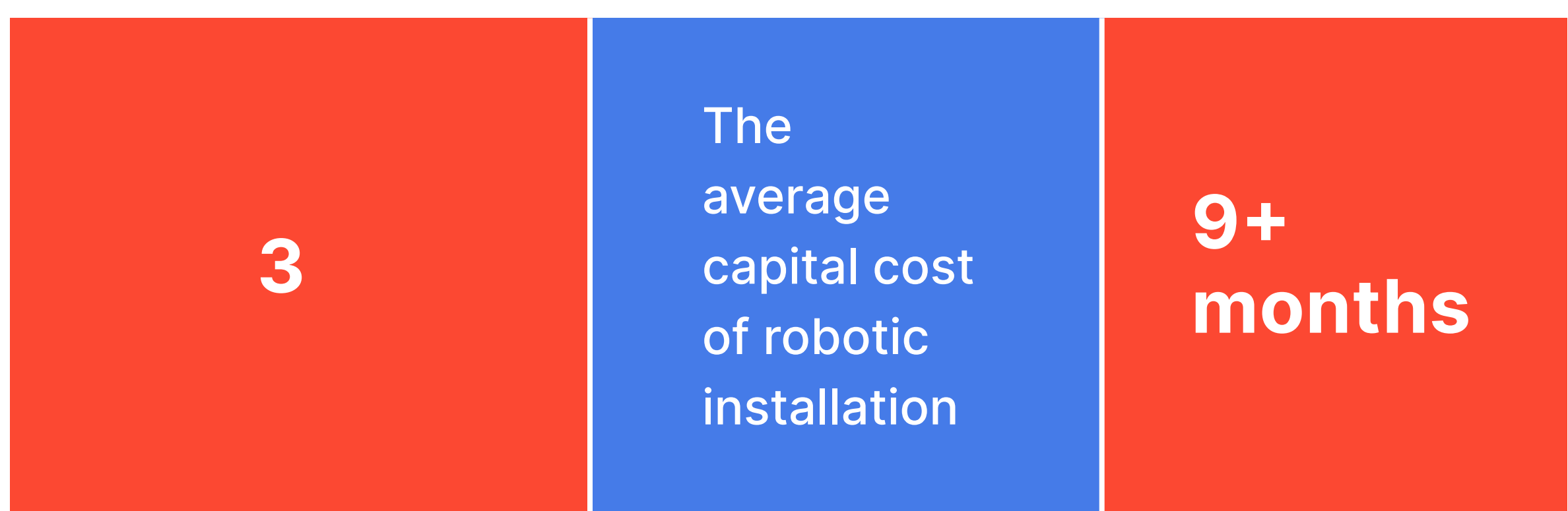




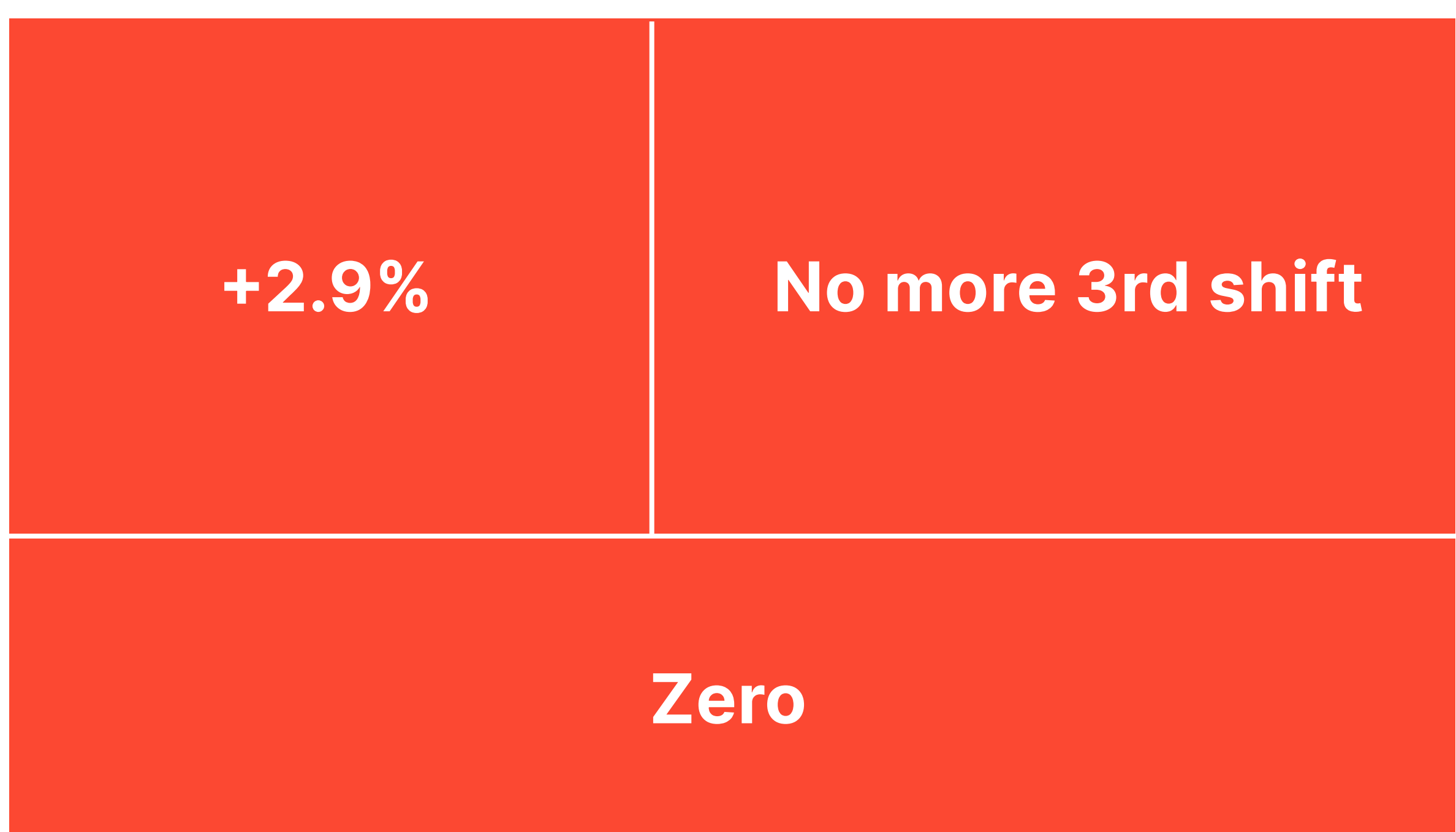
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