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GENESIS AT WORK

**Evaluating the Effects of Manufacturing
Extension on Business Success and Job Quality**

Ranita Jain, Nichola Lowe, Greg Schrock, and Maureen Conway



Genesis at Work: Evaluating the Effects of Manufacturing Extension on Business Success and Job Quality

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Table of Contents

About	4
Acknowledgements	5
Executive Summary	6
Considerations for MEPs, Policymakers, and Funders	9
Introduction	12
Manufacturing Extension Partnership, IMEC, and Genesis	15
The Manufacturing Extension Partnership Program	16
IMEC and the MEP Next Generation Strategy	17
From Pilot to Project to Approach: The Development of Genesis	17
About the Evaluation	20
Data Sources for Documenting Firm Changes and Outcomes	22
Data Sources for Documenting Front-Line Worker Experiences and Outcomes	23
Data to Inform Understanding of the Influence of Genesis on IMEC	24
Genesis Companies and Baseline Challenges	25
Who Are “Genesis” Companies?.....	26
Challenges Facing Genesis Companies	28
How the Genesis Approach Improved Jobs and Enhanced Business Performance	35
Strategic, People-Focused Approach.....	36
Business Process and Business Leadership Improvements	44
What Services Did Genesis Companies Receive?	49
Worker and Business Outcomes	52
Worker Outcomes	53
Business Outcomes	58
How IMEC Approached the Genesis Effort	61
Launching With Internal Champions.....	63
Bringing in New Staff Capacity	64
Growth Through Learning and Empowerment	65
Leveraging Existing Tools.....	66
Genesis’ Contribution to IMEC’s New Organizational Profile	67
Building a Role Within the Workforce Ecosystem	68
Conclusion	70
Considerations for MEPs, Policymakers, and Funders	74
Appendix - Firm Survey Instrument	77
IMEC Genesis Movement Evaluation: Data Collection Tool	78
I. Process	78
II. Product.....	81
III. People/Workforce	84

About

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Executive Summary

In July 2014, with the support of the Chicagoland Workforce Funder Alliance (CWFA),¹ the Illinois Manufacturing Excellence Center (IMEC) launched the Genesis initiative to improve both business success and job quality at small and medium-sized manufacturing firms in the Chicago region. The premise of Genesis is that workforce practices are central to a firm's operations, productivity, and competitiveness. Through Genesis, IMEC adopted a transformational approach that integrates process improvements with "people" strategies to improve workforce engagement, productivity, and stability as well as "product" strategies to keep up with changing market demands.

This report provides insights and observations from a four-year evaluation of IMEC's implementation of Genesis (April 2015-April 2019), conducted by the Aspen Institute's Workforce Strategies Initiative (AspenWSI) in collaboration with urban and regional planning professors Nichola Lowe at the University of North Carolina at Chapel Hill and Greg Schrock at Portland State University.

At the beginning of our formative evaluation, Genesis was a new approach to firm engagement. Because both the evaluation team and IMEC anticipated that the Genesis approach would be adapted over time, we set out to answer questions related to both implementation and outcomes, including the following:

1. What are the business outcomes for companies that have participated in the Genesis project, and to what extent have improved business outcomes resulted in improved livelihoods for front-line workers?
2. What are the characteristics of change process for companies that have participated in the Genesis project?
3. How has the Genesis project influenced IMEC's way of doing business? What are implications for other manufacturing extension partners that may undertake similar work?

¹ CWFA is a funders collaborative of up to 30 local and national foundations affiliated nationally with the National Fund for Workforce Solutions and locally with the Chicago Community Trust. CWFA was created in 2012 with a mission of collaborating with employers and other workforce stakeholders to increase employment, earnings, and racial equity for underprepared workers in the Chicago region.

Overall, we found that IMEC's strategic work with 22 Genesis firms yielded benefits for both workers and businesses. Benefits for workers came in the form of improved job stability and security, safer operating procedures, clearer job descriptions and advancement pathways, and improved wages and benefits. Companies realized benefits in production efficiencies, cost savings from reduced injuries, improved adherence to customer quality standards, improved sales retention, and increased profitability and growth.

NIST-MEP data collected from IMEC's clients show that Genesis companies experienced notable sales growth, sales retention, cost savings, and job retention in comparison with other Chicago-area SME manufacturers that IMEC worked with during the same time period. Highlights of findings include the following:

- Fifty-five percent of all Genesis companies and 61% of the most actively participating companies reported increases in annual sales that they attribute to working with IMEC; 37% of IMEC clients that were non-Genesis companies reported increases in annual sales.
- Similar percentages reported that their companies retained sales that, without IMEC services, would have been lost. Fifty-five percent of all Genesis companies and 61% of the most actively participating companies reported sales retention; 39% of IMEC clients that were non-Genesis companies reported retaining sales.
- Median increase in annual sales reported by the most actively participating Genesis companies was \$251,820, and median sales retention was \$1.8 million.
- Seventy-one percent of all Genesis companies and 79% of the most actively participating companies reported cost savings that they attribute to their work with IMEC; 47% of IMEC clients that were non-Genesis companies reported cost savings.
- For the most actively participating Genesis companies, median annual cost savings was \$92,500, compared with a median annual cost savings of \$50,000 by IMEC's non-Genesis companies.
- Sixty-five percent of all Genesis companies and 74% of the most actively participating companies reported that they retained the number of jobs they offer as a result of working with IMEC; 42% of IMEC clients that were non-Genesis companies served by IMEC reported retaining jobs.

Analysis of UI wage data for Genesis companies provided evidence that earnings, job stability, and job security improved for front-line production workers as companies became more stable, secure, and profitable. Highlights of findings about worker outcomes for Genesis and non-Genesis manufacturing firms include the following:

- Average annual earnings for all workers employed by Genesis companies increased by 12% in real, inflation-adjusted terms from 2014 to 2017.
- Genesis companies made progress closing the gap between their average wages and industry wage benchmarks, increasing from 78% of industry average in 2014 to 84% of industry average in 2017.
- Among Genesis companies' front-line workers who earned less than \$50,000 annually, average year-over-year increases in earnings nearly doubled (5.4% increase 2014 to 2015; 9.9% increase 2016 to 2017).
- Genesis companies reduced the share of their workforce earning low incomes, defined as less than \$30,000 annually. In 2014, 34% of full-year workers earned less than \$30,000; by 2017, 26% earned less than \$30,000.
- Average worker turnover rates among all Genesis companies declined from 5.5% in 2015 to 4.3% in 2017. Among the most actively participating companies, turnover declined even more — from 5.8% in 2015 to 3.3% in 2017.
- Genesis companies' turnover declined substantially relative to industry benchmarks. Between 2014 and 2017, among all Genesis companies average turnover declined from 118% of the industry benchmark to 93%. For the most actively participating Genesis companies, average turnover declined from 128% of the industry benchmark in 2014 to 76% in 2017.

Through Genesis, IMEC fine-tuned a strategic planning approach that helped companies explore process- and product-related challenges that were deeply interwoven with people-related challenges. Front-line production worker engagement was a critical component of strategies to improve firms' profitability. But workforce issues were not generally what initially motivated company leaders to seek help from IMEC. Many of the companies face fluctuating markets for their products. At the start of their engagement with IMEC, some of the firms were experiencing sales decline. They sought IMEC support on strategies to retain and grow customers and sales and to establish new niche markets. Other companies were interested in IMEC support to manage increased volume of sales and customers. In both situations, process-related challenges — the need to reduce costs, improve quality, or adopt new technologies — provided the impetus for engaging with IMEC. Through Genesis, IMEC worked with firms to plan and sequence projects to address people, processes, and products, and IMEC staff often started with people-focused projects in order to underpin next steps.

Implementing the Genesis approach involved substantial organizational change and staff development on the part of IMEC — parallel in many ways to business culture changes that IMEC helped manufacturing firms work through. Funding for Genesis from CWFA provided important seed capital for IMEC to innovate and experiment with new service delivery approaches. CWFA funding also supported IMEC staff development. Today, Genesis is no longer viewed as a separate project within IMEC. The transformational people-process-product approach, which requires working with firms longer and more holistically, has been approved and adopted by IMEC's board of directors and is embedded within IMEC's strategic plan.

Considerations for MEPs, Policymakers, and Funders

We highlight considerations for MEPs that want to adopt the Genesis people-process-product approach and for funders and policymakers who want to support it. We recognize that not all MEPs are alike. Each operates in a distinct local manufacturing economy, and MEPs play different roles within their local economic and workforce development ecosystems. But while there is no one-size-fits-all approach to an MEP implementing the Genesis approach in a community, the principles underlying IMEC's people-process-product approach to delivering technical assistance to manufacturing firms will likely be of interest to many.

Considerations for MEPs

Key factors that supported IMEC's implementation may be helpful for other local MEPs that want to develop holistic people-process-product approaches to their work with manufacturing firms. The following are some examples:

Leadership that embraces the vision and purpose of the Genesis approach

The Genesis approach represents a significant departure from more traditional manufacturing extension practices. A critical component to IMEC's success was early leadership buy-in for the strategy. Based on his experiences with SME manufacturing firms and their challenges, IMEC's president saw the importance of forging more holistic practices to serve firms more effectively. The new Genesis strategic direction is aligned with IMEC's mission of fostering long-term economic and workforce competitiveness among the region's SME manufacturers. The president also worked over time to forge strong, internal commitment among IMEC staff and IMEC's board of directors.

Starting small when launching a new strategic approach

Although IMEC launched Genesis with plans to work with a larger number of firms, fairly early on it determined that starting small and phasing Genesis implementation over time would be more feasible. In addition to starting out with a small group of firms, IMEC engaged a limited group of staff who were excited about the change. Staff experimented with developing new approaches to engaging company leaders to plan long term around systemic issues affecting their businesses. Over time, champion IMEC staff helped onboard others in the organization. Champion staff provided peer-to-peer internal organizational learning that was critical to broader staff buy-in.

MEP staff may need different skills to provide business consulting services beyond traditional lean manufacturing service offerings

To support successful implementation of the Genesis approach, IMEC needed new staff capacity to provide technical expertise in areas such as strategies for increasing top-line revenue and workforce and talent development practices. Key staff engaged in Genesis implementation at IMEC included an HR generalist and regional managers who had held executive-level positions at manufacturing firms and had expertise in such areas as financial management, leadership development, and sales and marketing.

Leveraging existing business consulting tools

Rather than focusing on developing new tools, IMEC used existing tools that already had credibility within the business community. Using tools with a demonstrated record of success to engage firms was helpful for building what IMEC hoped would be a different type of relationship. Because IMEC staff were already familiar with using several of the business consulting tools, the approach helped foster staff buy-in and comfort with trying out new ways of engaging clients. Overall, leveraging existing tools made efficient use of staff capacities while also indicating value to firms, thereby contributing to the financial viability of the new Genesis approach.

