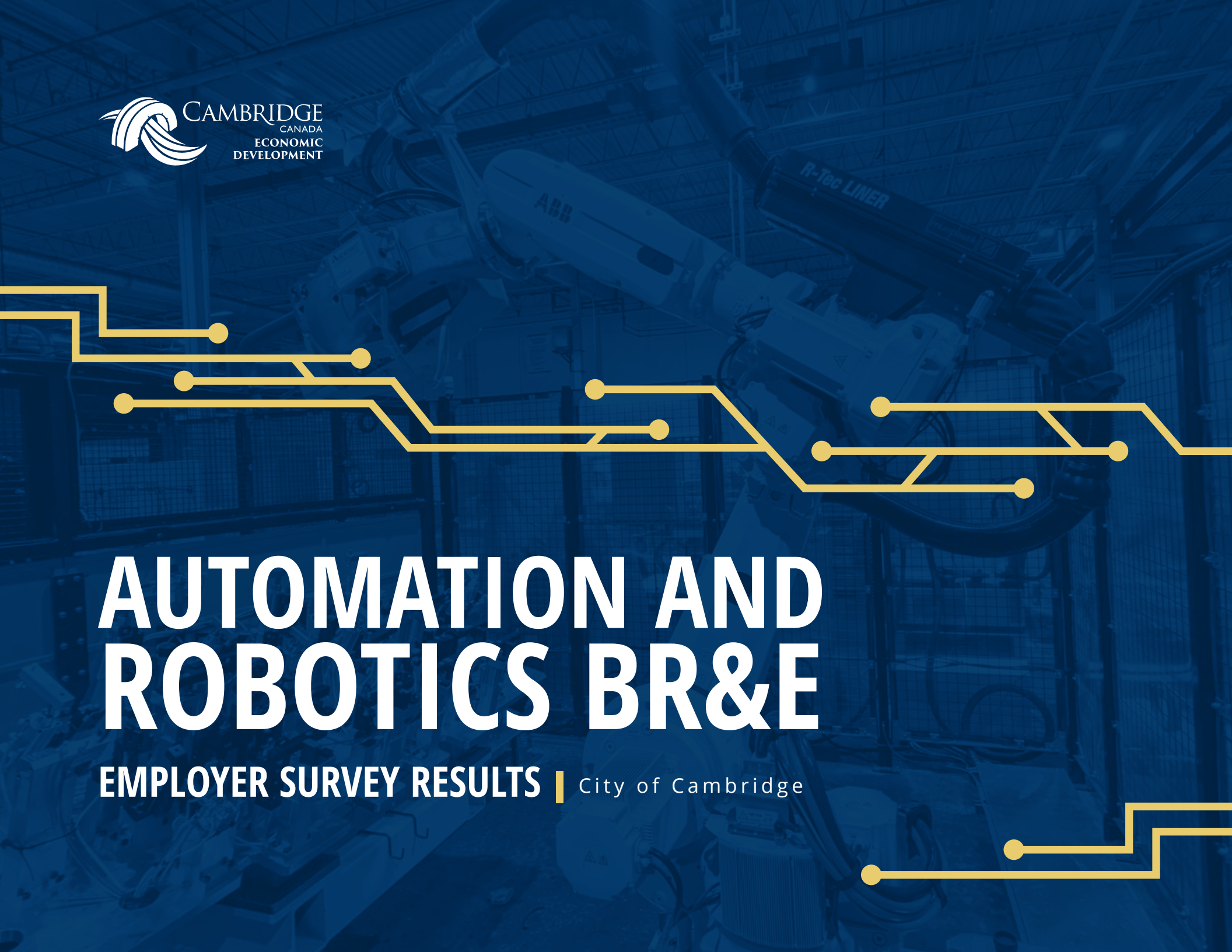

CAMBRIDGE
CANADA
ECONOMIC
DEVELOPMENT

AUTOMATION AND ROBOTICS BR&E

EMPLOYER SURVEY RESULTS | City of Cambridge

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AUTOMATION AND ROBOTICS ARE THRIVING IN CAMBRIDGE

WHAT RESPONDENTS TOLD US:

60%

ASSESS THEIR MARKET POSITION AS STRONGER THAN COMPETITORS

Cambridge businesses are setting themselves apart with their global reach and specialized teams. Smaller companies are leveraging agility and responsiveness to compete.

55%

REPORTED BUSINESS CLIMATE IS GOOD

The majority of respondents felt the business environment was good or very good.

50%

ARE OPTIMISTIC ABOUT SECTOR GROWTH

Fifty percent were optimistic and another 35% were very optimistic about sector growth in the next five years.

50%

SAY SUSTAINABILITY IS EXTREMELY IMPORTANT TO THEIR BUSINESS

Businesses are embracing green approaches such as adopting energy-saving technologies, using sustainable suppliers, and implementing ISO standards.

INTRODUCTION

The City of Cambridge is committed to growing and future-proofing the local economy by strengthening the automation and robotics sector, one of the City's most dynamic and high-potential industries. As part of this commitment, the City has launched a targeted business retention and expansion (BR&E) initiative to help us better understand the challenges, opportunities, and outlook of local businesses operating in this space.

A SINCERE THANK YOU TO OUR BUSINESSES!

The City sincerely thanks the businesses that contributed their time, expertise, and insight to this project. Your voices are shaping a stronger, smarter, and more connected future for Cambridge's automation and robotics economy.

This report summarizes insights from a detailed survey of 20 automation and robotics companies conducted in late 2024 and early 2025. The survey addressed core topics, from talent and supply chain to sustainability, innovation, and global competitiveness. The findings identify what these Cambridge businesses need to thrive, strengthen regional collaboration, attract investment, and guide future policy and planning.

Surveys were completed via in-person and virtual visits with individual businesses to collect responses that were robust and complete.

Each section of the report reflects a priority theme for the sector, with implications for competitiveness, resiliency, and economic growth. These include:

- Business climate and competitiveness
- Workforce and training
- Supply chain and exporting
- Technology use and innovation
- Sustainability and customer insights
- Future outlook and support needs

ABOUT THE SURVEY AND RESPONDENTS

20

RESPONDENTS

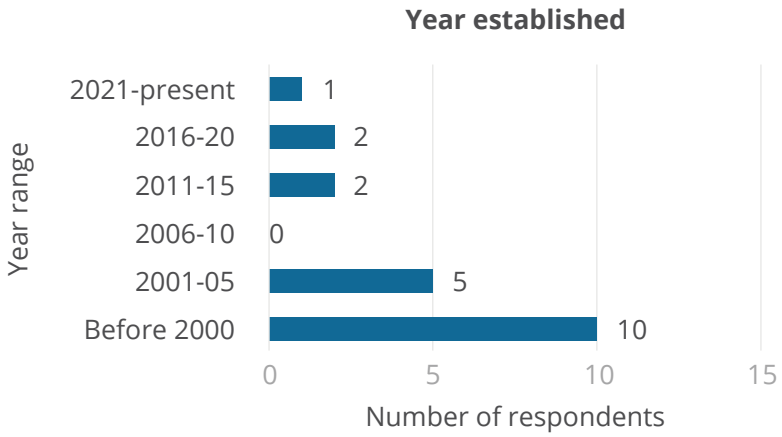
The BR&E survey was completed in late 2024 and early 2025 by senior leaders and decision-makers from 20 businesses in Cambridge's automation and robotics sector. Qualitative and quantitative input was gathered from a mix of newer and well-established companies, both small and large, and findings reflect a wide range of business types and activities in the industry.