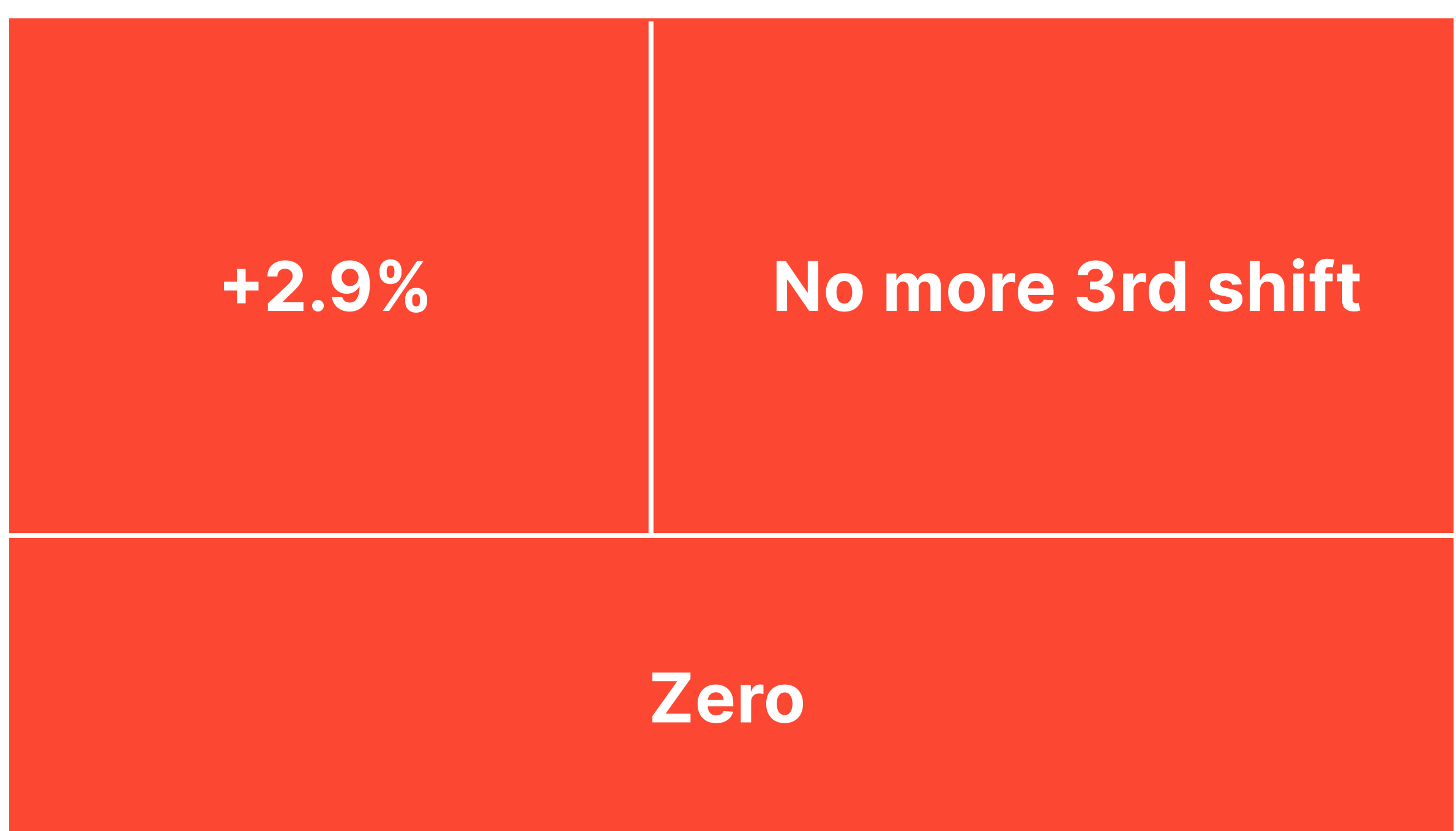
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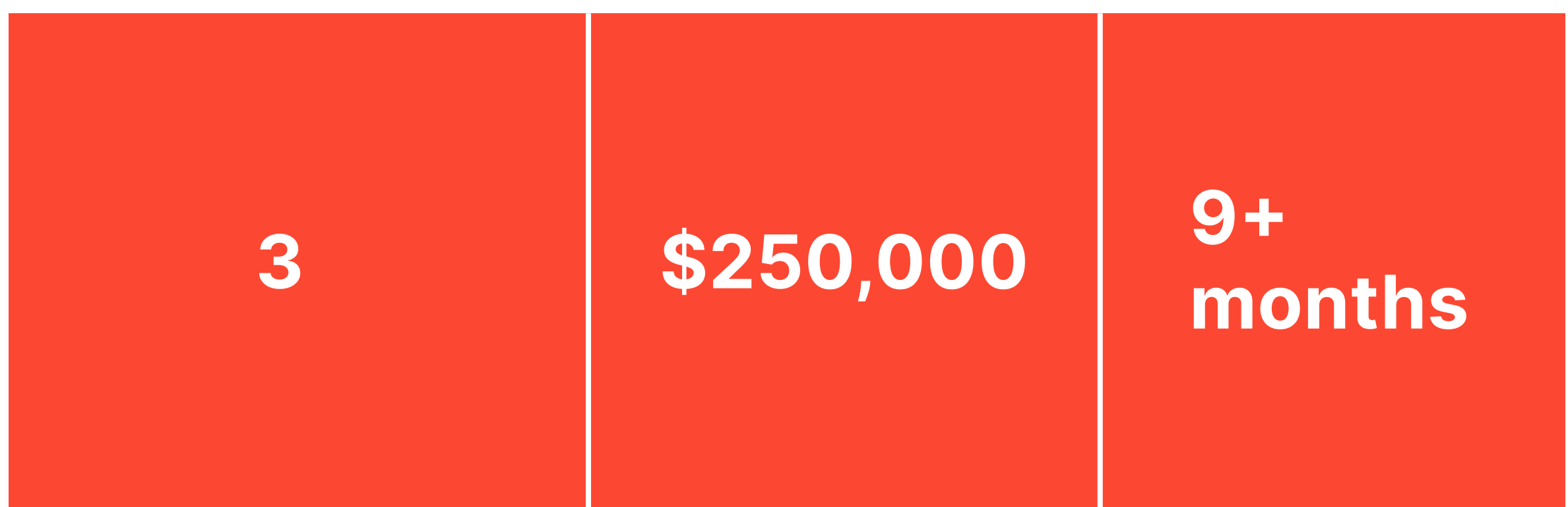