Finding mutually beneficial ways to work with local workforce organizations

Through their strategic advising role in Genesis, IMEC staff developed a deep understanding of the workforce issues that affect business success and were often in a position to recommend that firm leaders undertake strategies such as investing in skill development training for incumbent workers, considering hiring from a new pipeline of qualified workers, or providing new supports and resources to support employee on-boarding and retention. Rather than attempting to develop new capacity to provide these types of services, IMEC collaborated with local workforce development organizations. These partners helped firms access public training dollars and provided specialized trainings for incumbent workers. By working with IMEC, workforce development organizations developed new relationships with local manufacturers seeking workers.

Considerations for Funders and Policymakers

The following are considerations for funders and policymakers who are interested in helping sustain and grow the work of Genesis locally in Chicago or to encourage uptake of the approach by other MEPS.

Providing funding to support collaboration between organizations

Through Genesis, IMEC has made considerable progress in helping firms improve both business competitiveness and workers' job quality. We see both appetite and opportunity for IMEC to strengthen its relationships with established workforce development organizations. Doing so could help IMEC leverage the institutional strengths of workforce service providers and enhance its work with firms on their workforce practices such as recruiting, on-boarding, and training. Workforce service providers know the skills, aptitudes, goals, and motivations of their unemployed and underemployed constituencies — and they understand the types of challenges that keep people from successfully transitioning from unemployment to work and from retaining employment. Several organizations within Chicago's workforce ecosystem are seeking to improve employment outcomes for people of color, a major goal of CWFA for the Genesis program, particularly for African American men. Funding to support collaboration between IMEC and workforce organizations that operate in and/or have connections to African American communities could provide important resources that accelerate equity and racial inclusion in the manufacturing sector.

Raising the visibility of IMEC and its success

The Genesis approach is aligned with NIST's Next Generation Strategy, which calls for MEPs to expand service offerings beyond lean manufacturing; its goal is to help companies improve their top-line revenue, supply chain development, and workforce and talent development practices. National MEP leadership could help raise the visibility of IMEC and the Genesis story to encourage other local MEPs to adopt holistic workforce-centered consulting approaches with manufacturers.

Reviewing MEP performance metrics with the goal of encouraging adoption of holistic people-process-product approaches

National MEP leadership could help promote the adoption of Genesis-informed approaches to service delivery more broadly. Federally established metrics for assessing MEP performance favor short-term projects with immediate impacts, rather than the depth and length of engagement required by more holistic approaches needed to improve competitiveness.² In particular, the existing framework for assessing performance does not provide incentives for MEPs to work with companies in areas such as workforce development and workforce management, which may have less visible near-term effects on the bottom line but may contribute to sustained improvements in business performance over time.

Providing funding to support adoption of the Genesis approach by other MEPs

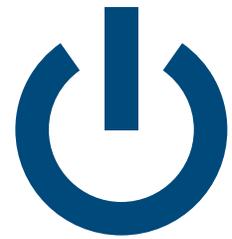
The funding structure for MEP centers poses constraints to working more deeply and over the longer term with firms. Centers operate with a mix of federal and nonfederal funding support; each dollar of federal funds must be matched by two dollars from state, local, or nongovernmental sources. Private funds can be generated by fee-for-service revenue from businesses, which reinforces incentives to orient services around quick projects that have an immediate effect on revenue. As such, flexible funding is critical for encouraging innovation and deeper engagement with businesses. CWFA funding for Genesis provided a source of seed capital for IMEC to experiment with new approaches to service delivery that emphasized holistic, long-term approaches to business transformation and that foregrounded the issue of job quality for front-line workers. The funding also provided IMEC the time and space necessary for it to establish its credibility and build the trust needed to lead firms in strategic planning.

Supporting intermediaries to build capacity to provide business advising services in other sectors

Many of the workforce and operations challenges faced by Genesis firms are not unique to manufacturers; they are experienced by businesses in other sectors too. IMEC staff and leaders learned that it takes specialized staff expertise to work with businesses to address operational challenges as well as to design better-quality jobs. But in other sectors, business consulting intermediaries focused not only on competitiveness but also job quality are rare. Success of Genesis's integrated people- process-product improvement approach may point the way to opportunities for other types of intermediaries, such as workforce development and small business development programs, to change the way they work with business. But most existing intermediaries would need to build or acquire new types of staff expertise.

² MEP metrics focus primarily on three aspects of center productivity: reach and penetration in terms of numbers of businesses served and projects undertaken, impacts of MEP services on business revenue, and job creation and retention. Reach metrics are weighted more heavily than other metrics in assessing MEP performance.

Section 1 Introduction



Introduction

In July 2014, with the support of the Chicagoland Workforce Funder Alliance (CWFA),³ the Illinois Manufacturing Excellence Center (IMEC) launched the Genesis initiative to improve both business success and job quality at small and medium-sized manufacturing firms in the Chicago region. The premise of Genesis is that workforce practices are central to a firm's operations, productivity, and competitiveness. But for IMEC, which is the United States Department of Commerce Manufacturing Extension Partnership (MEP) affiliate for Illinois, the Genesis approach represented a major departure from traditional approaches to manufacturing extension services. Typically, MEP focuses on short-term projects to promote efficiency and productivity improvement, by operationalizing lean manufacturing principles—which generally seek to reduce waste and eliminate bottlenecks or unevenness in the production process. Through Genesis, IMEC adopted a transformational approach that integrates process improvements with “people” strategies to improve workforce engagement, productivity, and stability as well as “product” strategies to keep up with changing market demands. This integrated “people-process-product” tactic was also a departure in terms of the time frame of firm engagement, with IMEC working with firms over longer periods than it had previously; the approach allowed IMEC not only to help a business solve a near-term problem but also to work with the firm to build and implement a long-term strategy to sustain success.

At the time of CWFA investment in Genesis, manufacturing employment in the Chicago metropolitan area was generally stable and positioned for growth.⁴ In 2016, the unemployment rate in Chicago was 16.8% for Black, 8.1% for Latinx, and 3.2% for white residents (not Hispanic or Latinx).⁵ At the same time, in the manufacturing sector, people of color were overrepresented in lower-wage front-line production occupations and underrepresented in higher-wage supervisory and management positions.⁶ In this context, the Genesis initiative presented an opportunity for IMEC to work with manufacturers not only to enhance their business performance but also to improve the quality of jobs for front-line production workers and advance goals of racial equity and inclusion in the sector.

This report provides insights and observations from a four-year evaluation of IMEC's implementation of Genesis (April 2015-April 2019), conducted by the Aspen Institute's Workforce Strategies Initiative (AspenWSI) in collaboration with urban and regional planning professors Nichola Lowe at the University of North Carolina at Chapel Hill and Greg Schrock at Portland State University. Our approach to the evaluation was formative, to provide the flexibility needed to adjust as IMEC developed its new people-process-product strategies, worked to recruit

³ CWFA is a funders collaborative of up to 30 local and national foundations affiliated nationally with the National Fund for Workforce Solutions and locally with the Chicago Community Trust. CWFA was created in 2012 with a mission of collaborating with employers and other workforce stakeholders to increase employment, earnings, and racial equity for underprepared workers in the Chicago region.

⁴ Howard Wial, “Locating Chicago Manufacturing: The Geography of Production in Metropolitan Chicago,” Center for Urban Economic Development, University of Illinois at Chicago, February 25, 2013; Teresa L. Cordova, Matthew D. Wilson, and Andrew Stettner, “Revitalizing Manufacturing and Expanding Opportunities for Chicago's Black and Latino Communities,” The Century Foundation, June 6, 2018.

⁵ US Census Bureau, “Employment Status,” 2016 American Community Survey 1-Year Estimates, Table S2301, accessed July 2, 2019, factfinder.census.gov.

⁶ Cordova, Wilson, and Stettner.

manufacturers, and made changes to its programming over time. We designed the evaluation to answer the following questions:

- What are the business outcomes for companies that have participated in the Genesis project, and to what extent have improved business outcomes resulted in improved livelihoods for front-line workers?
- What are the characteristics of change process for companies that have participated in the Genesis project?
- How has the Genesis project influenced IMEC's way of doing business? What are implications for other manufacturing extension partners that may undertake similar work?

In addition to the above questions, CWFA expressed interest in understanding how the Genesis initiative helped address issues of equity and inclusion, particularly as they relate to improving employment outcomes for workers of color.

We visited 10 of the 22 firms engaged in Genesis programming and interviewed a range of firm representatives, including front-line production workers. We also analyzed business survey data collected by IMEC and the National Institute for Standards and Technology-Manufacturing Extension Partnership and worker earnings data from the Illinois Department of Employment Security's Unemployment Insurance database for all participating firms. Finally, we interviewed IMEC staff in order to contextualize information from interviews with manufacturers and to learn about the types of organizational changes implemented within the Manufacturing Extension Program.

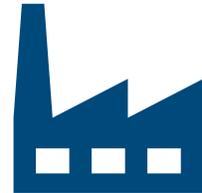
More detailed information about evaluation methodology and evaluation findings are reported in the following sections:

- Section 2 – Manufacturing Extension Partnership, IMEC, and Genesis
- Section 3 – About the Evaluation
- Section 4 – Genesis Companies and Baseline Challenges
- Section 5 – How the Genesis Approach Improved Jobs and Enhanced Business Performance
- Section 6 – Worker and Business Outcomes
- Section 7 – How IMEC Approached the Genesis Effort
- Section 8 – Conclusion

This report is intended to offer insights about how Manufacturing Extension Programs and other intermediaries can encourage and support firms to make and sustain improvements in job quality for front-line manufacturing workers. Data from the Genesis evaluation — including feedback from company leaders and front-line workers, and information on performance-related outcomes — shed light on the resources necessary to support organizational changes that address business challenges, and on the benefits that can accrue to both companies and workers.

Section 2

Manufacturing Extension Partnership, IMEC, and Genesis



Manufacturing Extension Partnership, IMEC, and Genesis

In July 2014, IMEC received a three-year grant from the Chicagoland Workforce Funder Alliance to support the implementation of Genesis. During this period, IMEC engaged a total of 32 companies in its recruitment; of them, 22 companies participated in strategic planning and some level of project-based work related to people, process, or product. Twelve of these companies engaged IMEC on a sustained or intensive basis throughout the evaluation period. The actual footprint of Genesis has been much broader: After learning about the effectiveness of this approach during the pilot phase, IMEC incorporated principles of Genesis into its work with all businesses.