While businesses varied in age, size, and type of operation, most responded similarly across key survey questions. Cross-tab analysis (examining survey responses by respondent group) revealed only subtle differences between subgroups. Where notable patterns did emerge, they are highlighted in the report.

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

RESPONDENT BREAKDOWN

A mix of old and new businesses



A mix of large and small businesses (% of respondents)

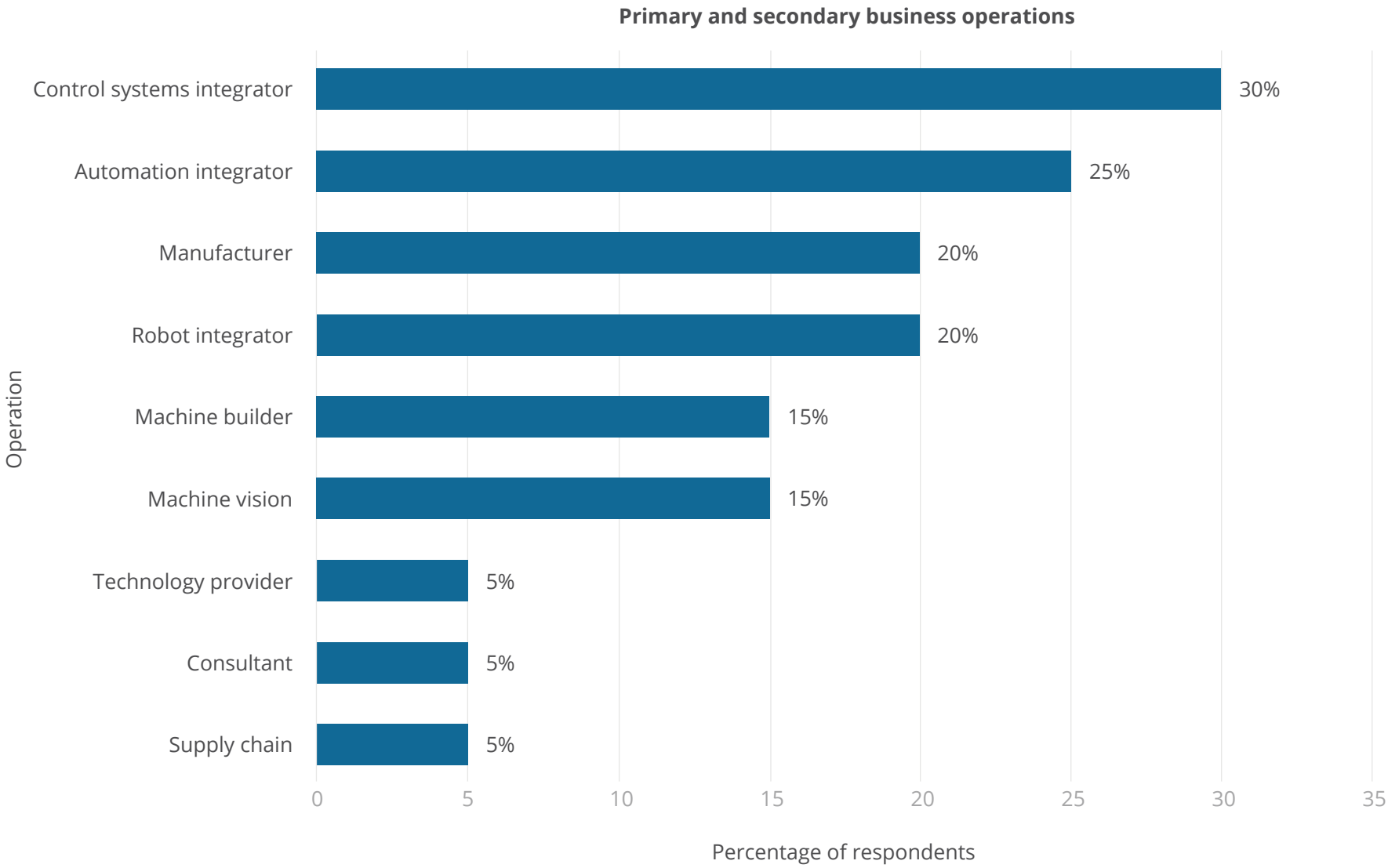
20% 501+ employees

20% 101-500 employees

25% 26-100 employees

35% 1-25 employees

An ecosystem of integrators, builders, and providers



Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

CURRENT BUSINESS
CLIMATE AND CHALLENGES

To gather insight into how businesses perceive the regional business environment and what obstacles they face to stability and growth, we asked about:

- Perceptions of the current business climate
- Biggest challenges businesses are facing
- Specific business needs not being met

KEY FINDINGS

As results reflect, the majority of businesses held positive views of the overall business climate. Structural challenges that were common to many businesses included skilled labour shortages, long equipment lead times, and limited access to space and capital.

Overall rating of the business climate was positive (% of respondents)

55%
Good

15%
Very Good

10%
Neutral

15%
Poor

0%
Very Poor

Access to skilled labour topped industry challenges, followed by regulatory issues and market access

Skilled talent shortages were most often related to gaps in specific kinds of experience. Respondents shared that candidates often lacked the specialized, high-tech skills required.

Access to capital was noted to be weaker in Canada than the U.S., requiring companies to rely on U.S. investors to scale new technology.

WHAT ARE THE TOP CHALLENGES YOUR BUSINESS IS CURRENTLY FACING? (% OF RESPONDENTS)

65% Access to skilled labour

50% Regulatory issues

45% Market access

40% Competition

30% Supply chain issues

30% Financing

10% Technology access

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

AREAS OF NEED INCLUDED SKILLED LABOUR, EDUCATION ALIGNMENT, AND VISIBILITY INTO LOCAL SUPPLY CHAINS AND ECOSYSTEMS

Cambridge businesses noted key areas for improvement, including **ongoing labour needs in skilled trades** and technical roles, **better alignment between education programs and manufacturing requirements,** and **navigating or building local supply chains in emerging sectors like space and electric vehicle (EV) manufacturing.** Businesses were also seeking shorter lead times for equipment and better access to capital.