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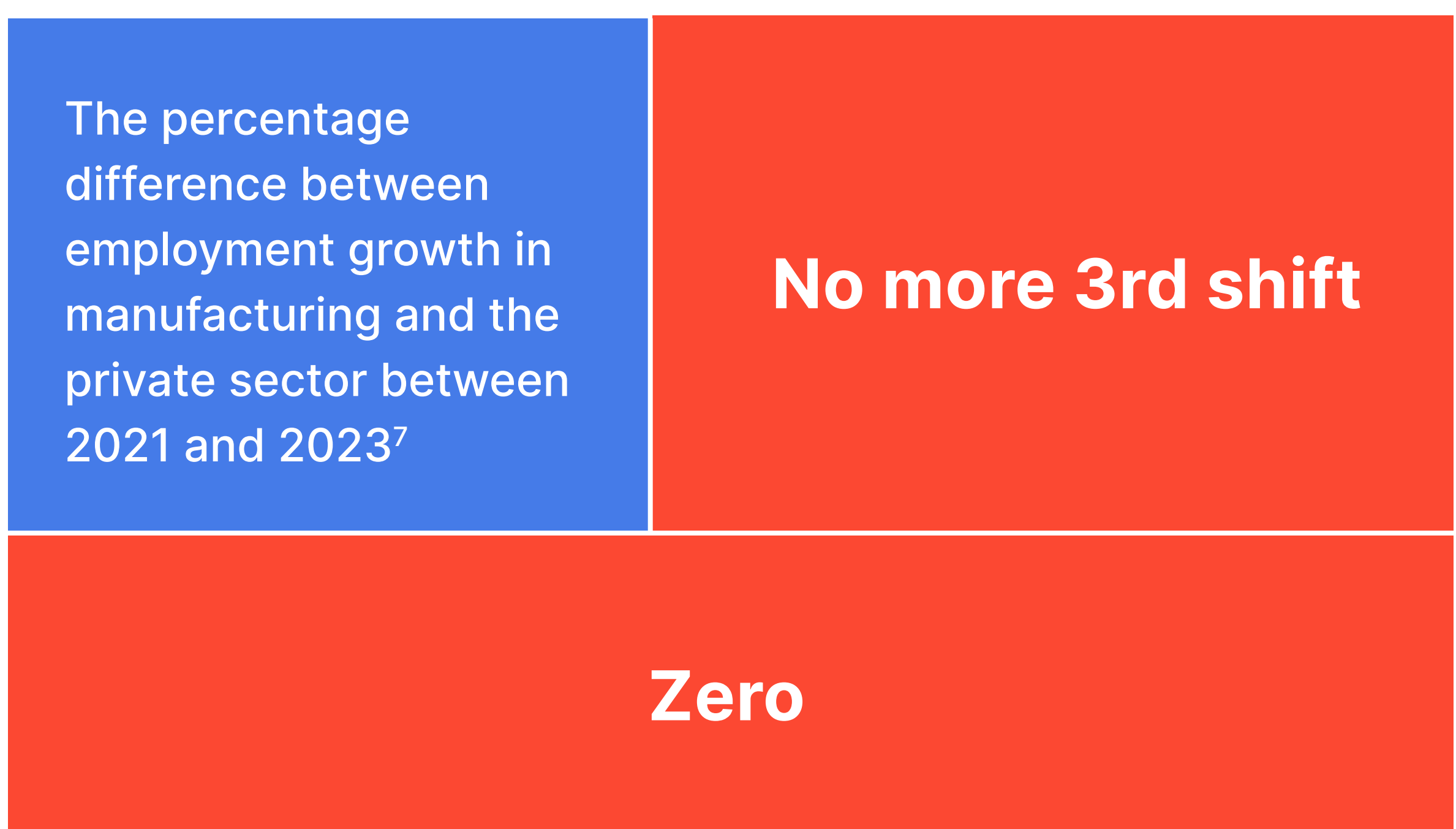
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