This report begins by describing the key features of Manufacturing Extension Partnerships and provides background on how IMEC became involved in Genesis; it then describes the strategic activities IMEC supported via Genesis.

The Manufacturing Extension Partnership Program

A program of the US Department of Commerce, National Institute of Standards and Technology (NIST), MEP was established in 1988 with the mission to “to enhance the productivity and technological performance of US manufacturing.”⁷ IMEC was founded in 1996 and began providing services in the Chicago region in 2010. Therefore, at the time of Genesis implementation in 2014, IMEC was a relative newcomer with Chicago-based manufacturers.

MEP centers typically provide one-on-one technical assistance to individual businesses, especially small and medium-sized enterprise (SME) manufacturers. The focus of projects tends to reflect production “pain points” articulated by firms. SME manufacturers generally operate in cost-competitive markets and continuously feel pressure from both customers and competitors to produce higher-quality products at lower prices. In this context, MEP centers have traditionally emphasized process improvement and “lean manufacturing” as core elements of their service offerings.

In 2010, national MEP leadership laid out a new approach, called the Next Generation Strategy, which recommended broadening MEP service offerings beyond lean manufacturing to help companies improve their top-line revenue, workforce and talent development practices, and supply chain development. As part of that effort, NIST MEP elevated workforce development and talent management as a focus area for local MEP centers.

⁷ NIST, “About NIST MEP,” March 14, 2019, <https://www.nist.gov/mep/about-nist-mep>.

IMEC and the MEP Next Generation Strategy

Although all MEP centers operate under the Next Generation Strategy, each individual center has considerable latitude in terms of implementing it. Many MEP centers have maintained a focus on lean manufacturing and have not made significant progress in adopting talent management as a core service area.⁸ IMEC's development of the Genesis approach sets it apart: IMEC engages companies around what it calls "point solutions" — meaning that it engages businesses in a set of actions that together are designed to yield improvements to cost savings, productivity gains, sales growth, and job retention. For Genesis, IMEC added an *integrated strategic overlay* that helps knit together individual actions or projects toward a cumulative, transformative impact on business success that simultaneously supports front-line worker job quality. With this integrated approach, IMEC seeks to work with companies over a longer time frame — one that starts with broad strategic planning about changes a company may need to make in terms of people, processes, and products. IMEC uses this approach to promote business transformation, especially regarding job quality, for which immediate, bottom-line impacts are not always easy to observe.

From Pilot to Project to Approach: The Development of Genesis

IMEC's funding from CWFA in 2014 was instrumental for Genesis implementation in two ways. First, it allowed IMEC to draw down additional MEP funding at a time when resources from the state of Illinois were unstable and uncertain.⁹ Second, at the time, IMEC was a relative newcomer in the Chicago area, having been awarded the MEP contract for the region only in 2011. The outside funding therefore functioned as a source of seed capital for IMEC to develop new relationships with local manufacturers and to innovate and experiment with innovative service delivery tactics — such as emphasizing holistic, long-term approaches to business transformation and foregrounding the issue of job quality for front-line workers. Over the course of implementation, Genesis evolved from a pilot project, with a subset of client firms as its primary target, to an approach that was core to IMEC's engagement with all firms. What follows is an overview of how Genesis was conceptualized and the service delivery strategy that IMEC incorporated over time.

The Genesis approach was informed by the Hitachi Foundation's Pioneer Employer case studies, which examined firms that had created better jobs for their front-line workforce than their industry peers while and had achieved strong business results.¹⁰ The Pioneer Employer case

⁸ National Research Council, *21st Century Manufacturing: The Role of the Manufacturing Extension Partnership Program*, Washington, DC: National Academies Press, 2013, <https://www.nap.edu/read/18448/chapter/5>.

⁹ From July 1, 2015 to August 31, 2017, Illinois had a state budget impasse that constrained IMEC's ability to meet MEP match requirements of \$2 of state, local, or nongovernmental funds for every \$1 of federal funds.

¹⁰ The Hitachi Foundation identified Pioneer Employer firms as those that experienced growth in revenue, profits, and/or market share — in many cases even during the Great Recession. These firms were also investing in their front-line workforce through providing training, providing career advancement opportunities, and offering higher incomes. See Jonathan Levin, Mark Popovich, and Tom Strong, "Doing Well and Doing Good: Pioneer Employers Deliver Opportunity for Front-line Workers," August 2013, http://hitachifdn.nonprofitsoapbox.com/storage/documents/DoingGood_web.pdf.

studies revealed that, when innovations in an employer's products and processes were intertwined with investments in training, compensation, and employee engagement, the resulting dynamic led to that company having a sustainable competitive advantage — that is, increased productivity, increased revenues from new market segments, and improved product or service quality.¹¹

People, Processes, and Products Explained

The following is a description of the types of people, process, and product solutions that IMEC worked with companies to implement.

Category	Solutions
People	<ul style="list-style-type: none"> – Conducting employee engagement surveys – Investing in training for front-line staff – Investing in training for front-line supervisors – Developing and communicating internal career pathways – Reviewing compensation practices (e.g., salaries and performance bonuses) and benefits by position and tenure – Developing job descriptions
Process	<ul style="list-style-type: none"> – Implementing quality assurance and review procedures – Organizing workspace to facilitate more efficient production workflow – Conducting production job tracking to determine ways to lower production costs – Identifying bottlenecks to the production process and problem-solving to develop potential solutions
Product	<ul style="list-style-type: none"> – Working on new product development – Developing marketing plans – Improving pricing, cost estimating, and bidding strategies – Working on ways to increase profitability

The Pioneer Employer case studies informed IMEC's approach for Genesis implementation, but the practice was new to the organization and to its clients. As IMEC gained experience the approach to Genesis implementation was refined. Initially, IMEC planned for Genesis to be a pilot project in which 80 firms would participate, and for IMEC to work with firms for a six-month period to develop a strategic roadmap that integrated people-process-product solutions. During this six-month engagement period, IMEC also planned to provide one-on-one coaching support to firm leadership; it would also group firms together with peers to further support organizational change through knowledge sharing. In an effort to further entice firm participation in Genesis, IMEC had a "pay it forward" model. Under this model, there was no upfront payment for Genesis, and at the end of the year firm owners would pay IMEC an amount that they considered commensurate with Genesis-related services.

¹¹ Institute for Work & Employment Research, "Pioneer Employer Initiative," <http://iwer.mit.edu/research-resources/good-companies-good-jobs/hitachi-foundation-resources/pioneer-employer-initiative/>.

However, as IMEC began to work with companies, it saw the need for longer-term engagement to help them implement complicated, intertwined strategies. The Genesis approach then became a 24-month strategy mapping and implementation process. IMEC either directly provided companies with support or connected companies to subcontractors that had the appropriate tools and resources to support strategy implementation.

IMEC also decided early on in Genesis implementation that asking companies to participate in a peer-learning and networking component wasn't practical: Several company leaders were already involved with other networks and were reluctant to commit to participating in additional groups. Further, IMEC's firm recruitment and enrollment efforts rolled out more slowly than anticipated, with a total of 22 companies participating during the Genesis evaluation period. The smaller number of firms affected IMEC's ability to develop peer groups. IMEC also walked back the initial pay it forward model after recognizing that it brought in several business owners who were interested only in receiving free services and were not fully committed to Genesis transformation.

It is important to note that while IMEC's service delivery strategy for Genesis evolved over time, the central tenet of Genesis — that workforce practices are central to a firm's operational excellence and profitability — remained constant. Section 5 will describe IMEC's experiences with implementing Genesis, including how IMEC shifted the approach from pilot work with a limited number of firms into the core of its service delivery model much more rapidly than was anticipated. The following section describes how this development also shaped the formative evaluation approach and evaluation questions explored.

Section 3 About the Evaluation



About the Evaluation

In April 2015, AspenWSI, in collaboration with Lowe and Schrock, was engaged by CWFA to conduct a four-year formative evaluation of Genesis. Key evaluation questions of interest were the following:

- What are the business outcomes for companies that have participated in the Genesis project, and to what extent have improved business outcomes resulted in improved livelihoods for front-line workers?
- What are the characteristics of change process for companies that have participated in the Genesis project?
- How has the Genesis project influenced IMEC's way of doing business? What are implications for other manufacturing extension partners that may undertake similar work?

Through the Genesis initiative, IMEC tested and continuously adapted a new approach to help businesses and their front-line production workers succeed; therefore, our approach to the evaluation was formative in order to provide the flexibility needed to adjust methodological approaches as IMEC learned from its experience. For example, we initially developed an evaluation design to not only assess how Genesis participation affects business performance and job quality improvement but also attribute front-line worker impacts to the Genesis intervention by using secondary data sources to compare Genesis companies to industry peers. However, because IMEC did not reach its goal of enrolling 80 firms in Genesis, evaluation of worker outcomes relative to a comparison group of firms was not feasible. At the same time, IMEC extended its strategic engagement with companies, from six months to 24 months. Therefore, we adapted to a longitudinal case study approach that allowed us to study both IMEC's engagement with a subset of firms as well as the experiences of these firms and their front-line production workers over an extended period. Additionally, as the initiative unfolded and Genesis increasingly represented the standard approach taken by IMEC, our evaluation increasingly focused on documenting and understanding IMEC's internal transformation and learning process. The intent of this focus was for the evaluation to offer insights to other program operators and investors about how to support the type of organizational change represented by IMEC's adoption of Genesis.

Our evaluation also followed how IMEC worked with Genesis companies to adopt more inclusive and equitable employment practices — an area of practice that was not part of IMEC's conventional service offerings but that represents an emerging area of focus, as many philanthropic investments bring greater intentionality to the goal of economic inclusion. The evaluation team recognized that this work was in development, and our formative evaluation followed the work as it evolved. We also aimed to develop data collection processes to support IMEC's work with Genesis companies. For example, we created a survey instrument, which IMEC staff administered, that asked company leaders to provide disaggregated data on workforce demographics. We also asked production workers for their perspectives on firm practices related to diversity, equity, and inclusion, and we relayed this feedback to IMEC managers. Finally, our evaluation followed how IMEC supported its own organizational capacity to support working with firms on race, equity, and inclusion strategies.

Data Sources for Documenting Firm Changes and Outcomes

Interviews With Firm Representatives

We conducted site visits to 10 Genesis firms. Site visits allowed us to observe firms' production environments and operations. During visits, we interviewed a range of firm representatives, including leadership, management, and front-line production workers. At six of the 10 firms, we conducted follow-up site visits two and three years after the company began participating in Genesis, and, when feasible, we interviewed the same management and front-line production workers. By interviewing many of the same staff over time, we were able to gather longitudinal information about experiences throughout the course of Genesis implementation.

