



Supporting Southland Manufacturers' Productivity and Growth in Post-COVID Economy Final Report

Oct 11, 2021

David Boulay, Ph.D., President

Phone: 309-677-3766

Fax: 309-677-3289

Email: dboulay@imec.org



Progress Summary

This is the project final report to pilot accelerating productivity and innovation for Southland small and mid-sized manufacturers. The table outlines the primary objectives, status, and related comments.

Activity	Status	Notes
Outreach to 876 manufacturers	Completed	Conducted extensive outreach to companies to request completion of needs assessment
Needs Assessment and follow-up	Completed	335 companies responded. Metal manufacturers accounting for 20% of the total response. 81 companies participated in follow-up conversations.
Productivity related events and marketing	Completed	104 virtual webinars and extensive ongoing outreach to southland manufacturers. COVID required the pivot to virtual.
Five Productivity Improvement Projects	Completed	Eight companies engaged in projects
Four company implementation guidance and support	Completed	Five companies worked on implementation activities
Evaluation plans	Completed	Company reported anticipated impact over \$5.7 million.

Activity: Outreach

Southland Needs Assessment

IMEC contacted every manufacturer in the southland area by phone. Given the COVID shift, the purpose of the call was to provide support and to understand urgent priorities to recover from the pandemic while highlighting the opportunity with this project. The initial assessment questions are as follows:



URGENT - Start Immediately (3)

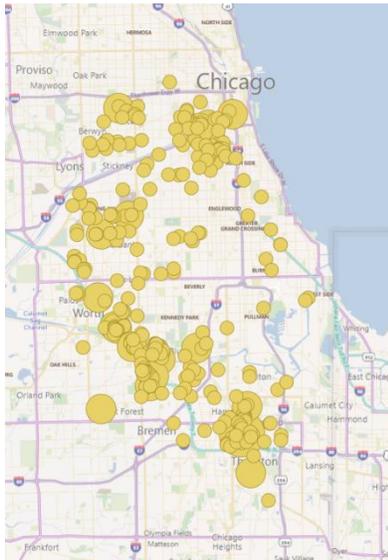
IMPORTANT - In the next year (1)

PRIORITY - Next 6 months (2)

NOT NOW - Future plans (0)

The survey focused on asking firms to identify the priority of TEN ISSUES:

1. Lead the organization towards high performance
2. Develop long-term company direction
3. Manage organizational assets and data
4. Create growth opportunities
5. Protect and secure our digital information
6. Find, train & retain skilled workforce
7. Drive productivity and efficiency in our process
8. Address supply chain problems
9. Find the right technology
10. Improve safety, hygiene, and sanitation



Of the 876 manufacturing companies contacted, 335 completed the assessment. Over 85% of the total respondents were small manufacturers with less than 50 employees. Over 20% of the respondents were in the metal fabrication industry.

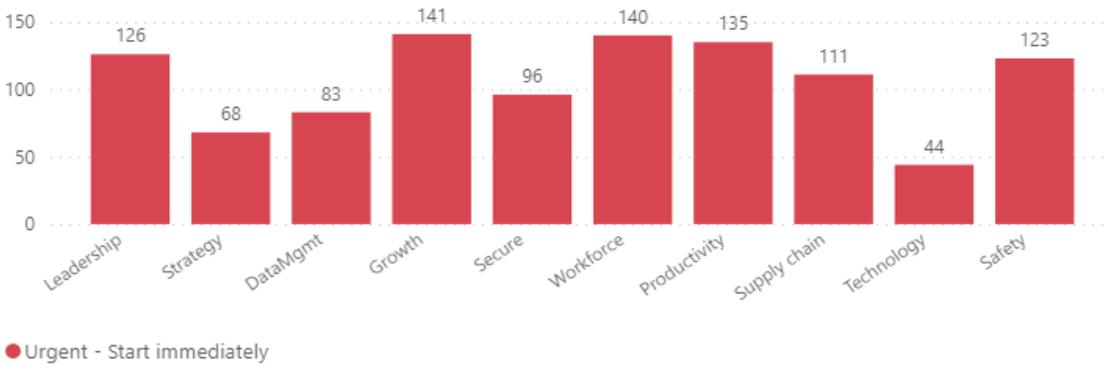
Importance of the Findings:

The needs assessment helped identify urgent issues among the Southland manufacturers. The assessment provided insight into how manufacturers have been affected, and areas in which they prioritize as key drivers to their overall success.

The following are the top needs that we have identified from the assessment as most urgent:

- Create growth opportunities
- Find, train & retain skilled workforce
- Drive productivity and efficiency in our processes

Southland Responses: URGENT needs only





Activity: Productivity and Growth-related events

COVID required changes in the approach for in person group events. At no time during this grant period were large convenings recommended nor of interest from manufacturers. When IMEC prepared for in-person events in the summer of 2021, the rising case counts resulted in the decision to remain virtual. Alternatively, IMEC ensured southland manufacturers were invited and aware of IMEC's 104 virtual events that occurred during the grant period. These events ranged from automation to workforce skills to market growth opportunities. Representative events included:

- [Discover CNC Automation: How Machine Shops Can Automate with Robots](#)
- [Advanced Manufacturing Explained: What Does Industry 4.0 Mean for Me?](#)
- [How Automation and Millennials Will Change Manufacturing](#)
- [eCommerce Strategy for Manufacturers](#)
- [Improving Virtual Sales Skills Training](#)

All events were recorded and remain accessible for download and on-demand learning.