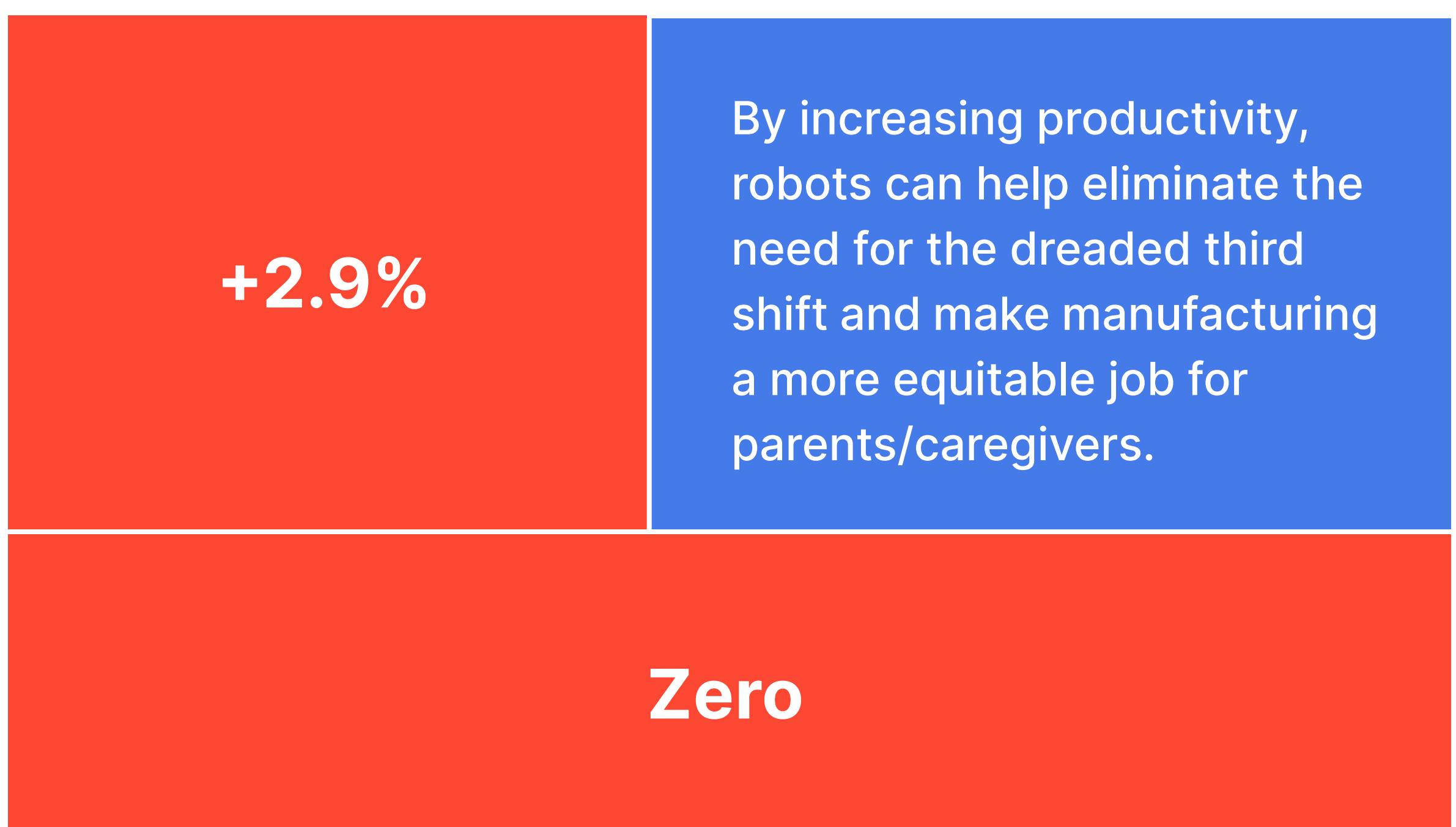
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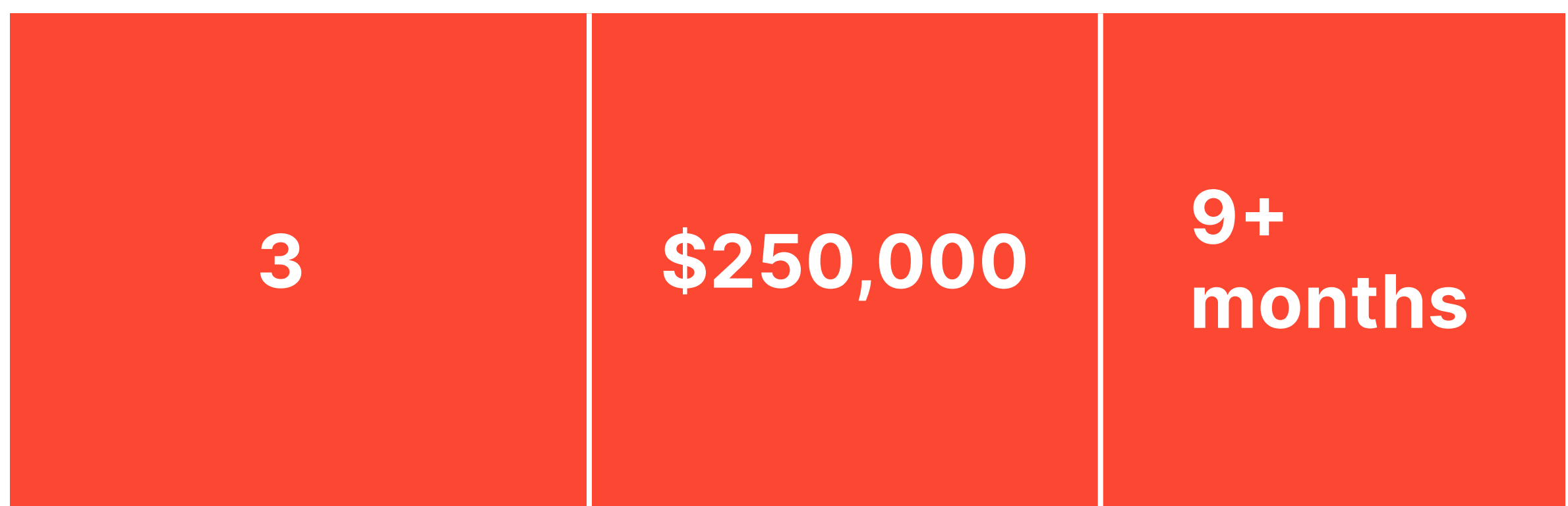