Interviews with firm leaders informed our understanding about why they decided to work with IMEC on the Genesis project — and if and how their objectives for engagement evolved over time. Leadership and management interviews also informed our understanding of the company's process for working with IMEC, company leaders' experiences with the strategic change approaches introduced, and their thoughts about how the business and the front-line workforce benefit from Genesis participation. Interviews with front-line production workers helped us learn about their job responsibilities, challenges encountered in the workplace, and experiences with changes introduced through their firm's work with IMEC.

Interviews With IMEC Staff

We interviewed IMEC leaders and staff twice per year to learn about their engagement with Genesis firms over time. These interviews focused on how IMEC engages companies, changes that companies put into place, and IMEC's thoughts on how companies and their employees benefit from participating in Genesis. Interviews also shed light on some drivers of business change, including manufacturing firm leaders' receptivity to improving human resource practices for front-line workers and how relationships between management and front-line workers influence a firm's capacity to introduce and sustain strategic improvements.

Firm Survey Data

To learn about product, process, and people practices, we developed a survey (see Appendix A) and fielded it with company leaders over time. Survey data provide rich information on the characteristics and practices of Genesis companies over time, including information about the following:

- Sales levels and trends
- Workforce size, composition, and demographics
- Manufacturing process indicators (e.g., on-time delivery rates) and practices (e.g., whether ISO certifications are current, company use of Enterprise Resource Planning systems)
- Wages and benefits
- Training, development, and other human resources (HR) practices

IMEC staff administered the survey to leaders of all Genesis companies, with the objective of companies completing it twice over a roughly 15-month period: within 90 days of Genesis enrollment and again approximately 12 months later. We received completed baseline surveys from 15 Genesis companies in 2016; we obtained follow-up surveys from 10 Genesis companies in 2017. Firm attrition during Genesis' 24-month strategic planning process was the leading cause of follow-up survey nonresponse.

Project Activity and Impact Data

We used several data sources to gather information about Genesis-supported project activity and business outcomes. The first source is data from a quarterly reporting form that IMEC developed to track project activities and outcomes of IMEC's work with Genesis companies. We received information from this data source from 2015 to 2017.

Two data sets, covering all firms served by IMEC (Genesis and non-Genesis) from 2014 through early 2018 were provided by the National Institute of Standards and Technology- Manufacturing Extension Partnership. IMEC reports to NIST-MEP data that describe its work with clients (e.g., company name, services companies receive, types of projects, numbers of hours of service). NIST-MEP provided data to the evaluation based on these reports. NIST-MEP also collects data directly from manufacturers by annually surveying MEP-served firms. The survey asks companies to estimate the impact of MEP services on a variety of outcome measures, including company sales, job creation and retention, investment, and workforce training. Data obtained from NIST-MEP is covered by a nondisclosure agreement to protect the confidentiality of company information and is reported in aggregate form.

Data Sources for Documenting Front-Line Worker Experiences and Outcomes

From both qualitative and quantitative data sources we learned about front-line workers' experiences and outcomes related to organizational changes. As described previously, we conducted interviews with front-line production workers and analyzed data from IMEC-administered firm surveys. Administrative data from the Illinois Department of Employment Security (IDES) provided information about worker earnings and retention over time.

Unemployment Insurance Data From IDES

We obtained quarterly unemployment insurance (UI) wage record data from IDES for all 22 companies that participated in Genesis. Data cover the period 2013 to 2018. The data set includes earnings by quarter for all workers employed at the 22 companies at any point during this period. We used data to assess changes in earnings and employee turnover rates for the 22 companies that initially signed up for Genesis as well as a subset of 12 companies that were remained engaged with IMEC in project activities in the third quarter of 2017. We compare company earnings and turnover levels to published figures for the four-digit NAICS (North American Industrial Classification System) industry, Chicago Metropolitan Area, compiled by the US Census Bureau, Local Employment Dynamics program. We obtained UI data via a shared data agreement between Portland State University and IDES. All personal and company identifiers were withheld from the file, and IDES compiled data in aggregate form for the two groups of firms.

Data to Inform Understanding of the Influence of Genesis on IMEC

Interviews With IMEC Leadership and Staff

Semiannual interviews with IMEC leaders and key staff informed our understanding of Genesis implementation, adaptations to the approach over time, and whether and how Genesis influenced organizational change at IMEC. Interviews helped us understand how IMEC staff approached and perceived the value of the Genesis approach to their work, as well as the ways in which the approach represents a departure from IMEC's longer-standing approach to consulting for manufacturing companies. We documented the various staff roles and functions within IMEC and the types of expertise they offered (and developed) to support Genesis implementation. We learned about how staff refined their coaching roles with firms over time as well as how they used existing tools in new ways and leveraged relationships with other organizations to support their engagement with manufacturing firms. Interviews also provided information about functional integration between the work of IMEC's technical specialists and regional managers, and the nature of collaboration among staff.

Workforce Intermediaries

We interviewed representatives from six workforce intermediaries in the Chicago area to understand the context of IMEC's Genesis-related activity within the local workforce ecosystem. Individuals interviewed represented a range of institutions, including two nonprofit workforce training providers, a community college, a union-affiliated organization, and two public-private industry organizations supporting local manufacturing revitalization efforts. Through these interviews, we explored the nature of collaborative work with IMEC, perspectives about ways in which organizations could further collaborate and coordinate with IMEC, and challenges to developing partnerships.

Section 4

Genesis Companies and Baseline Challenges



Genesis Companies and Baseline Challenges

This section describes characteristics of businesses that received services from IMEC during the Genesis evaluation period and discusses the range of existing business challenges at the start of strategic planning with IMEC consultants.¹²

Who Are “Genesis” Companies?

A total of 22 companies participated in activities during the Genesis evaluation period — that is, they engaged with IMEC in strategic planning efforts that led to discrete projects on processes, products, or people (see Section 5).

Most Genesis companies operate in durable goods-related sectors, with a concentration of firms in metals and machinery.

Genesis Companies by Industry Sector (Three-Digit NAICS)

NAICS	Industry	Companies	%
332	Fabricated Metal Product Mfg	10	45.4%
333	Machinery Mfg	3	13.6%
314	Textile Product Mills	1	4.5%
316	Leather and Allied Product Mfg	1	4.5%
325	Chemical Manufacturing	1	4.5%
326	Plastics and Rubber Product Mfg	1	4.5%
327	Nonmetallic Mineral Product Mfg	1	4.5%
331	Primary Metal Mfg	1	4.5%
334	Computer and Electronic Product Mfg	1	4.5%
337	Furniture and Related Product Mfg	1	4.5%
335	Electrical Equipment, Appliance, and Component Mfg	1	4.5%
	Total	22	

¹² Throughout this report, to illustrate key findings, we draw on comments from manufacturing firm leaders and staff as well as IMEC consultants, leaders, and partners. Comments are anonymized to protect the identity of informants.

Reflecting the increasingly suburban geography of the region's manufacturing base, Genesis companies are mostly located in the suburbs of Chicago; only three out of 22 are located in the city itself.

Genesis Companies by Geography

County	No. of Companies	% of Companies
Cook – Suburban	6	27.3%
McHenry	5	22.7%
DuPage	4	18.2%
Cook – Chicago	3	13.6%
Will	3	13.6%
DeKalb	1	4.5%
Total	22	

Most Genesis companies are relatively small, in terms of both sales and employment. In 2016 we obtained survey data from 15 of the 22 participant companies and found the following:

- The median permanent employment level was 35 employees.
- The median annual sales level was \$4.5 million.

Genesis Companies by Employment and Sales Levels

Permanent Employment	No. of Companies	% of Companies
<0-25	6	40.0%
25-49	5	33.3%
50-99	2	13.3%
100+	2	13.3%

Annual Sales	No. of Companies	% of Companies
<\$2 million	3	20.0%
\$2M-4.9M	5	33.3%
\$5M-9.9M	3	20.0%
\$10M+	4	26.7%

N = 15 companies

Challenges Facing Genesis Companies

Genesis companies faced various product-, process-, and people-related challenges as they began their engagement with IMEC. Based on survey data collected from firm leaders and interviews, as well as site visits with company leaders and IMEC staff, we identified the following concerns:

Product Challenges: Navigating Instability and Change

Many of the companies that engaged with IMEC through Genesis were experiencing some form of instability related to their "top-line" revenue trends. In the initial baseline survey conducted in 2016, respondent companies were evenly split, with half reporting growth and roughly half reporting decline over the previous two-year period. About 40% of the companies reported that their growth or decline was greater than 5%, with many of them reporting double-digit change year over year. This instability carried through: Out of the eight companies that completed both the 2016 baseline and the 2017 follow-up survey, only two showed stable sales over the time period; three continued their prior trend, and three experienced a reversal of their earlier trend.

Genesis Companies by Sales Change Over Past Two Years

Sales Change	No. of Companies	% of Companies
>15% growth	2	14%
6%-15% growth	1	7%
1%-5% growth	4	29%
No change	1	7%
1%-5% decline	3	21%
6%-15% decline	2	14%
>15% decline	1	7%
Total responses	14	
% with growth		50%

Sales declines — whether sudden or prolonged — obviously pose a threat to company viability and ability to meet payroll. A few of the companies were in particularly vulnerable positions, due in large part to declines in sales and employment that began during the Great Recession. At least two of the companies lost major contracts during the five years prior to Genesis enrollment and sought IMEC support on strategies to regain earlier market position, including establishing themselves in new niche markets.

Growth also posed a major challenge for some companies: They sought IMEC support to manage increased volume of sales and build capacity to onboard new employees. As a co-owner at one of these companies explained:

One of the reasons we called IMEC [was that] we were tripping over product, busting at the gut. We said, "Let's lean it out first." We own this building, so leasing another building would add to our costs. If we could lean, we knew we could stay in the building

– Firm owner

Several Genesis companies also reported shifts within their product and customer mix, typically toward product lines requiring higher precision and/or more customization. One company, a metalworking business, reported that its sales were shifting away from established business lines in the telecommunications sector — where margins are low and competition high — and toward the defense-related aerospace sector, which offered higher margins but demanded higher precision and quality in terms of part tolerances (permissible variation in dimensions). These shifts placed pressure on companies' production processes and workforce to meet higher quality standards.

For many Genesis companies, fluctuating markets for their products served as a chronic source of stress that consumed management bandwidth. Very few companies enjoyed stable, profitable market niches — but capacity to respond to growth opportunities or to arrest the loss of customers hinged on the company's process- and people-related capabilities.