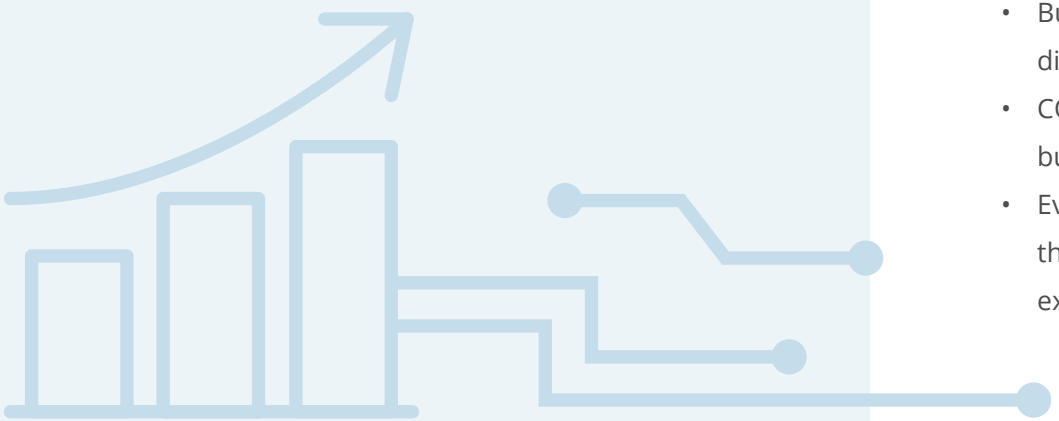
GROWTH AND COMPETITIVENESS

To explore whether businesses are growing and what conditions would support their future competitiveness, we asked about:

- Business growth in the past five years
- Support and resources that would help competitiveness

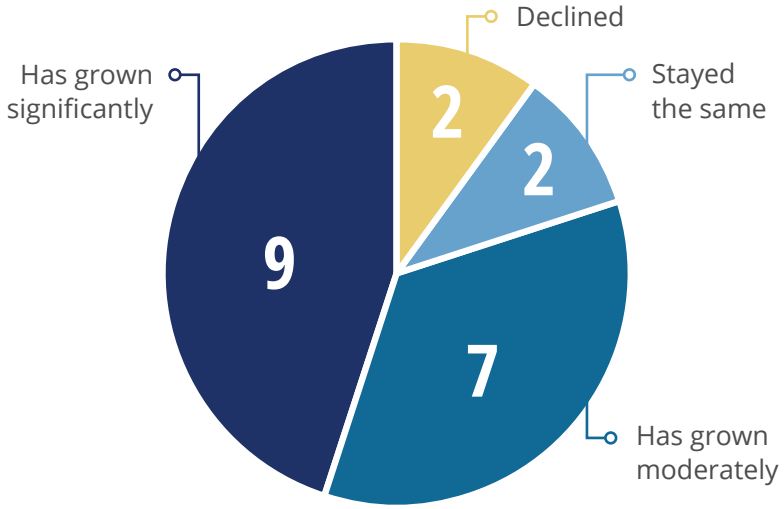
KEY FINDINGS

Growth was generally strong, especially post-COVID. To build on this, companies were looking for better access to talent, capital, space, and coordinated branding to compete effectively in global markets.



Most businesses had experienced growth, though the pace varied

HAVE YOU EXPERIENCED GROWTH IN THE LAST FIVE YEARS? (NUMBER OF RESPONDENTS)



- Businesses reporting growth noted acquisitions and diversification drove increases.
- COVID-19 caused a temporary slowdown, but many businesses have rebounded.
- Even though tariffs had not fully emerged as an issue at the time of the survey, many respondents were already expressing concerns about their potential impact.

UNLOCKING GROWTH: Assistance businesses need to compete

VISIBILITY AND BRANDING
Position Cambridge as a national innovation hub through global PR, clean tech promotion, and cluster storytelling.

SKILLED LABOUR ACCESS
Help businesses connect with post-secondary institutions and talent pipelines, especially in high-skill technical roles.

SIMPLIFIED GOVERNMENT SUPPORT
Streamline access to government support programs, e.g., IRAP (Industrial Research Assistance Program) and SR&ED (Scientific Research and Experimental Development) and export programs to reduce delays in permitting and compliance.

CLUSTER COLLABORATION
Support events, cluster maps, and local directories to foster B2B partnerships and integrator visibility.

ACCESS TO CAPITAL
Enable growth through funding for expansion, technology upgrades, and scaling into new domestic and international markets.

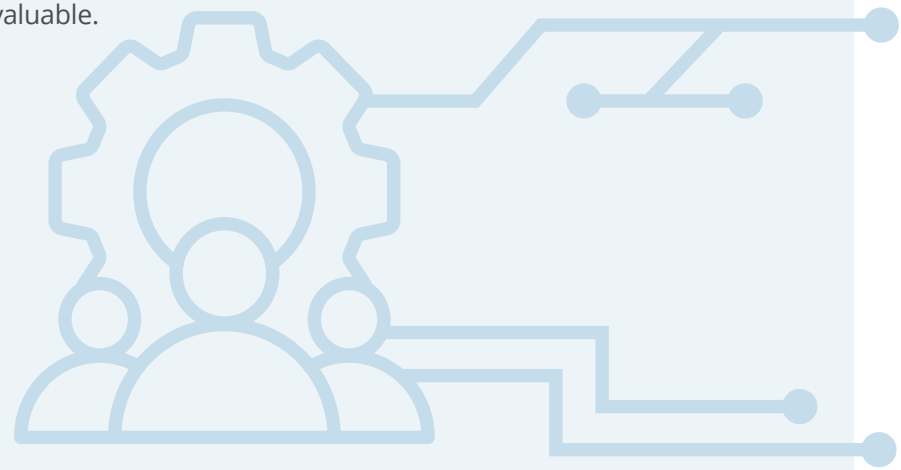
WORKFORCE AND TRAINING

To explore how effectively current education and training pipelines are meeting industry needs, we asked about:

- Types of roles being hired
- Challenges faced by recruitment
- Training and education that would be helpful

KEY FINDINGS

Demand was highest for skilled trades and specialized technical roles. While most businesses used co-op / apprenticeship programs, many said strengthening academic curricula and hands-on readiness would be valuable.



Engineers and skilled trades dominated labour needs

WHAT POSITIONS DO YOU HIRE FOR IN YOUR ORGANIZATION? (% OF RESPONDENTS)

90%

Engineers

70% **Skilled trades** *(electricians, millwrights, welder, etc.)*

40% **General labourers**

25% **Machine operators**

10% **Project managers**

Businesses are looking for:

- Mechanical, electrical, mechatronics, and robotics engineers
- Electricians, CNC (computer numerical control) machinists, millwrights, and general trades
- Early-career and software talent
- Sales, service, and application roles

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

Businesses said labour market conditions have improved, but finding the right blend of technical expertise and experience, among other skills, remained difficult

70%

of respondents noted difficulties in recruiting employees

Mid-level and specialized technical roles were the hardest to fill.

Hybrid roles, like electro-mechanical trades and double-ticketed technicians, were particularly scarce, and there was a consistent shortage of experienced engineers, supervisors, and automation specialists such as programmable logic controller (PLC) programmers and system integrators. In addition to technical gaps, **soft skills, leadership, and emerging competencies in areas like AI** remained difficult to source, making talent retention in key trades roles especially vital.