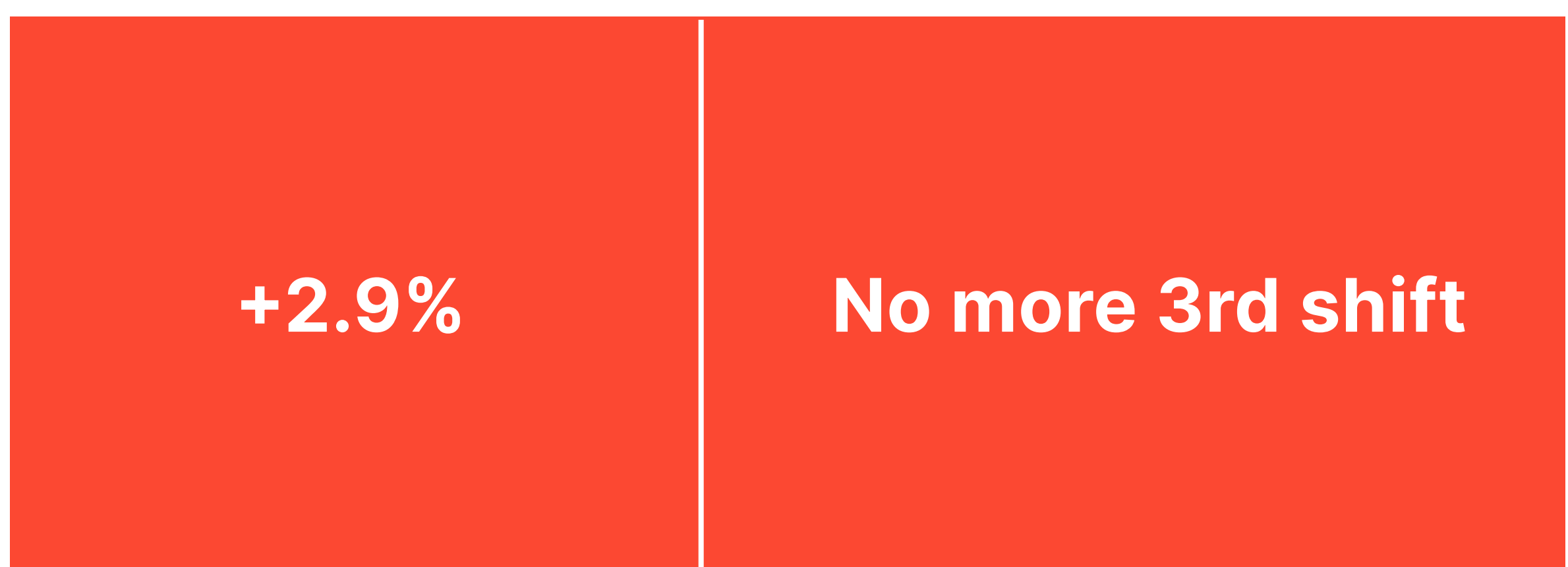
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The number of human workers displaced by the Rapid Machine Operator, proving robots do not have to foreshadow job obsolescence.



