

# CHARTING CHANGE

Workers' Voices in an  
Automated World



An IAM Canada Report

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## I INTRODUCTION

At the heart of our organization are our members, workers whose efforts, dedication and commitment to their jobs day in and day out sustains our economy, and builds our communities. The manufacturing sector is one that has a long history of technological change. Traces of major changes are becoming evident in the automotive industry. Specifically, the automotive industry will experience a major overhaul due to the shift away from internal combustion vehicles to electric ones. It's estimated that the number of workers required to build an electric powertrain will require 1/6 of the workforce needed for producing an internal combustion powertrain. Because of this major shift in production and new pressures in the business environment, it was necessary to understand the impact technology could have on the industry and the future of work.

Our study was done using research methods that helped uncover trends through member experiences with automation, and more generally, technological change. Understanding automation from the perspective of our members will help our organization better represent members at the bargaining table, and advocate for policies and legislation that protect all working Canadians.

Information in this report is specific to skilled tradespeople working in the manufacturing sector, which includes automotive, ship building, and aircraft production, the majority of which was gathered through focus groups with members.

## II TRENDS

- The shift to production of electric vehicles will require 1/6 of the workforce needed to produce internal combustion engine vehicles.
- Since 2009, the number of robots doubled in the manufacturing sector
- In regions with high unionization, usage of robots is much lower than those regions where unionization rates are low.
- Workers of colour, young workers, and workers over 50 will bear the brunt of the negative effects of automation
- Certain regions are also more vulnerable than others, especially those that are a dependent on a single industry, large pools of low skilled labour, high numbers of workers in jobs with little to no mobility, and an aging workforce.
- Small towns and communities that specialize in manufacturing, quarrying, mining, oil and gas extraction are at the highest risk of job loss due to automation.
- Other Canadian industries like, accommodation and food services, transportation and warehousing, and agriculture are also at high risk of automation, translating into 2.5 million job losses.



### III WHAT OUR MEMBERS ARE SAYING: WE THOUGHT JOBS WERE LOST BECAUSE OF THE CYCLICAL NATURE OF OUR INDUSTRY, BUT IT WAS BECAUSE OF AUTOMATION

- The automotive industry is seeing the fastest erosion of skilled work, while ship yards are somewhat insulated given high levels of customization in work tasks
- In smaller communities, employers are shaping labour markets by creating labour shortages that result in outsourcing of work, or automation, or both.
- NDT testing and 3D printing are also part of discussions to introduce new materials and methods
- In cases where an employer is a large corporation that merged with another conglomerate, investments in technology followed
- Evidence of de-skilling, reduction of autonomy over skilled work. Certain Red Seal trades are seeing a complete erosion of their trade, for instance, millwrights in the United States are certified for each task, instead of demonstrating knowledge of all tasks the trade requires. Micro-credentialing and other types of training are certainly spurring the erosion of trades.
- Use of apps for inspections
- Machines track for how long they're running versus being idle; this information is used by management to measure output and hold workers accountable. This made workers feel like they were under constant scrutiny
- For some skilled tradespeople, like machinists, the pace of work has increased, it's intensified, but has also become repetitive. Highly routinized jobs no longer require a highly skilled worker, members noted that there's almost no difference between a trained worker and one off the street.
- Increasingly, skilled tradespeople are noticing that hands on work is diminishing
- Members noted that training today teaches students how to run parts, not the machine
- Outsourcing of work to highly automated plants is not just a possibility but it's already happening
- Autonomy and knowledge is being shifted to computerized systems that drive decision making and trouble shooting

### IV RECOMMENDATIONS

- On the job training
- Ensuring workers aren't pigeonholed and are offered opportunities for training and growth, as this has shown to protect those most susceptible to becoming technologically obsolete
- Ensuring that as jobs change, pay scales reflect the change in responsibility, skill level and productivity
- Specific collective agreement language
- Rural and regional economic development to stave off harsh impacts in highly susceptible areas

For a closer look at recommendations and member experiences, you can download our report at:

Or scan the QR code on the inside cover.