Most employers were tapped into training programs but noted constraints

80%

of respondents participated in co-op and apprenticeship programs

Companies noted that co-op talent quality was mixed, especially from academic-heavy programs that may have lacked hands-on experience and confidence in the workplace. In seeking to engage with post-secondary co-op and apprenticeship programs, companies faced constraints such as small staff sizes, low return on investment, and a lack of resources to engage with additional programs.

Businesses ranked technical and soft skills as the most beneficial training

WHAT TYPE OF TRAINING WOULD BE MOST BENEFICIAL FOR LOCAL WORKFORCE TRAINING PROGRAMS? (% OF RESPONDENTS)

50% Technical skills

39% Soft skills

28% Management training

17% Networking events

6% Apprenticeships

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

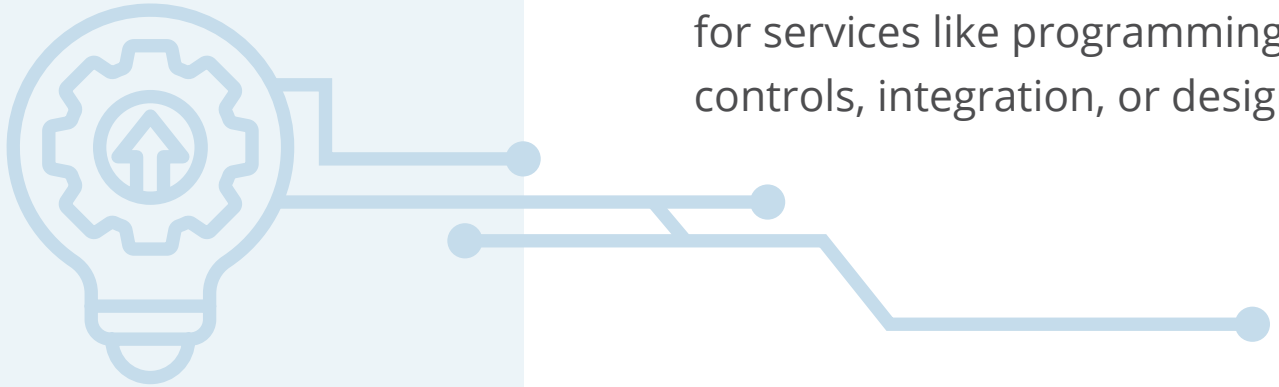
BUSINESS COLLABORATION AND TECHNOLOGY USE

To investigate how and where automation and robotics businesses collaborate and what technologies they are using, we asked about:

- How often collaboration happens
- Types of R&D collaboration with universities or colleges
- Technologies currently in use

KEY FINDINGS

Most companies actively collaborated with others and used foundational automation technology like PLCs and the Internet of Things (IoT). However, highly specialized firms tended to rely more on internal capacity than on external partners.



The largest proportion of respondents indicated that collaboration was common and essential

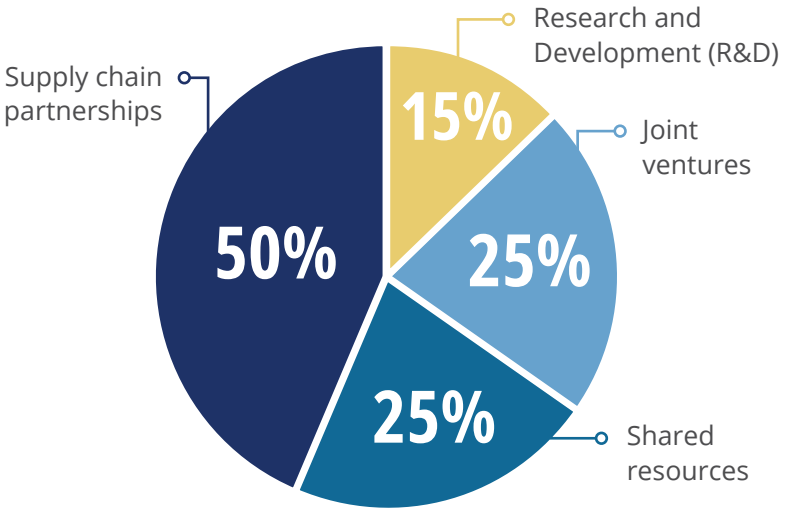
40%

of respondents

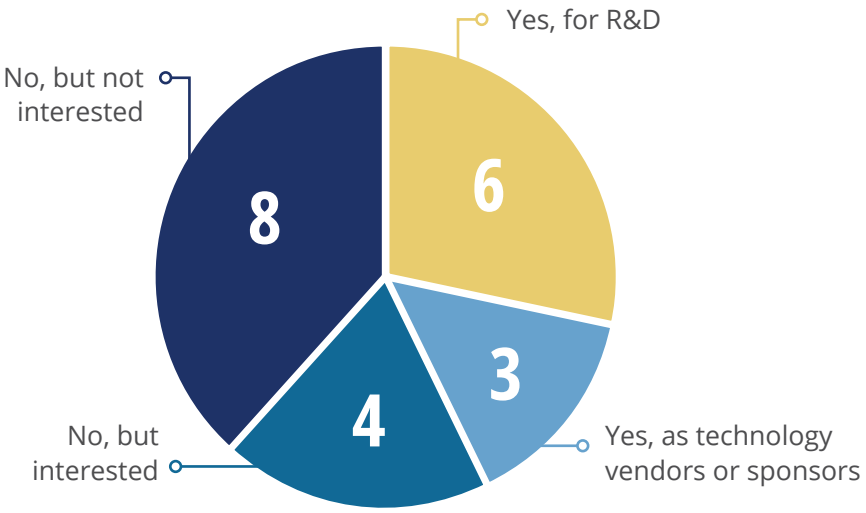
stated that collaboration with other businesses was always part of their business model. They partnered consistently with businesses and customers around the world for services like programming, controls, integration, or design.

Those in niche or highly specialized markets tended to handle most work in-house

WHAT TYPE OF COLLABORATION IS MOST BENEFICIAL FOR YOUR BUSINESS? (% OF RESPONDENTS)



DO YOU COLLABORATE WITH LOCAL UNIVERSITIES OR RESEARCH INSTITUTIONS? (NUMBER OF RESPONDENTS)



Companies were using a variety of technologies, many of which were new and still evolving

WHAT TYPES OF ROBOTICS AND AUTOMATION TECHNOLOGIES DOES YOUR BUSINESS CURRENTLY UTILIZE? (% OF RESPONDENTS)

75%	65%	60%	55%	45%	35%
Industrial robots	IoT integration	Machine learning	Artificial intelligence	Collaborative robots	Automation-guided vehicles

PLC-based systems, motion controls, vision systems, and IoT were widely used as foundational technologies and integrated across operations. Warehouse and logistics robotics were emerging applications.