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# The State of Manufacturing & Automation



## Insights from the 2023 Get Real About Automation Symposium



Watch Rapid Robotics' CMO Kim Losey, The Automation Ladies' Nikki Gonzales, Alex Shikany from A3, and Jeff Puma of the Manufacturing Leadership Council at NAM discuss what recent research reveals about the significant challenges faced by the industry.



Watch Troy Nix, Executive Director, Manufacturers Association for Plastics Processors, and Andrew Crowe, founder of the New American Manufacturing Renaissance explore the workforce of the future with our Director of Customer Operations at Rapid Robotics, Steve Barsanti.

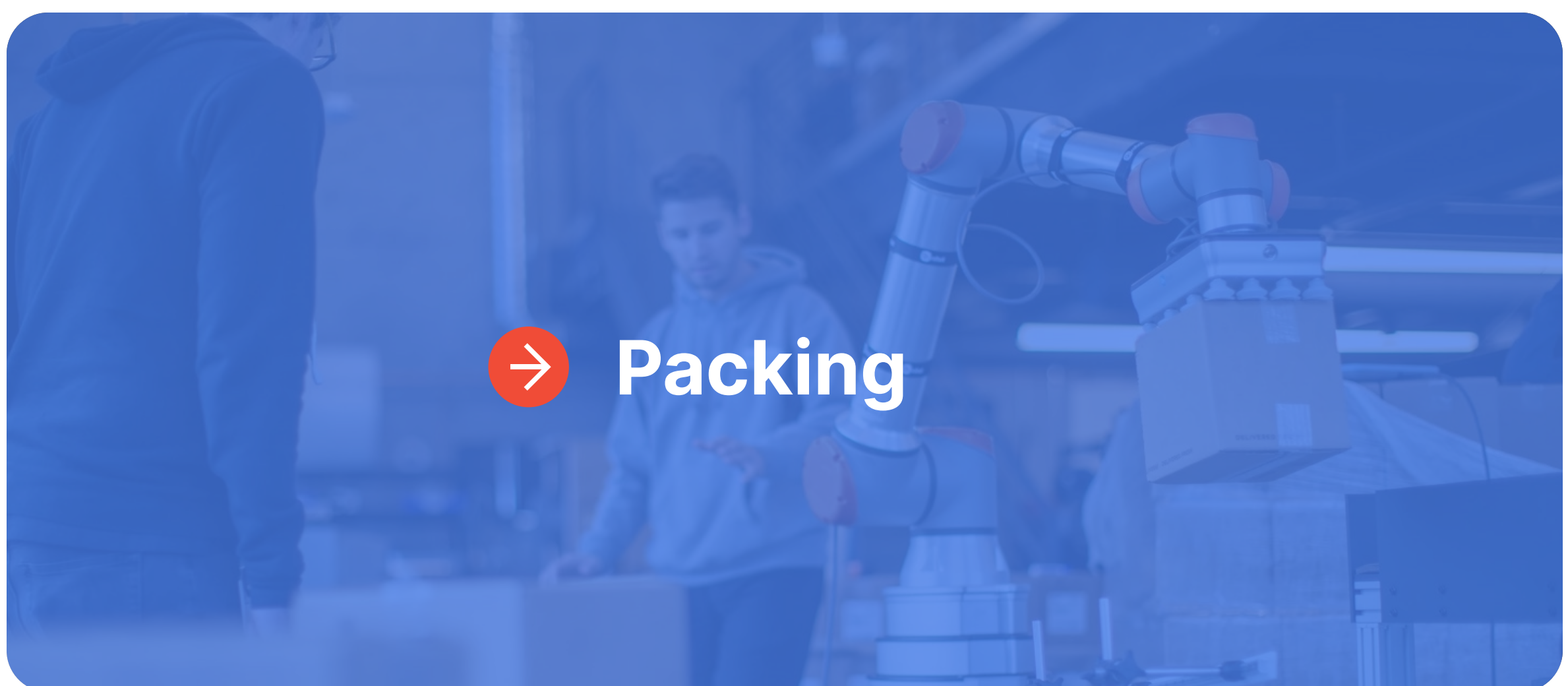
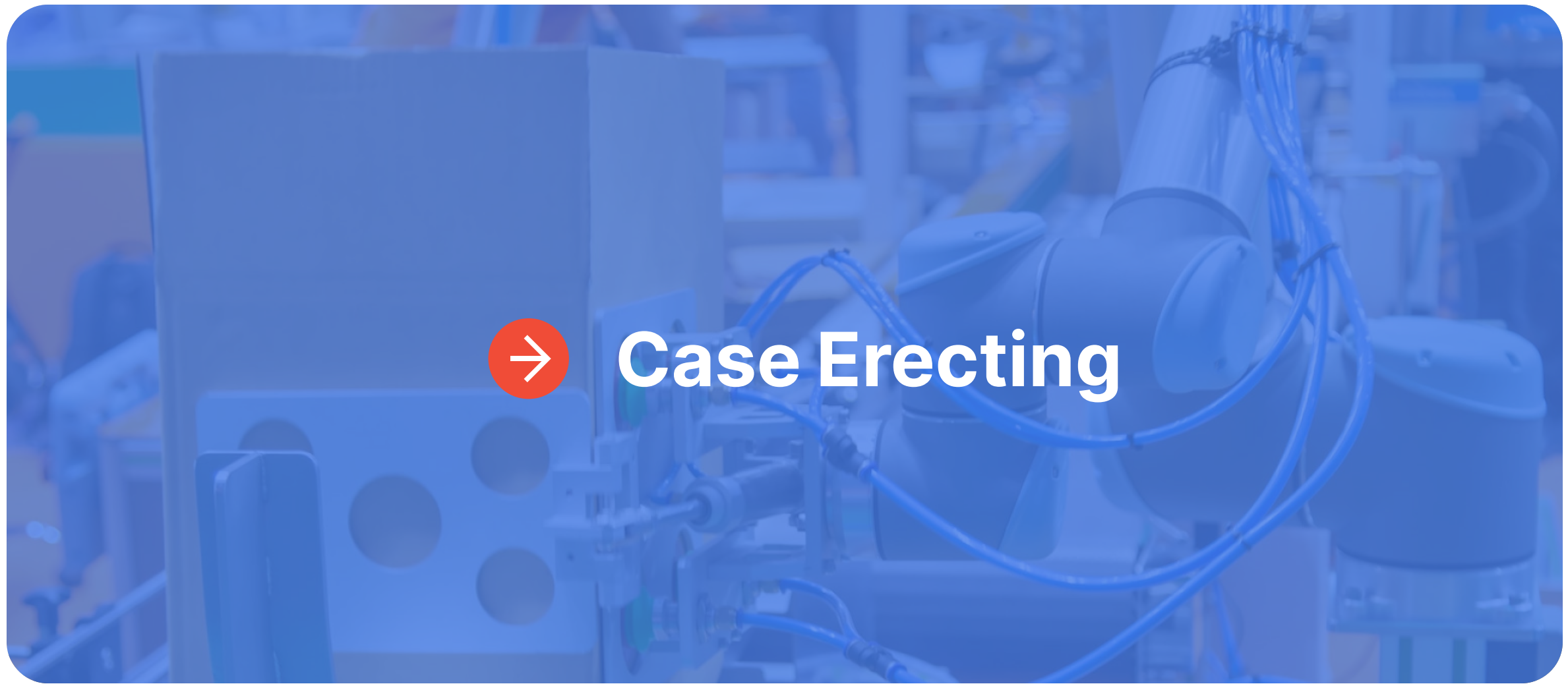