Activity: Productivity Improvement and Implementation Projects

IMEC followed-up with 84 companies through phone calls, emails, and virtual meetings after the assessment. IMEC engaged with eight of those companies to solve productivity and COVID-related business challenges. The projects represented a range of productivity enhancing priorities from upskilling to process improvement to technology adoption. Interestingly, most companies could benefit from addressing 'low-hanging fruit' rather than significant capital investments. This was essential during COVID as smaller manufacturers were risk adverse on major capital investments. The following summaries highlight the eight project companies:

- Ability Engineering Technology Inc (South Holland, IL): To improve project flow and deliver projects on-time and under budget, IMEC applied Value Stream Map to identified "Non-Value-Added" activities from various stages of purchasing processes. IMEC created the current state map which include all steps within the business process, both value-added, and non-value added. This brought forth process from the initial customer transaction to the final resolution of requested action, and highlighted and eliminated sources of inefficiencies.
- Advertising Flag Company (Posen, IL): has been in businesses since 1936, as one of the few flag manufacturers that still makes all its product in USA. In response to their needs in overall strategy and management of the organization IMEC created a model to elevate strategy planning and implementation. The program consisted of individual and group level work to build comprehensive systems of setting and implementing strategy to improve organization performance, inclusive of productivity performance. The model provides Advertising Flag an ongoing process of organizational planning and tactical implementation.
- Animated Manufacturing Company (South Holland, IL): The company identified significant productivity vulnerabilities due to a lack of clear planning and integrated focus. An initial organizational assessment exposed area of vulnerability. The IMEC team offered



recommendations and review action plans that will evaluate current production KPI's and set improvement targets using SMART goals. The action plan set efforts in motion to improve productivity and increase employee engagement.

- Ardagh Group (Dolton, IL): is a Luxembourg-based producer of glass and metal products that has "grown in the past two decades into one of the world's largest metal and glass packaging companies." To keep up with the expansion and overall productivity of the organization, IMEC aided in piloting their new e-learning platform to enhance onboarding and increase productivity.
- Camco Manufacturing Inc (Crestwood, IL): This manufacturer sought to mature its digital outreach systems in the hopes of increasing its sales and fill idle capacity. To support these efforts IMEC assisted them with creation of a new website and new onboarding curriculum so that additional employees can be added quickly and safely. This included a standard training for new hires as well as an apprenticeship program model.
- Donson Machine Co. (Alsip, IL): This machinery manufacturer has been challenged with extremely long lead times with incorporating new clients into the company's production cycles. The IMEC team exposed the wasted time and efforts during the Value Stream Map by creating the current state map. In comparison to the future state map that the team developed, the company was able to see the minimal process steps required to achieve desired performance.
- Machining Systems Corp (Crestwood, IL): This metal manufacturer was experiencing internal system strains and facing areas of waste of their profit margins. IMEC worked with the leadership team to review their facility layout; created new, more efficient layout options; and documented the final solution in a CAD drawing. This deliverable is aimed at decreasing the waste in current daily production and allowed for more streamlined and effective planning once they expand into the adjacent space later this year.
- Sterling Site Access Solutions (Phoenix, IL): is a fast-growing company desiring to evolve its performance management process to match the dynamics of their organization. The organization wish to automate their performance management system utilizing the Workforce Now technology system. IMEC and the performance management implementation team developed a project plan with key project milestones, relevant manager and employee training, and a communications strategy, all culminating with Workforce Now to go-live in 2021.

Impact Evaluation

Participating companies were asked to complete an online anticipated impact evaluation. Questions on this survey included "Likely to Recommend IMEC" to understand quality of the projects followed by their estimates of the quantified dollar impacts in sales, cost savings, investments, and jobs created/retained. Seven of the eight companies completed the anticipated impact evaluation. Here is the summary of the combined results:



- For the ‘how likely are you to recommend IMEC’ question, the average rating was a 9 on a ten-point scale. One company rated a ‘4’ and noted that the rating was due to the likelihood the company needs additional IMEC support to implement the solution. This additional support was provided after the survey. One company rated a ‘9’ and the remaining companies rated a ‘10’.

Anticipated impact category	Combined Reported Total	Notes
Sales created/retained	\$1,460,000	One company anticipates \$1,000,000
Investments	\$2,469,500	All companies reported anticipated investments process, equipment and/or skills
Cost savings	\$441,500	Five of the seven companies noted cost savings
Jobs retained	41	Two companies combined for 32 of the 41 reported jobs retained
Jobs created	14	Four companies reported jobs created

The anticipated aggregate impact is \$5,750,805. This is based on guidelines from US Commerce NIST Manufacturing Extension Partnership (MEP) that discounts the value of sales created/retained and uses a dollar factor for jobs retained and created based on data from Bureau of Labor Statistics.

While COVID reshaped the approach to this project and shifted manufacturer priorities, the project was able to be completed. The use of a needs assessment model provided an ability to understand and focus on priority needs of each manufacturer. The results of this project suggest there is significant opportunity to improve southland manufacturer productivity. The initial solution sets in upskilling, process design, and readily available technologies can significant advance manufacturers performance.

Financial Summary

The project costs were incurred ahead of the receipts therefore no interest was earned.

Item	Status	Amount
Outreach to approx. 875 manufacturers, assessment follow-up, and coordination.	876 contacted 335 completed assessment	\$ 8,000
Productivity related events and marketing.	30	\$ 7,500
At minimum five company engagements/productivity plans.	8	\$20,000
Collaborative learning events	20	\$5,000
Four company implementation guidance and support.	Ability Engineering Camco Donson Machining Systems	\$15,000
Evaluation	Company reported impacts are \$5,750,805.	\$1,000
Total		\$56,500