Process Challenges: Becoming More Systematic

For many Genesis companies, process-related challenges prompted them to engage IMEC. To some extent, this choice reflected the fact that IMEC, like other MEP centers, had an established reputation in areas such as lean manufacturing. But as discussed, it was also indicative of the fact that process challenges — reducing costs, improving quality, adopting new technologies — were deeply interwoven with other strategic challenges facing businesses, such as capturing new business or addressing internal skills gaps.

We observed two common process-related challenges Genesis companies faced:

Improving lead times and on-time delivery

Only half of the companies in the baseline survey reported that 90% or more of their products were completed and delivered on time to their customers. Lead times (i.e., time from order receipt to shipment) frequently exceeded one month, which several companies reported did not meet their customers' expectations. Across interviews and site visits, the inability to "get product out the door" surfaced as a common concern, one that had significant impacts not only on a company's cash flow but also on its ability to earn repeat business and accommodate new customers.

Improving quality

A related concern was improving product quality and consistency, which translated into scrap rates and defect/return rates for these manufacturers. Although company baseline surveys indicated that median scrap and defect rates for Genesis companies were 2% and 1%, respectively, these represent significant costs for the businesses.

Both concerns drove Genesis companies toward process-related improvements such as lean manufacturing. In the baseline survey, only 21% of respondent companies indicated that they were currently deploying lean principles, and nearly two-thirds indicated that they had never adopted them.

For a few companies, outdated or obsolete plant and equipment represented a challenge. The baseline survey found that nearly two-thirds of respondent companies had invested less than 2% of annual sales into capital investments in plant and equipment over the previous five years — a figure significantly lower than the 3.1% average for the manufacturing sector as a whole.¹³ When top-line revenue fluctuates from year to year, deferral of capital investment is not surprising.

A common thread across process-related challenges was the need for companies to become more systematic in how they organized production. In some of the companies we visited, the shop floor was poorly laid out, leading to inefficiencies and bottlenecks in the flow of product through the factory. But for companies behind schedule and struggling to keep up, slowing down or stopping to reorganize production was the last thing they would consider.

People Challenges: Putting Human Resource Management Systems Into Place

From our baseline surveys and initial site visits, we identified several firms that had challenges with implementing and formalizing the types of human resource systems and practices that underpin positive worker experience and contribute to front-line worker job quality. These HR systems and practices include the following:

Hiring and training systems

In most of the Genesis companies we visited, we observed relatively limited HR capacity, in terms of both dedicated staff and formalized systems and practices for hiring, training, and employee development. For these companies, HR functions were often handled by production and operations managers, who reported lacking the capacity to work intentionally on recruitment strategies, hiring practices, onboarding procedures, compensation systems, and training and skills development. In some cases, HR functions were outsourced. As a result, Genesis companies relied heavily on employee referrals and staffing agencies for recruitment, with a large majority of survey respondents indicating that more than half of their new hires came from those sources.

¹³ US Census Bureau, Annual Survey of Manufacturers, 2016, Table AM1631GS101. <https://factfinder.census.gov/bkmk/table/1.0/en/ASM/2016/31GS101>

Genesis Companies by Recruitment Source

Source	Any New Hires	≥50% of New Hires
Employee referrals	62%	31%
Temp agencies	62%	46%
Public/nonprofit workforce	15%	8%
Walk-ins	38%	8%
Other	15%	8%

N = 13 companies

Processes to ensure inclusion and nondiscrimination

A byproduct of informal HR practices — and especially of personal network- and referral-based recruitment — is that over time they can produce a relatively homogenous workforce. Our baseline survey found that more than one-third (36%) of respondent companies had a permanent production workforce in which one racial/ethnic group made up more than 75% of the total; in four out of five of these companies, the predominant group was Hispanic/Latinx. By contrast, only about one in five companies (21%) had a production workforce in which no one group composed a majority. Only four out of 14 companies (29%) indicated that African Americans represented more than 10% of their production workforce; half indicated having no African American production workers at all. Segmentation by gender was even stronger, with nearly two-thirds of respondent companies indicating their production workforce was more than 75% male. Firms with relatively homogenous workforces posed challenges for workforce inclusion in a variety of ways for women and workers of color. We observed that opportunities for skills development and pathways for promotion and advancement were often underdeveloped. Additionally, we found that systems for training front-line and senior managers on how to support a diverse workforce were generally absent.

Genesis Companies by Production Workforce Demographics

Share of Company Workforce	<25%	25%-49%	50%-74%	75%+	Total Responses
Male	0	1	3	8	12
	0%	8.3%	25%	66.7%	
Female	8	3	1	0	12
	66.7%	25%	8.3%	0%	
White, non-Hispanic	6	4	3	1	14
	42.9%	28.6%	21.4%	7.1%	
Hispanic/Latinx	1	6	3	4	14
	7.1%	42.9%	21.4%	28.6%	
African American	13	1	0	0	14
	92.9%	7.1%	0%	0%	

Share of Company Workforce	0%	1%-9%	10%-24%	25%+	Total Responses
African American	7	3	3	1	14
	50%	21.4%	21.4%	7.1%	

Occupational Employment by Sex and Race/Ethnicity, Chicago Metropolitan Area, 2014-16

Employment Share By Sex	Production Occupations	All Employed
Male	69%	53%
Female	31%	47%

Employment Share By Race/Ethnicity	Production Occupations	All Employed
White, non-Hispanic	37%	58%
African-American	11%	13%
Hispanic/Latinx	46%	21%

Notes:

- Share of Genesis companies surveyed in shaded bar.
- Data Source: Portland State University analysis of Census Bureau, American Community Survey Public Use Microdata Sample (PUMS) files, 2014-16 merged one-year files, accessed from Integrated Public Use Microdata Series, IPUMS-USA, Minnesota Population Center, University of Minnesota.
- Production Occupations = Standard Occupational Classification major category 51, data for all industries

Compensation and benefits

Our baseline survey found a wide range of employer practices regarding starting wage levels and employee benefits coverage. As of 2016, the median starting wage for entry-level production positions among the companies surveyed was \$10 per hour. This was well above the state minimum wage of \$8.25 but well below living wage for the region (\$13.34 per hour for a single adult with no children).¹⁴ However, in about half of the companies surveyed, most of the production workforce earned a base wage of more than \$15 per hour. Variation in terms of benefits was even greater. In about one-third of companies surveyed, more than 75% of the production workforce was covered through a company-sponsored health insurance plan; in an equal share of companies, fewer than 25% of workers were covered.

Genesis Companies by Wage and Benefit Levels

% of Production Workforce	Pay Base Wage \$10/hr or Less		Pay Base Wage \$15/hr or Less		Cover Employees w/ Company Health Plan	
	No. of Companies	% of Companies	No. of Companies	% of Companies	No. of Companies	% of Companies
0%	8	61.5%	0	0%	4	28.6%
1%-24%	1	7.7%	3	23.1%	1	7.1%
25%-49%	1	7.7%	4	30.8%	1	7.1%
50%-74%	2	15.4%	2	15.4%	3	21.4%
75%-99%	1	7.7%	2	15.4%	2	14.3%
100%	0	0%	2	15.4%	3	21.4%
Total responses	13	100%	13	100%	14	100%
No response	1		1		0	

¹⁴ MIT Living Wage Calculator, Hourly Living Wage for 1 Adult, 0 Children, Chicago-Naperville-Elgin, IL MSA, accessed May 26, 2019, <http://livingwage.mit.edu/>

Employee communications and supervision

In all of the companies we visited, we observed at the start of their participation in Genesis that communications channels between management and workers were lacking or underdeveloped. At several companies, front-line workers reported that owners and managers did not regularly share information about the company, its performance, and its direction; for companies that were struggling financially, this was a source of stress for workers. At the same time, we saw few effective ways for front-line workers to voice their concerns about benefits, wages, safety, promotions, and training. Workers described lacking trust in leadership and management. In several companies, ownership or senior leadership transitions added to these difficulties as new owners or senior managers — often the children of outgoing owners — struggled to establish effective lines of communication with incumbent senior managers and front-line workers.

Safety protocols

No firms we visited at the start of their engagement with Genesis had consistent workforce training protocols to support learning and skill development across their organization. Further, most training was decentralized, and because local knowledge about operations was neither well coordinated nor standardized, training and knowledge-sharing among workers and supervisors was inconsistent and ad hoc. Additionally, for most companies, at the start of their involvement with Genesis, procedures and systems for ensuring workplace safety were unclear or inconsistent; in many ways this reflects a general lack of systemization and organization within SME companies. Lack of consistent workforce training and workplace safety protocols were reported to exacerbate production inefficiencies, to lead to lapses in product quality and discrepancies in how workers were supervised and supported, and to increase the risk of workplace injuries and other safety issues.

Section 5

How the Genesis Approach Improved Jobs and Enhanced Business Performance



How the Genesis Approach Improved Jobs and Enhanced Business Performance

We found that the strategic approach taken by IMEC through Genesis yielded benefits for both workers and businesses. Benefits for workers came in the form of improved job stability and security, safer operating procedures, clearer job descriptions and advancement pathways, and, in some cases, improved wages and benefits. For companies, the benefits included production efficiencies, improved adherence to quality standards, improved customer retention, and increased profitability and growth.

This section overviews how IMEC worked with companies to draw out worker-centered and broader production challenges, which in turn informed sequencing and integration of people, process, and product projects with companies. The section begins with how IMEC worked with manufacturers to institutionalize worker-centric strategies and then describes Genesis-related process and product improvements that build from this worker-centered base.

Strategic, People-Focused Approach

Although IMEC's approach to working with businesses evolved throughout the Genesis evaluation period, strategic planning remained foundational. Effective planning requires the collection and analysis of a great deal of data about where a company is currently and where it seeks to go. This means looking beyond the immediate needs and challenges facing a business to the systemic issues that affect a business's ability to change. It involves engaging a broad set of firm stakeholders to diagnose what is and is not working and to inform the company's direction. Dedicating the time for leadership, management, and front-line production workers to engage in planning while simultaneously keeping production moving and the business running challenged Genesis companies and indicated a significant commitment to the process.

Worker Input and Voice

In summer 2015, IMEC developed an employee engagement survey (EES) and focus group protocol to gather perspectives of front-line production workers on the work and firm environment and to inform strategic planning with company leaders, particularly on people-related improvements. A major goal was to create a formal channel for front-line workers to candidly and anonymously communicate with leadership. The EES is now a regular part of IMEC programming.