# AUTOMATE

## 2023 Highlighted Solutions

Visit us at Automate 2023 in [Booth #5620](#) to learn about our unique approach to Robotics-as-a-Service, explore case studies and hear about our end-of-line solutions.

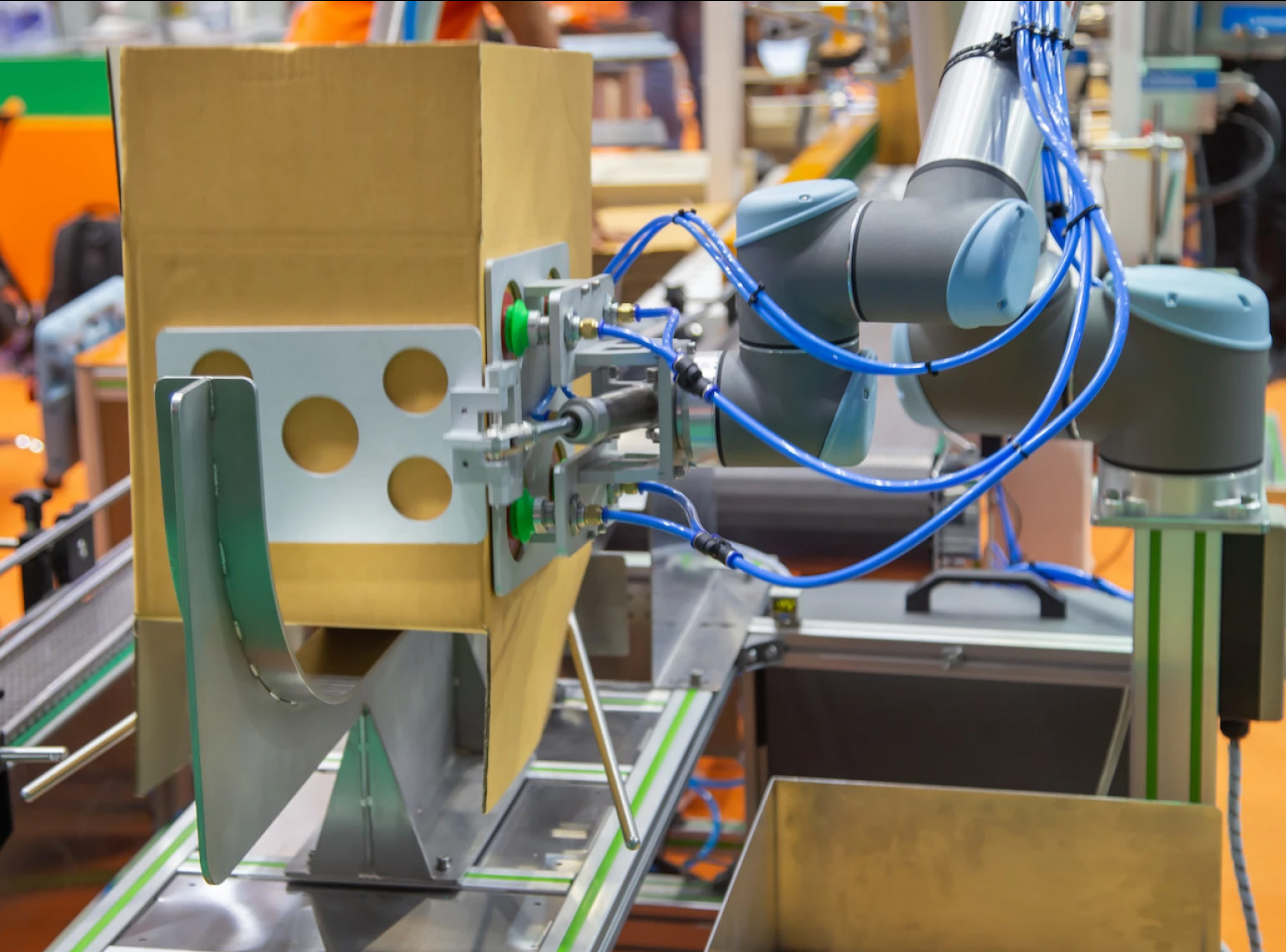






# AUTOMATE

## 2023 Highlighted Solutions



### Case Erecting

An often-overlooked task for robots, box-building automation accelerates the entire end-of-line process and boosts profit margins. Using 3D printing and common materials, our sleek yet compact case-erecting RMO is a durable, small-footprint solution that can be deployed quickly and without added equipment costs for the end user.