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

MARKET AND COMPETITION

To understand how local businesses fit into broader markets and how they assess themselves relative to competitors, we asked about:

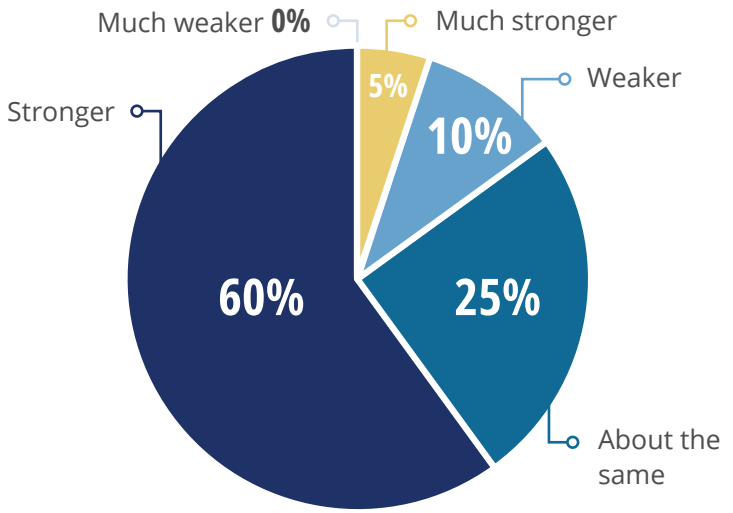
- Key markets and customers
- Who they are competing with
- How businesses assess their market position

KEY FINDINGS

Many businesses operated in regulated sectors and assessed themselves as competitively strong, particularly in automotive and advanced manufacturing, though niche differentiation was noted as key.

Cambridge businesses reported strong competitive market positioning

HOW DO YOU ASSESS YOUR MARKET POSITION COMPARED TO COMPETITORS? (% OF RESPONDENTS)



- Global reach and specialization helped some firms stand out. Businesses reported being competitive in certain niches, but not dominant across all sectors.
- Scale remained a differentiator against larger multinational players. While some companies were smaller than global competitors, they had agility, responsiveness, and specialization on their side.

Primary markets for respondents included automotive, manufacturing, and health care

WHAT PRIMARY MARKETS DO YOU SERVE? (% OF RESPONDENTS)

55% Automotive

45% Manufacturing

40% Health Care

30% Aerospace

25% Food and Beverage

25% Logistics

20% Life Sciences

20% Consumer Electronics

15% Energy
(Including Nuclear)

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

SUPPLY CHAIN

To examine local manufacturing practices, supply chain stability, and ongoing sourcing challenges, we asked about:

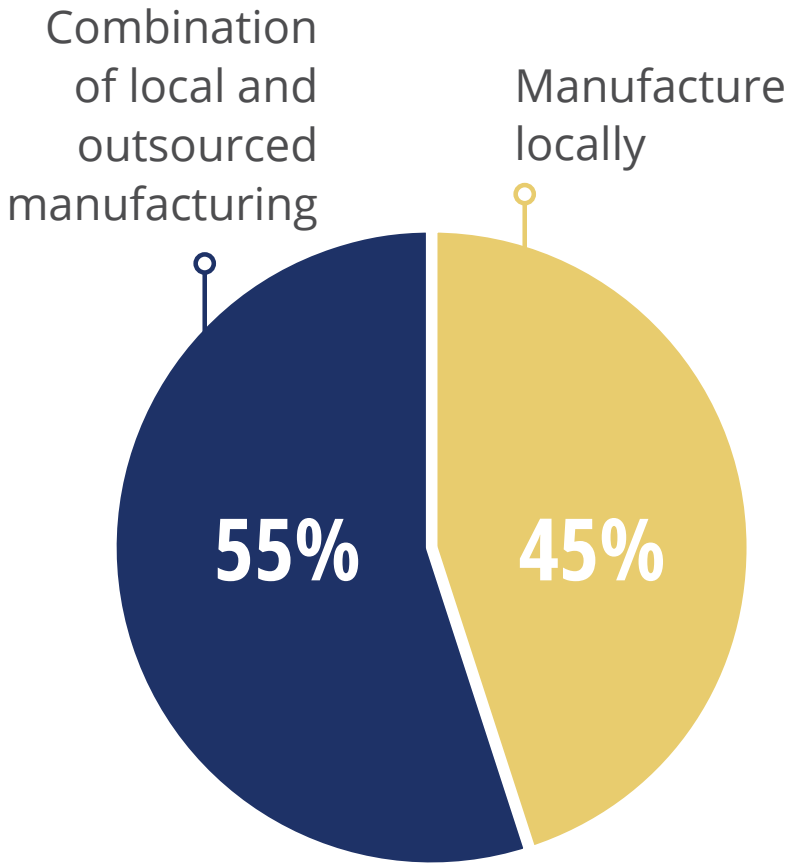
- Manufacturing locally
- Stability of the supply chain
- Supply chain challenges

KEY FINDINGS

Most companies reported their supply chains had stabilized post-COVID, though global volatility, cost fluctuations, and component lead times remained ongoing challenges.

Businesses manufactured their products locally, either wholly or in part

DO YOU MANUFACTURE LOCALLY, OUTSOURCE, OR USE A COMBINATION? (% OF RESPONDENTS)



Respondents reported a stable supply chain with moderate price volatility

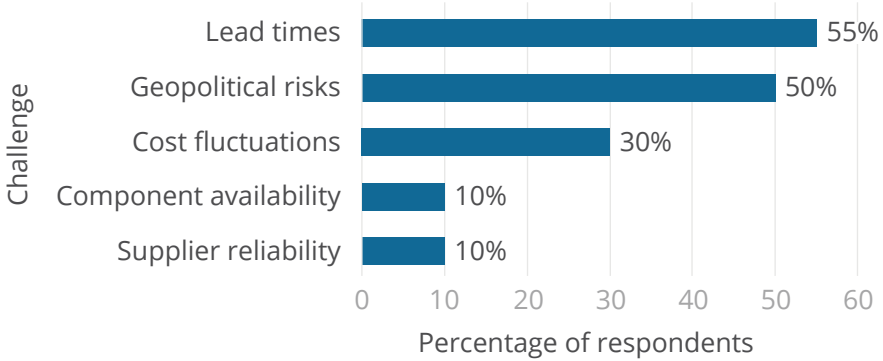
HOW STABLE IS THE CURRENT SUPPLY CHAIN FOR CAMBRIDGE BUSINESSES IN ROBOTICS AND AUTOMATION? (% OF RESPONDENTS)

- Businesses reported improved stability since COVID-19
- Price volatility, especially for key inputs like steel and electronics, remained a challenge
- Firms with diversified or local supplier networks felt more secure

30%	50%	15%	5%	0%
Very stable	Stable	Neutral	Unstable	Very unstable

Lead times and tariffs were top pain points

WHAT ARE THE KEY CHALLENGES YOU FACE IN YOUR SUPPLY CHAIN?



While the survey was conducted at the outset of U.S. tariff implementation (early 2025), many respondents were already conscious of the potential impacts that could result. Other pain points included lead times, costs, and availability / reliability.

- **Lead times** were long and inconsistent, with high demand from customers.
- **Geopolitical risks** included global political tensions, tariffs, and shifting public sentiment.
- **Cost fluctuations,** including frequent price increases, were observed, especially in components and raw materials.
- **Supply chain issues** were noted, including fragmented supplier systems with limited visibility into production data.