More about the Employee Engagement Survey (EES)

IMEC's EES is a 51-question workplace culture survey that gathers perspectives on the work and environment from front-line production workers. This anonymous survey allows front-line workers to answer questions about their perceptions of the business's mission, vision, and objectives; their job satisfaction; opportunities for training and growth; their relationships with co-workers and immediate supervisors; the types of recognition and feedback they receive about their work; and work-life balance. IMEC staff lead the process for fielding the paper-based survey and conduct focus group discussions with employees. The survey and related focus group discussions are offered in both English and Spanish.

The process for fielding the employee engagement inquiry and the resulting insights have been valuable to IMEC regional managers and firm leadership. Starting with the survey is a helpful way for IMEC staff to determine a firm leader's willingness to engage in holistic strategic planning that includes making improvements to workforce practices. The survey results are useful in identifying hidden problems within a firm, such as tensions between production workers and supervisors, problematic communication practices, perceptions of favoritism in the workplace, and feelings that worker input is not valued. The results yield information that guides and underpins the Genesis strategic planning process. Moreover, the survey experience benefits both workers and firm leadership by providing and demonstrating the importance of a communication channel through which firm leaders can get candid employee input.

Interviews with firm leaders reinforced the value of the EES. The owner at one Genesis company described his interest in having workers become more active participants in overall company development and how the EES supported this effort. He noted:

In the past, we didn't have this need [to change culture] because there wasn't an overwhelming amount of work. But as we've grown, we have struggled with the production cycle. I believe that workers on the floor have the best knowledge of what could work best to get us where we need to be. I want to change the direction of ideas. Who am I to say that I am the one with the best ideas?

– Firm owner

Management at that firm had been actively encouraging front-line workers to propose new ideas that would improve the work environment, creating a dedicated space within the factory where workers could be released for limited periods of time to incubate and develop their ideas with front-line managers. But the EES revealed that workers had other interests. As a result of what they learned, company managers created employee committees to address employee growth and development, manager effectiveness, and pay and benefits. As the owner noted at the time, "The EES gave front-line workers an opportunity to be heard, and the way we reacted to that is positive; we are listening."

Owners at another Genesis firm described how they were initially hesitant to conduct the EES, mostly because they felt they were not in a stable enough financial position to introduce major improvements. As one of the firm's owners expressed, "I figured workers would say that they aren't making enough money." And as she went on to explain, their budget — at least at that time — could not support across-the-board raises, so "there wasn't much [she] could do with this kind of feedback."

IMEC staff convinced the firm that the survey was essential for Genesis strategic planning. The owners ended up seeing the value of the approach, with one noting, "I was pleasantly surprised that [our workers'] commitment to the family business has overridden the fact that we haven't been able to provide raises, etc., the past few years." The survey also pointed to ways the company could improve working conditions, even without raising wages. An owner noted:

We learned that employees feel like there are inequities in the way they are treated — that some [employees] feel like they are doing a big share of the work. Time off was also an issue that came up. We don't have sick days, and people are looking for a few more benefits.

– Firm owner

This feedback directly informed subsequent actions by the firm, including working with IMEC's HR generalist to review policies for paid time off (PTO) and benefits and to update the employee handbook so that policies are clear and uniformly communicated to workers.

Safety

An unsafe manufacturing environment where workers get hurt not only is costly for a business but also affects employee well-being and morale. Through the EES, IMEC provided opportunities for front-line workers to raise concerns about unsafe working conditions, with results communicated to firm leaders in a way that made them more likely to respond. IMEC worked with owners to design and implement actions to support workplace health and safety as well as framed workplace safety as integral to overall business process improvement, building in metrics and procedures to draw attention to the high cost of workplace injury. This approach proved effective, and, in some cases, improvements resulted from a single conversation in which a business leader was apprised of a safety concern.

One company's experience is illustrative. Through its engagement in Genesis, the company's leadership developed a heightened focus on safety. Through the EES, front-line workers had voiced concerns about their health: "We need more ventilation because there are fumes from the welding department that spread throughout the plant." In response, the owner immediately improved the ventilation system. Firm leadership also worked with IMEC to conduct a safety audit that revealed significant gaps in terms of both equipment and processes. As a direct result of the audit, the company upgraded equipment to make it safer — but the larger outcome was in terms of establishing new processes and norms regarding safety. The company established a safety committee, incorporated safety indicators into reporting on production outcomes, and increased the frequency of training (in both English and Spanish) for front-line workers.

During our third site visit to this firm, the owner noted how safety improvements were critical not only for workers' health and safety but also for overall business success:

We are trying to create a culture where people see safety as a responsibility, and it's just as important as production. It doesn't matter how fast you can produce something if you produce it wrong or if it hurts people — it's costly and ineffective for the organization.

– Firm owner

Workforce Training

In addition to soliciting worker input and promoting safety standards, IMEC worked closely with Genesis firms to improve workforce training procedures and routines, with an eye toward systematizing skills and aligning how workers understand production processes.

IMEC initially convinced owners to prioritize workforce training by offsetting the cost through outside funding. With funding secured, IMEC could bring outside specialized trainers to Genesis companies free of charge. In several cases, training was provided by a local nonprofit workforce development organization that offered training in such areas as blueprint reading, foundational math for caliper readings, and welding and soldering techniques. IMEC also used the initial Genesis period to develop in-house workforce training expertise.

In 2015, IMEC hired an expert and began offering Training Within Industry (TWI),¹⁵ an industry-recognized manufacturing training curriculum. TWI is broad based — meaning it is designed to support and extend skill development across all levels of an organization, from entry level to the most experienced production workers, even up to mid- and top-level supervisors and management. It is also recognized as complementary to lean manufacturing principles, given its emphasis on standardized work routines and efficiency-enhancing training practices. TWI lays the groundwork for organizational transformation, building a common knowledge base and consistent set of procedures for enhancing organizational and workplace dynamics.

Front-line workers — whether entry level or more experienced — noted receiving personal gains from Genesis-related training support and they also recognized its value for the company as a whole. One front-line production worker, with more than 30 years of experience at a Genesis manufacturer, noted, "Being a setup man, I had many years of experience, but everything I know I have learned on the job. Having this training has helped me learn things that I didn't know." To illustrate this point, he shared the example of clamping a die set to a metal stamping press machine, noting that previously, "When bolting screws into the bolter plate, I screwed it in the thickness of the bolt." But he learned through formal training that this was not only incorrect but also risky: "You need to screw it in thickness and a half. And you need to do that for safety and the life of the equipment, and to save our plates and the thread."

¹⁵ Jeffrey Dalto, "The Training Within Industry Job Instruction (JI) Program," Convergence Training, December 27, 2017, <https://www.convergencetraining.com/blog/training-within-industry-twi-job-relations-program-jr>.

More About Training Within Industry (TWI)

TWI was initially developed by the federal government to ramp up manufacturing capacity during World War II, and the approach has experienced a renaissance in the past decade. It has several reinforcing components, two of which are most commonly used by IMEC:

- *A job instructions component provides "a method for teaching workers to perform job skills, making heavy use of breaking tasks down into steps and hands-on practice."*
- *A job relations component focuses on creating a positive working environment that supports team building and conflict resolution within the workplace. The goal is to train "workers to solve personal problems with other coworkers and training managers/supervisors to do the same and facilitate all of this."*

A company manager noted that formal technical training created an opportunity for workers to relearn skills and build common understanding about processes across the entire production department. She also stressed that training provided a means to draw out hidden talents within the existing production workforce:

It showed people other jobs. ... We actually realized that one of our operators may be a good setup person in the future — you know, she's never done her own loading of the steel, but she did really well during the class and in testing.

– Plant manager

By making training a strategic priority throughout a firm, IMEC has helped promote training interest within companies. At one Genesis company, for example, front-line workers successfully lobbied the business owner to extend specialized training opportunities in blueprint reading to all shop-floor workers (initially only one manufacturing division was targeted). At another company, all front-line workers were trained in welding techniques and received certificates upon successfully completing training.

Skills Assessment

IMEC staff have worked with several of the Genesis firms to implement a skills assessment process through which they comprehensively consider the key skills and experience of their production employees. The result is a skills matrix that helps firm leaders see the mixture of skills and experiences across their existing production team as well as identify skill gaps and pressure points where only a limited number of employees have the skills to complete critical tasks. This information helps guide subsequent actions at the firm. For instance, some firms have used the information to revise job descriptions so that the specific skills required are clearly articulated (and unnecessary skills are removed). In other cases, the information has helped firm leaders identify areas for cross-training and/or consider ways they could schedule shifts so that workers with the appropriate skills sets (e.g., machine setup) are available to help meet production demands.

IMEC has also worked with firms to implement formal structures and systems for skills-based career advancement. IMEC has helped firms develop internal career ladders with steps tied to increases in compensation for front-line workers. The system brings transparency and clarity about the skills needed for promotion and can be helpful in situations in which favoritism and relationships were perceived to be driving promotions.

Improved Workforce Supervision

In its support of workforce training that promotes employee engagement and enhances company operations, IMEC has also set its sights on strategies that improve front-line worker supervision. Staff have worked with Genesis firms to ensure that production-level supervisors participate in TWI and related supervisory training supports. This includes IMEC staff working one-on-one with supervisors to assess and understand their leadership style and to provide training on a range of topics, including positive communication, effective listening, being a better team player, conflict resolution, addressing poor performance, and strategies for motivating employees to help manage change.

In describing the value of training, one supervisor at a Genesis company noted, "I think [IMEC is] giving us the tools to be successful, because none of us had any training regarding management and how to deal with individuals — how to train individuals and how to communicate." Emphasizing the broader value of this training for the company, he also noted that "IMEC gave us the baseline about what to do and how to act. Now there are tools to identify a problem and correct the issue."

At another Genesis company, a production supervisor noted that, as a result of TWI training, "Instead of yelling at the guy or giving a verbal reprimand, we have a process we go through." He went on to explain:

One guy did something different than what I told him to do, and I went through the process and provided him something in writing. It seems like a more fair, methodical approach. ... He responded well because I was not yelling or wagging my finger.

– Production supervisor

Drawing on skills learned through TWI, this same Genesis company instituted a new system for identifying and resolving workplace conflicts. Front-line production workers at the company had avoided direct communication with their immediate supervisors, turning instead to other, more trusted leaders within the firm to voice their complaints. One supervisor expressed growing frustration at regularly receiving complaints from employees outside his department, especially because he was not in a position to resolve issues. As he noted, “There was a lot of griping but little resolution.” After completing TWI supervisor training, he commented that workplace dynamics and front-line worker morale were greatly improved. The plant manager at the same company noted that, because of the training that he and other supervisors had participated in, he became “a better listener, and ... a better communicator.” Another leader at the firm stated that, after the training, “[he hadn't] heard the plant manager complain. ... It took a lot of stress off [the manager].” Workers also benefited from their supervisors building new skills, reporting that they were engaging more directly with their immediate supervisors and working through problems at the source.