# AUTOMATE

## 2023 Highlighted Solutions



### Palletizing

Created in collaboration with industry partners, the RMO is fully integrated with our unique software stack, Robotiq's 7th axis and a variety of other robots, enabling a truly turnkey solution that leads to unparalleled deployment speeds and cycle times. By utilizing robotic automation for palletizing operations and redeploing manual handling, manufacturers save costs, reduce the risk of injury and increase efficiency.





# **AUTOMATE** **2023 Highlighted Solutions**



## **Packing**

Manual packing creates operational bottlenecks and can result in mistakes and short shipments. Our quick-to-deploy RMOs help speed up the packing process, eliminate human error and keep end-of-line operations moving without worry.





# AUTOMATE

## 2023 Highlighted Solutions

### Other Places You Can Find Rapid Robotics during Automate:

#### [Universal Robots Booth #3623](#)

As a Universal Robots UR+ partner, Rapid Robotics can be found at UR's booth, where a UR5 featuring Rapid's software stack will be hard at work demonstrating one of our latest deployments safely packing embalming fluids for a funeral supply distributor.

#### [Yaskawa Motoman Booth #3223](#)

Rapid Robotics' partner Yaskawa Motoman is featuring an interactive kiosk at their booth where you can explore dozens of applications that can be deployed in weeks with Yaskawa industrial arms integrated with Rapid's unique tech stack.

#### [Presentations](#)

On Tuesday, May 23, Rapid Robotics VP of Product Juan Aparicio will speak about how new innovations in software, AI, 3D printing and beyond make robotic automation easier and more achievable for manufacturers of any scale.



# Meet The Team



→ **Jordan Kretchmer**  
Co-Founder & CEO



→ **Ruddick Lawrence**  
Co-Founder & CTO



→ **Kim Losey**  
CMO



→ **Steve Barsanti**  
VP of Customer Operations





# Meet The Team



**Jordan  
Kretchmer**

Co-Founder &



Jordan has over 20 years of experience as a product strategist, marketer, and business leader with expertise in scaling enterprise software companies and a passion for problem-solving. Prior to co-founding Rapid, Jordan founded Livefyre, the largest cloud-based content and community platform on the web for marketers and publishers. He sold Livefyre to Adobe in 2016 and, through various subsequent advisory and board roles, found himself immersed in the world of manufacturing. Working with some of the world's leading robotics and AI experts, Jordan quickly saw the potential of bringing the service model to manufacturing automation.



# Meet The Team



**Ruddick  
Lawrence**  
Co-Founder &



Ruddick has spent his career working in robotics, hardware and manufacturing. Most recently, he was the VP of Engineering at Carbon Robotics, where he led the entire engineering team. Prior to Carbon, Ruddick was in charge of the manufacturing software group for all new robotic end effectors for the da Vinci robot at Intuitive Surgical. The da Vinci robot is the most-used surgical robot in the world, capable of performing extremely precise medical procedures. Ruddick's group wrote calibration and testing for over 30 instrument types representing tens of thousands of shipped products. Ruddick has a Master's degree from Stanford in Mechanical Engineering, with a focus on mechatronics.





# Meet The Team



**Kim Losey**  
CMO



Kim is a serial entrepreneur and business designer with a passion for manufacturing, marketing, and leading high-growth businesses. She has led global teams responsible for the growth of some of the world's most well-known toy and entertainment brands, built an award-winning omnichannel retail business, and was part of the founding team of Modio Inc., which Autodesk acquired in 2014. At Autodesk, Kim led the marketing teams responsible for Emerging Products, Acquisitions, and Growth, including Fusion 360, expanding on years of manufacturing expertise. She holds a B.S in Marketing and a B.S in Owner Operated Management from the University of South Carolina and thrives on translating creative vision into plans with immense impact.



# Meet The Team



## Steve Barsanti

VP of Customer  
Operations



Steve has over a decade of experience working in Operations, Manufacturing and Deployment for various startups specializing in hardware and software in the Bay Area. Prior to Rapid, Steve worked at Carbon Robotics where he was responsible for manufacturing and supply chain, as well as customer deployments. At Skycatch, Steve oversaw manufacturing operations and the transition to two different contract manufacturers. Steve currently runs the Deployment team, managing operations and customer relationships, and ensuring automation is designed to meet customer expectations. Steve's breadth of experience in operations and professional services is one that places the customer first.



# Resources

**Want to learn more?  
Get in touch!**

## **PR Team**

[rapidroboticspr@gsccommunications.com](mailto:rapidroboticspr@gsccommunications.com)

## **Forest Lee**

Director of Brand Narrative

[forest.lee@rapidrobotics.com](mailto:forest.lee@rapidrobotics.com)

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