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

EXPORTING

To analyze how businesses are accessing global markets, what barriers they face, and what supports could improve their export potential, we asked about:

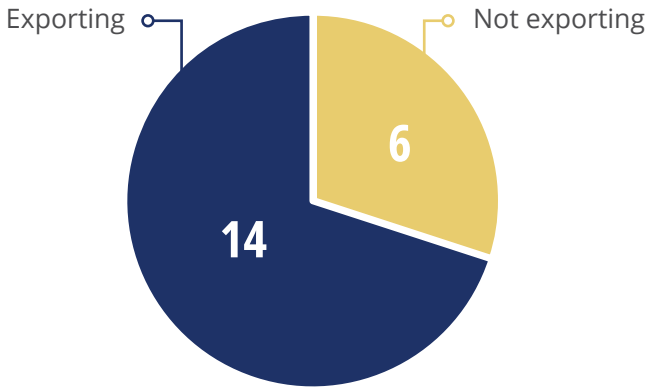
- Experiences with exporting products and services
- Countries exported to
- Export challenges faced

KEY FINDINGS

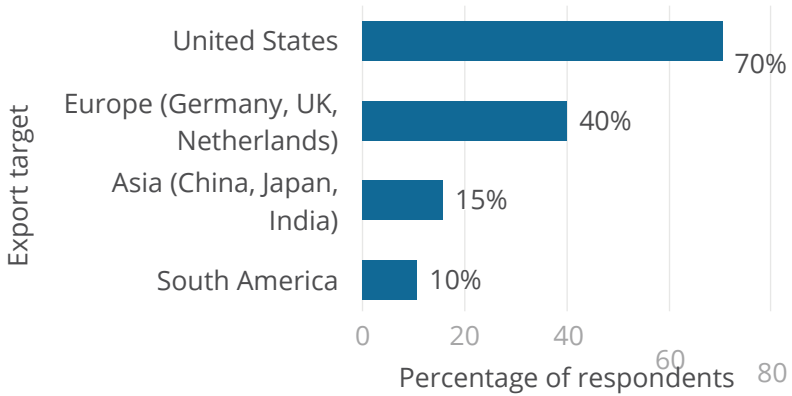
Most firms exported (especially to the U.S.), but regulatory and logistical hurdles were common. Many did not use export support programs, but said better legal, compliance, and funding support would be helpful.

Most Cambridge businesses were exporting, with the U.S. being the dominant target market

ARE YOU CURRENTLY EXPORTING PRODUCTS OR SERVICES? (NUMBER OF RESPONDENTS)



TO WHAT COUNTRIES ARE YOU EXPORTING?



Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

Regulatory compliance was a top challenge, closely followed by tariffs and trade barriers

WHAT ARE THE BIGGEST CHALLENGES YOU FACE IN EXPORTING? (% OF RESPONDENTS)

35% Regulatory compliance

30% Tariffs and trade barriers

25% Currency exchange rates

20% Finding international partners

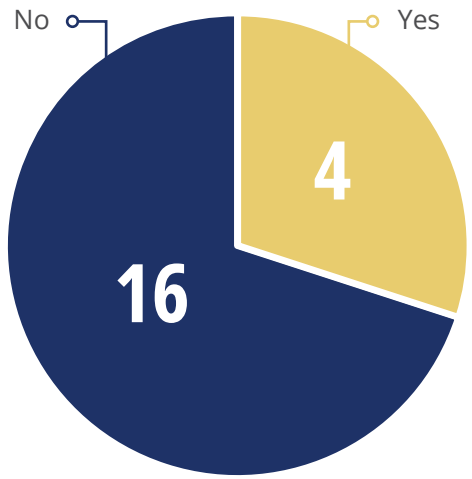
20% Logistics and shipping costs

5% Market knowledge

Businesses cited ongoing tariff challenges, varying country-specific regulatory requirements, and the complexity of navigating different compliance agencies.

A majority of businesses did not use government programs and resources, but cited the need for regulatory, legal, and compliance support, among other resources

HAVE YOU UTILIZED ANY GOVERNMENT PROGRAMS OR RESOURCES TO ASSIST WITH EXPORTING? (NUMBER OF RESPONDENTS)



Businesses would like support with:

22% Regulatory, legal, and compliance expertise

22% Market knowledge and partner connections

22% Internal capacity, staffing, and funding

11% Logistics and shipping challenges

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

CUSTOMER INSIGHTS

To understand who local businesses serve and what matters most to their customers, we asked about:

- Who automation and robotics customers are
- What influences customer purchasing decisions
- Whether customers have preferences

KEY FINDINGS

Respondents said customers were increasingly demanding speed, value, and innovation, despite rising cost pressures. About half of the firms said customer preferences have shifted toward faster delivery, AI integration, and turnkey solutions.

Businesses served a broad client base that spanned large corporations, small-to-medium enterprises, and early-stage companies across various industries

WHO ARE YOUR KEY CUSTOMERS FOR ROBOTIC AND AUTOMATION SOLUTIONS? (% OF RESPONDENTS)

85%

Large enterprises

(often original equipment manufacturers)

40%
SMEs

35%
Government

25%
Start-ups

20%
Research institutions

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

Customers prioritized financial stability, innovation, reliability, and value

WHAT ARE THE MAIN FACTORS INFLUENCING CUSTOMERS' PURCHASING DECISIONS? (% OF RESPONDENTS)

Customers prioritized partners who were financially stable and could be counted on to deliver high-quality solutions and strong support.

60% Technological innovation

60% Customer service

60% Price

55% Quality

50% Brand reputation

Speed and AI were driving new expectations, but not across the board

ARE CUSTOMER PREFERENCES SHIFTING? (% OF RESPONDENTS)

Respondents cited changing customer perceptions related to faster delivery, quicker product-to-market timelines, and greater interest in turnkey automation solutions and advanced technology like AI. Additional comments suggested that changing customer preferences were tied to market conditions but varied across sectors.