By shepherding firms through various rounds of training — whether to enhance a specific technical area or to more generally improve workplace supervision — IMEC is helping firms institute an internal training culture. This is especially important for smaller manufacturing firms, as they often train less often compared with their larger counterparts — and because they assume workforce training will redirect resources, talent, and time away from day-to-day operations.¹⁶ We heard this concern voiced by production supervisors and managers at the early stages of IMEC training. One plant manager bemoaned, “We have been training constantly and it has been interfering with production. I spend my evenings and weekends trying to catch up, but then we have another training, and I'm back to square one.” To emphasize what was stake, he went on to say, “We have 500 orders and dozens of customers behind schedule.”

This perspective shifted as firms moved further through Genesis programming and began to see the tangible results of training investments. Ten months into the program, the same plant manager who had voiced initial reservations about the time-intensive nature of TWI training was one of its biggest advocates — and not simply because it allowed him to off-load some of the burden for production management and scheduling to newly trained co-workers. In our follow-up discussion, he talked extensively about the value of extending formal training to new workers at the company, from blueprint and welding certificates to problem-solving skills and lean daily management. As he explained:

The more trained and better skilled new workers are, the overall business will be much better off.” He went on to stress, “that's my goal — to make sure they [all production workers] are skilled and are able to understand what's going on and to think by themselves and understand what we're trying to achieve.

– Plant manager

¹⁶ Paul Osterman and Andrew Weaver, “Skills and Skill Gaps in Manufacturing,” In Richard M. Locke & Rachel L. Wellhausen, eds., *Production in the Innovation Economy*, 17-50, Cambridge: MIT Press, 2014.

In this regard, IMEC's consistent and early training push has helped strike a balance between production demands and skill development needs, and also increased manager appreciation for the benefits of dedicating time and resources to people-focused improvements.

Through worker-oriented activities — including improving front-line worker supervision — IMEC staff has helped business owners see direct and indirect benefits to business performance, including cost savings from reduced injuries and improved productivity that they attribute to cross-training, more effective supervision, and greater job satisfaction, among other factors.

Business Process and Business Leadership Improvements

IMEC also worked with companies on strategies to improve top-level management practices and to target resources toward resolving persistent production bottlenecks and process inefficiencies. This section turns to process- and product-focused projects, starting with professional leadership development and strategies to improve companywide communication.

Leadership Development and Transparent Communication

IMEC staff recognized early on that, if firm owners don't use them, investments in workforce skills development and engagement will "die a slow death." IMEC staff have observed firsthand the consequences of company leadership inaction. For a few Genesis firms, despite strong initial support for workforce training and employee engagement, momentum stalled. One firm owner acknowledged his role, noting, "I don't feel like we got the benefit that we wanted [from Genesis]. I'm willing to take the blame. I don't feel like we were able to invest the time in implementing it."

A production supervisor at the same firm expressed deep frustration at not having an opportunity to practice what he and others had learned through TWI training. As he put it:

We were not given the time [by the owners] to implement it. ... There was no time to do any tear down of the process, to train somebody like we were taught. I see more working than managing. I don't think we use the tools we got because there's no time given.

– Production supervisor

Lack of action after administering an EES can weaken workplace morale and undermine confidence in management. For example, front-line workers at one firm expressed discouragement at lack of follow-up, noting, "There is distrust. They [the owners] may say they will do more training and cross-training, but there isn't a sense of when and whether they will deliver it."

IMEC staff responded to experiences like this by broadening the focus of "people" improvements, recognizing that many companies would need to attend to leadership development to see the value of the investments on the production and workforce side.

Regarding the goal of developing company leadership, IMEC scheduled regular meetings with company owners to help them implement Genesis-related projects. As one IMEC regional manager explained:

It is not just about being trained — you have to make an effort to use it. ... [We at IMEC will often say,] ‘We know you’re a small organization, so we’ll help you structure how to organize the training and guide its rollout. Then we [IMEC staff] can come in monthly and see your progress. We can help you manage this so you can go forward. ... This is a discipline. It’s not just about being trained, but you have to make an effort to use it.

– IMEC regional manager

This early experience prompted IMEC staff to help company owners identify internal champions — individuals within their top-level management team who would take ownership of a proposed change and be the point person with whom IMEC would work most closely on implementation. This use of champions not only helped maintain momentum for organizational change, it also encouraged owners to delegate greater responsibility, empowering others and making better use of limited senior management time.

Other ways IMEC has worked to improve leadership development include using a combination of targeted assessment tools and executive coaching to help firm owners and top-level managers be more effective in their leadership roles. As one regional IMEC manager noted, “[Through Genesis] we identified a need for leadership development at almost every business ... including the basics of leadership: how to delegate, how to lead with empathy and emotional intelligence.”

IMEC staff noted that the need for improved leadership is often greatest in organizations that have several managing partners, including family-owned firms with multiple family members at the helm. Given this type of organizational and interpersonal complexity, leadership training and coaching is often used to draw out underlying team or family dynamics, including different decision-making frameworks that can negatively affect management consistency and unity. IMEC trained four of its staff members to become leadership trainers, adding capacity to extend this type of support to top-level decision makers at all the firms that MEP serves.

Another critical leadership focus for IMEC is internal business communication. For example, at one company — which experienced a significant drop in sales during and following the Great Recession and cut employment by roughly half as a result — workers expressed tremendous frustration about not being informed of the company’s ongoing struggles. IMEC worked with company leaders to improve communication systems and to ensure these included front-line production workers. Over multiple site visits, we heard numerous front-line workers note that Genesis participation led to greater transparency on the part of company owners or top-level managers. Company leaders noted they were scheduling more frequent companywide meetings and using them to share information with workers about key decisions, emerging challenges, or plans for making changes. Workers noted new and clearer lines of communication that allowed them to better communicate their concerns with decision makers

and top-level management. Company owners also pointed to gains in performance and workplace morale after introducing greater transparency.

Lean Projects

In addition to extending people-focused strategies to improve leadership and communication, IMEC has worked with firms to implement lean projects that help address pressing process-related concerns, such as the need to reduce lead times or decrease the amount of scrapped materials. IMEC staff noted that, for several firms, the immediate results from these projects increased firm leaders' trust in IMEC's ability to provide strategic assistance. Workers also appreciated the improved workflow and efficiency gains that resulted from lean engagement. For example, at a firm where IMEC supported a workspace organization and equipment setup training, a front-line worker noted:

When I started ... if I went to do a setup, I did it, but not in the right order. I was jumping around. With [IMEC-supported] training, you learned to get everything you need for set up before you start so you're not running around looking for stuff. Everything to complete setup is with you.

– Production worker

Lean Projects

5S

Engaging production workers in workplace organization. The five S's are:

- Sorting out what is needed versus not needed
- Straightening remaining items so they are easy to locate and use
- Shining by cleaning the workplace and equipment to maintain high standards
- Standardizing by using walkthroughs
- Sustaining through self-discipline and maintenance

Kaizen burst events

Rapid improvement events in which multiple levels of a team work together to improve a work area or product line

Total productive maintenance

Training events focused on proper equipment maintenance

Value stream mapping

Visualization of the flow of production, by walking through the process of production and identifying areas where work processes can be streamlined

Lean Transformation

IMEC's work with firms on focused lean projects and worker-centered actions set the stage for firms to undergo a lean transformation — one in which a continuous improvement mindset is built and shared by all employees. To support transformation, IMEC introduced lean systems, such as lean daily management and the policy deployment matrix, which guide firm leaders in setting key performance indicators and help them understand — and improve their ability to meet — production goals. One firm owner remarked:

I look at what they [IMEC] taught me with policy deployment and that was awesome for me. We went from a loose level of management to having a structure. Now with policy deployment, we're continually focused on where we are going. And policy deployment has shown immediate financial results.

– Firm owner

Implementation of lean daily management systems also helped firms address internal business communication issues. For example, at one Genesis company, multiple managers and sales representatives were providing conflicting information about production needs, making it difficult for front-line production workers to know which orders and deadlines to prioritize. Multiple departments were vying for production worker attention and time rather than working together to coordinate and align the production schedule. The firm addressed this issue by creating a new operations manager role to coordinate orders from the front office to the floor. The firm also engaged IMEC to deliver supplemental training on problem-solving to support its ability to constructively resolve production issues on an ongoing basis.

Lean Systems

Lean daily management: A system that visually guides the production process in each unit according to quality, productivity, delivery, and safety metrics. Work teams meet daily in a forum to communicate and to problem-solve.

Policy deployment matrix: A tool that guides the process for deploying a strategy over three to five years. The matrix shows how different organizational goals and priorities interact and provides a structure to support strategic and tactical decision making.

Business Process Optimization

As noted in section 4, instability of top-line sales was a chronic condition for Genesis companies. Boom and bust cycles fuel uncertainty and fears about losing customers; this can result in companies buffering risk by continuing to take orders for jobs with low profit margins that are good neither for organizational development nor for long-term growth.

Through their work with Genesis firms, IMEC staff have come to recognize that overdependence on poor-fitting customers is a significant barrier to full implementation of production-focused improvements. By continuing to accept orders with low profit margins, company leaders not only divert resources away from serving higher value customers but also place undue pressure on production workers and restrict their ability to focus on continuous improvements. In the words of an IMEC regional manager, “By having the wrong [customer] businesses, what they do is drain: drain not only the workforce but drain monetary resources.”

IMEC provides supports to help owners and managers stabilize top-line revenue — specifically, an 80/20 strategy tool designed to help top-level decision makers identify which orders and customers generate the largest returns. This data-intensive work requires IMEC staff to conduct in-depth analyses of company inputs and outputs. An 80/20 review helps companies identify customers and products of low profit margin, and then IMEC helps company owners explore more promising, higher-return growth opportunities. At least one firm that completed Genesis programming in 2017 has reengaged IMEC for assistance with an 80/20 review.

What Services Did Genesis Companies Receive?

The sections above describe a broad range of actions taken by IMEC in support of people, process, and product improvements through Genesis. Here we provide a more aggregate picture of service activities that IMEC provided to Genesis companies from 2014 through the second quarter of 2018.

As an MEP-affiliated center, IMEC records its activities in a centralized MEP reporting system. Within the system, projects represent the basic unit of analysis for service delivery. A project is a discrete activity between the center and a business client. Between the first quarter of 2014 and the second quarter of 2018, IMEC completed a total of 191 projects with Genesis companies, or about nine per company. The number of services provided to companies varied considerably, with one company completing 31 projects and several completing only one or two. About three-fourths of companies, however, completed at least five projects during the evaluation period.