45% YES

55% NO

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

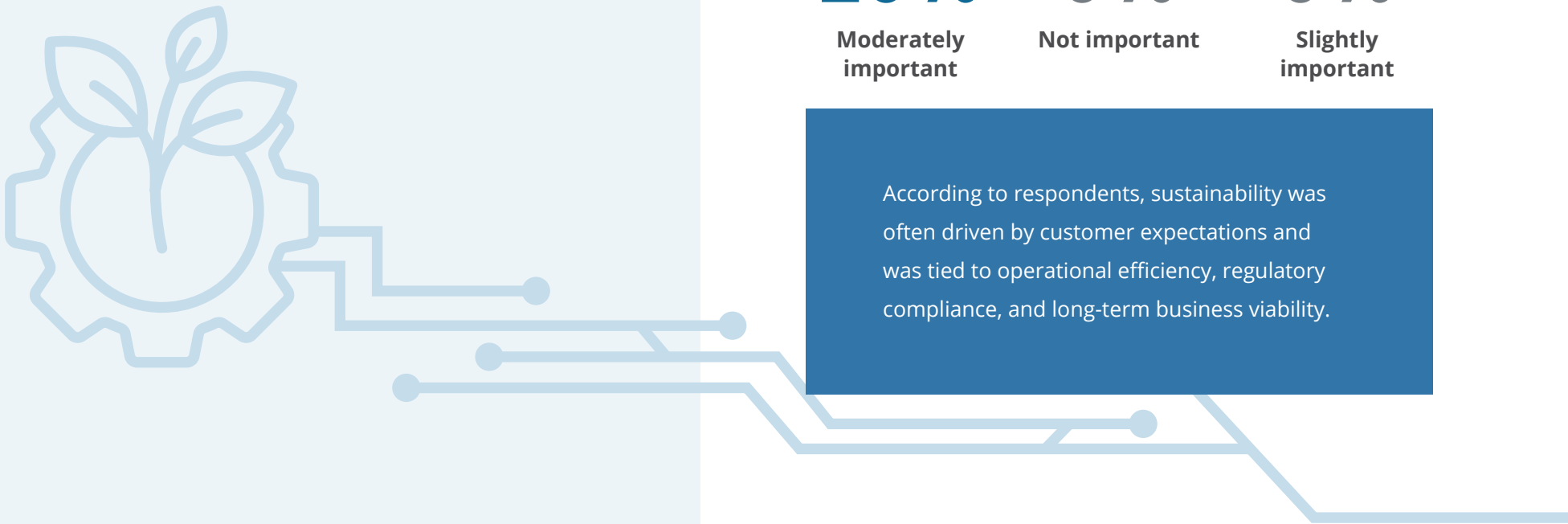
SUSTAINABILITY

To explore the role of sustainability in operations and decision-making, both internally and across the supply chain, we asked about:

- The importance of sustainability in operations
- Steps taken to improve sustainability

KEY FINDINGS

Half of businesses ranked sustainability as very important, driven by customer expectations and regulatory context. Most were implementing practical energy efficiency and waste reduction practices.



Sustainability was seen as a business essential by Cambridge businesses

HOW IMPORTANT IS SUSTAINABILITY TO YOUR BUSINESS? (% OF RESPONDENTS)

50% Extremely important

30% Important

20% Moderately important

0% Not important

0% Slightly important

According to respondents, sustainability was often driven by customer expectations and was tied to operational efficiency, regulatory compliance, and long-term business viability.

CAMBRIDGE BUSINESSES WERE "GOING GREEN" WITH A VARIETY OF APPROACHES

OPERATIONAL EFFICIENCY

- Recycling steel, minimizing waste
- Using LED lighting, auto lights, air curtains

ENERGY-SAVING TECHNOLOGIES

- Using machines with low energy use
- Adopting features like auto shut-offs, energy monitoring

CUSTOMER DRIVEN SUSTAINABILITY

- Designing automation systems with lifecycle / efficiency goals
- Selling energy-saving solutions as value-adds

CLEAN TECH AND RENEWABLE FOCUS

- Supporting electrification and EV supply chains

SUPPLY CHAIN STANDARDS

- Buying components based on customer sustainability specifications
- Relying on suppliers to meet environmental requirements

CERTIFICATIONS AND FORMAL SYSTEMS

- Implementing ISO 14001
- Tracking emissions, water, and energy data

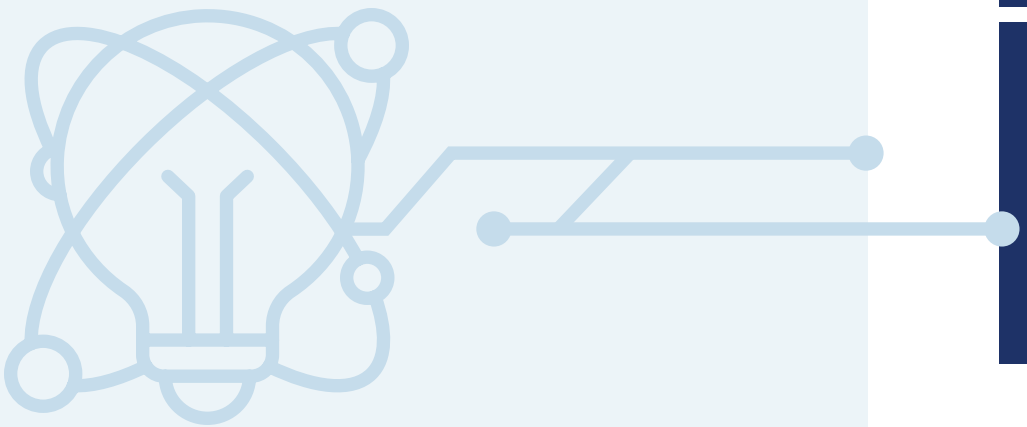
INNOVATION

To explore the forces shaping innovation, including barriers, opportunities, and technology adoption, we asked about:

- Regulatory challenges faced
- Emerging technologies impacting business
- Preparedness to integrate changes
- Potential partnerships

KEY FINDINGS

Firms were eager to adopt AI, digital twins, and smart systems, but cited talent gaps and certification barriers. Collaboration with educational institutions, original equipment manufacturers (OEMs), and technology providers was perceived as critical to staying ahead.



A majority (60%) did not note any specific regulatory challenges in the sector; those who did cited safety and certification requirements, complexity, and trade concerns as factors

SAFETY AND CERTIFICATION REQUIREMENTS

CSA / ESA certification burdens, new electrical rules, co-bot ambiguity, safety audits, third-party variance

EXPORT / TRADE / TARIFF CONCERNS

Tariff uncertainty (U.S. exports), CHIPS Act (U.S.) export restrictions, concern over Canadian policy shifts

HIGH REGULATORY COMPLEXITY

(general / sector-specific)

Frequent updates, multiple agencies, especially in life sciences and advanced products

AI and machine learning technologies were expected to transform the industry

WHAT EMERGING TECHNOLOGIES WILL HAVE THE MOST IMPACT ON YOUR BUSINESS IN THE NEXT FIVE YEARS?
(% OF RESPONDENTS)

85%	70%	15%	10%
Artificial intelligence	Machine learning	Advanced materials	Quantum computing

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

The outlook for technology integration was positive, with most feeling prepared

HOW PREPARED DO YOU FEEL TO INTEGRATE TECHNOLOGY?
(% OF RESPONDENTS)

35%	35%	20%	10%
Prepared	Extremely prepared	Somewhat prepared	Not prepared

- Some businesses felt highly prepared, especially those with global or corporate structures.
- Some respondents commented that regulation was a factor in the speed of adoption. For example, in some sectors, like pharmaceuticals, technologies like AI are subject to strict assessment by regulatory bodies.

WHAT PARTNERSHIPS OR COLLABORATIONS HELP TECH ADVANCEMENTS?

Businesses emphasized the value of deeper **collaboration with local colleges, universities, technology providers, and OEMs** to stay at the forefront of innovation. **Access to government funding, incubator programs, and peer networks** also supported R&D and ecosystem growth. A few firms were pursuing **strategic acquisitions** to scale capabilities.

FUTURE OUTLOOK

To gather future-facing feedback, we asked companies about:

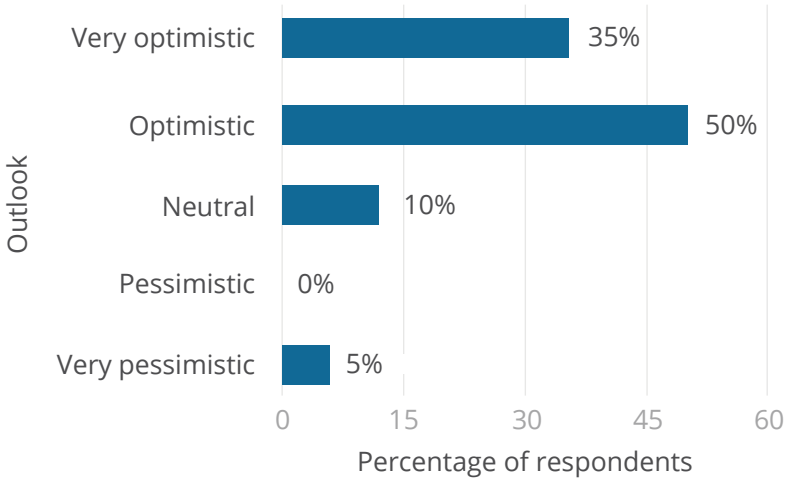
- Sector outlook over the next five years
- What support will help businesses thrive
- Gaps in the cluster
- Goals for future growth

KEY FINDINGS

Most firms were optimistic, driven by automation demand and strong local talent. Support was needed in branding, education alignment, and fostering collaboration.

Businesses were confident about local growth but conscious of global headwinds

HOW OPTIMISTIC ARE YOU ABOUT SECTOR GROWTH OVER THE NEXT FIVE YEARS?



There was a general optimism about growth, driven by AI, reshoring, and SME adoption. Local talent and institutions were key strengths, while external risks like tariffs and stronger U.S. incentives were noted as potential threats to momentum.

SUPPORT IS STILL NEEDED TO HELP BUSINESS ADAPT AND THRIVE IN THE FUTURE

Businesses highlighted the need for city branding, government funding, and stronger collaboration with local education and industry players. They also recommended training improvements to help Cambridge's automation sector thrive.

OPPORTUNITIES EXIST TO STRENGTHEN TRAINING, COLLABORATION, AND SUPPLY CHAINS

While most businesses viewed Cambridge's automation and robotics cluster as strong and well-supported, key gaps were noted in technical skills, post-secondary curriculum alignment, and local collaboration. Broader supply chain limitations were also noted.

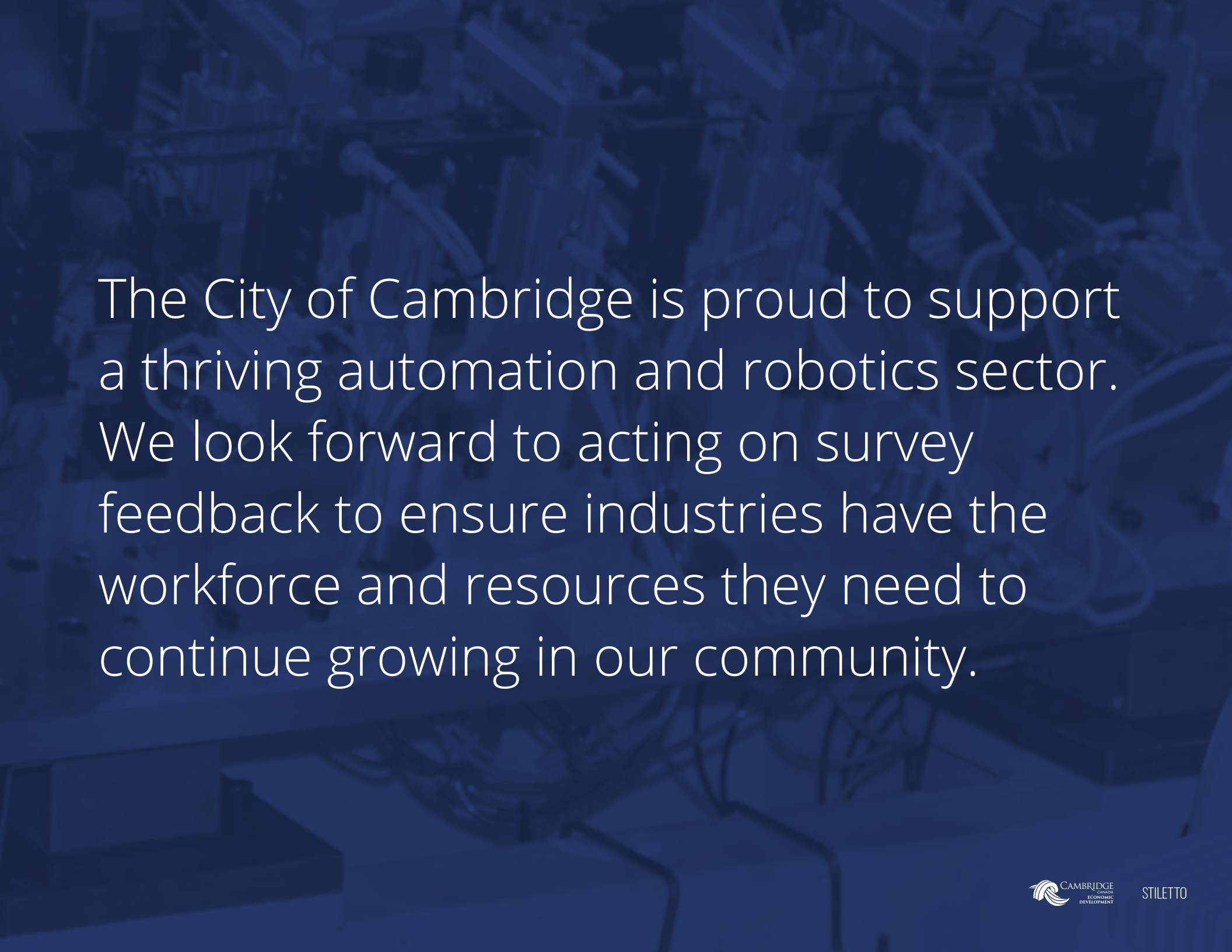
Top future priorities included market share, efficiency, and expansion

WHAT ARE YOUR PRIMARY GROWTH OBJECTIVES OVER THE NEXT FIVE YEARS? (% OF RESPONDENTS)

75%	60%	55%	35%	30%
Increase market share	Improve operational efficiency	Enter new markets	Invest in R&D	Expand product lines

Note: Total percentages do not equal 100% where questions allowed respondents to select more than one answer.

A BRIGHT FUTURE



The City of Cambridge is proud to support a thriving automation and robotics sector. We look forward to acting on survey feedback to ensure industries have the workforce and resources they need to continue growing in our community.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