No. of Years with Participation in Projects	No. of Companies	% of Companies
5	4	18.2%
4	6	27.3%
3	4	18.2%
2	7	31.8%
1	1	4.5%

N = 22 companies

Hours are another important measure of service activity, representing the amount of time IMEC staff dedicated to a company. In total, IMEC staff and contractors logged more than 7,000 hours working with Genesis companies, or an average of 321 hours per company. Almost 80% of Genesis companies received more than 100 hours of service; fewer than one-quarter of firms received less than 100 hours.

Total No. of Project Hours	No. of Companies	% of Companies
500+	5	22.7%
250-499	7	31.8%
100-249	5	22.7%
50-99	2	9.1%
<50	3	13.6%

N = 22 companies

Genesis companies varied widely in terms of the duration of their engagement with IMEC. Four of 22 firms had projects with IMEC extending across all five reporting years. Nearly two-thirds (14 of 22) had activities in three or more years. Only one Genesis company reported engaging for a single year of support — a company that IMEC determined early on was not a good fit for Genesis.

An important aspect of Genesis is the mix of projects across different target areas. We placed IMEC projects with Genesis companies into five categories – four directly related to Genesis program goals, and one residual category:

- Process: Lean, quality, engineering, and sustainability services focused on efficiency and operational excellence
- Product: Growth services; sales/marketing/business development services focused on top-line revenue growth
- People: Workforce services, employee engagement; training, skills assessment, and other HR-related activities
- Strategy: Strategic/business management and planning services
- Other: Financial analysis/assistance; information technology and technology services

Project Activities	No. of Companies	% of Companies
Process	19	86%
Strategy	19	86%
Product	11	50%
People	10	45%
Other	8	36%

N = 22 companies

Roughly half of the 22 Genesis companies reported engaging in people-focused projects, including workforce training and human resource management development projects. Eight of the 12 companies that were consistently active in Genesis and completed 150 or more project hours during the evaluation period participated in people-focused projects.

The most common projects were in process and strategy services, with 19 of 22 companies completing projects in these areas. Strategy-oriented work represented the essence of the Genesis approach, and process-related efforts often built off the foundation of strategy and people engagement.

Importantly, most Genesis companies completed projects across multiple categories. More than half (13 of 22, or 59%) completed projects across three of the four primary categories (people, process, product, strategy) during the five-year period.

Project Category Mix	No. of Companies	% of Companies
Four categories	4	18%
Three categories	9	41%
Two categories	7	32%
One category	2	9%

N = 22 companies

Section 6

Worker and Business Outcomes



Worker and Business Outcomes

The Genesis approach was predicated on the idea that, by paying closer attention to the concerns of a company's workforce, a business can be more successful in implementing strategies that promote near-term and longer-term business success and transformation. Earlier we gave examples in which businesses reported Genesis having an impact, but how successful was the program overall? In what ways did IMEC's approach to working with companies through Genesis relate to changes in business outcomes? And importantly, to what extent did efforts yield tangible and quantifiable improvements in job quality for front-line workers? This section draws on data from a variety of quantitative sources, as well as observations from company leaders, to describe business and worker outcomes.

Worker Outcomes

"It's changed a lot. I feel more motivated and that there are more opportunities to move up. ... They [management] make you feel that you can move up if you move around, and they give you more money for that."

– Manufacturing production worker

Earnings

Every quarter, businesses report wages paid to each earner in their workforce to IDES, which uses earnings data to calculate businesses' UI taxes. UI data provide a picture of how much workers' earnings changed across Genesis firms between 2014 and 2017. Below we provide a summary table of our analysis, exploring data along three dimensions:

- Average earnings per worker, which allows us to compare earnings with industry benchmarks
- Average earnings increase for incumbent workers in Genesis companies who earned less than \$50,000 on average in 2015
- Share of all full-year workers in Genesis companies earning low wages (less than \$30,000 annually)

We found that the average annual earnings level for workers in Genesis companies increased by 12% in real (inflation-adjusted) terms from 2014 to 2017, reaching more than \$51,000 in 2017. Importantly, we found that Genesis companies were closing the gaps in average pay levels for their respective industries, going from 78% to 84% of their industry average during this time. It is not uncommon for SME companies to have lower wage levels relative to those of larger companies in their sector, due to lower rates of unionization and shares of nonproduction (e.g., managerial and engineering) workers than those of larger companies.¹⁷

Front-line workers appear to be sharing in this increase. Among workers who earned less than \$50,000 per year in 2015,¹⁸ the year-over-year increases in earnings nearly doubled between 2015 and 2017, both on average and for the median/typical worker. By 2017, year-over-year wage increases averaged 9.9% for incumbent workers in Genesis companies, compared with 5.4% in 2015.

Genesis companies reduced the share of their workforce earning low wages, which we define as less than \$30,000 per year. In 2014, 34% of full-year workers in Genesis companies earned less than this threshold; by 2017, just over one-quarter (26%) did. These figures may reflect both increases in hourly wage levels and numbers of hours worked.

Earnings Levels and Growth, Genesis Companies

Metric	2014	2015	2016	2017
Average annual earnings, all full-year workers	\$45,914	\$48,393	\$49,010	\$51,337
Earnings as % of industry average	78%	80%	81%	84%
Real earnings growth, full-year incumbent workers earning <\$50,000 in previous year	-	5.4%	6.2%	9.9%
Median growth rate	-	3.0%	3.8%	7.9%
Share of full-year workers earning <\$30,000 annually (inflation adjusted)	34.3%	31.7%	30.0%	26.1%

Notes:

- N = 22 companies
- Based on analysis of UI wage records for 2,349 workers across 22 Genesis companies from the first quarter of 2013 to the fourth quarter of 2017, obtained from IDES.

¹⁷ Kimberly Bayard and Kenneth R. Troske, "Examining the Employer-Size Wage Premium in the Manufacturing, Retail Trade, and Service Industries Using Employer-Employee Matched Data," *American Economic Review* 89, no. 2 (1999): 99-103.

¹⁸ The UI database does not provide worker occupational information, so we used this earnings threshold to proxy for front-line production workers.

- “Full-year workers” defined as workers with earnings in each quarter of reference year plus preceding and succeeding quarter; because no first-quarter 2018 data were available, workers with fourth-quarter 2017 earnings $\geq 80\%$ of preceding four quarters are considered full-year for 2017.
- All earnings figures inflation-adjusted to 2017 with Consumer Price Index for Chicago Metropolitan Statistical Area from the Bureau of Labor Statistics.
- Average company earnings compared to average for their detailed industry (four-digit NAICS) from Census Bureau, Quarterly Workforce Indicators for Chicago-Naperville-Elgin, IL-IN-WI Metropolitan Area (IL portion).

These findings are consistent with survey data collected directly from Genesis companies, which indicated rising starting wage levels for production workers.¹⁹ Of the nine companies that completed the 2017 follow-up survey, six indicated that their starting hourly production wages had increased since the previous survey, with a median increase of \$1 per hour; seven of the nine companies indicated that the shares of their production workforce earning a base wage of less than \$10 and less than \$15 per hour had decreased since the prior survey.

Admittedly, some of this wage growth can be attributed to two factors beyond the scope of Genesis: the tightening labor market, especially for skilled manufacturing workers, and mandated increases in the Cook County (IL) minimum wage (\$11 per hour in 2018).

Benefits

For most workers, hourly wage represents the clearest “headline” measure of job quality, but wages are not the only element of compensation. Nonwage benefits such as PTO, health insurance, and retirement plans are also important to workers’ ability to meet household needs, avoid financial crises due to health problems (and maintain good health), and save for the future. Genesis companies tended to be “bimodal” in their benefits offerings, with some providing coverage for the great majority of their production workforce and some covering few or none. Especially for smaller Genesis companies, robust benefits packages were difficult to sustain and augment.

Genesis firms were less successful in expanding worker benefits compared with the progress they made regarding wages — especially companies that started at a low level of coverage. In the semiannual surveys of Genesis firms we conducted, only two firms indicated sizable expansions of health care coverage and offerings over the course of the Genesis period — both companies increased coverage from 0% to over 30% of the production workforce.

What is also clear from our observations is the importance of worker voice in pushing for these improvements. At one of these two companies, results of the EES directly contradicted the owner’s impression that his front-line workforce didn’t need health insurance. Learning that they did, he extended the benefit to all workers.

But even when companies do expand benefits offerings to a broader base of workers — which the Affordable Care Act compelled some to do — affordability remains a significant concern and therefore an area for further action. IMEC has worked with a few companies to help connect them with lower-cost association plans, but in relatively few cases did the share of front-line workers enrolled in benefits increase substantially during the evaluation period. Of all the

¹⁹ As indicated in Section 4, Genesis companies varied significantly in their base wage levels, but most paid in the \$12 to \$15 per hour range for entry-level positions, exceeding local minimum wage levels.

different aspects of job quality, benefits improvements appear to represent the biggest “lift” for companies. Ongoing increases in health insurance premiums have created strong incentives for companies to disinvest over time and making significant improvements in coverage or affordability is a significant marginal cost.

Other benefit areas saw improvement — in some cases with IMEC's support. A few companies restored and/or expanded their contributions to company-sponsored retirement — that is, 401(k) — plans. Several Genesis companies revised and/or expanded their PTO policies. For firms in Cook County, which passed an ordinance requiring companies to provide paid sick leave beginning in 2017, improvement sometimes meant revising existing policies to be consistent with regulations. IMEC provided direct support to one Genesis company in this way, helping connect the firm with an HR consultant to adapt its leave policies to be consistent with the new county ordinance.

Job Stability and Security

For many low-wage workers, their economic insecurity is compounded by the lack of stability that they experience in the workplace. For some, instability means irregular scheduling — like fluctuating hours, forced overtime — while for others, it means insecure job tenure as a temporary or contract worker. For companies, the perceived need and benefit of maintaining this flexibility is often driven by instability in their production flow. Yet instability can also be the cause of orders getting backed up, missed delivery dates, or orders going unfilled. Such production crises cause stressful work environments for both workers and managers.

We observed a few companies for which IMEC's intervention through Genesis involved efforts to improve job stability and security for front-line workers. IMEC's ability to address these is directly connected to helping render the companies themselves more stable and secure. In most cases this means that IMEC sought to work upstream, by engaging the company around process improvements. However, Genesis engagement has also helped companies recognize that their front-line workers are a critical component of organizational transformation — and that gaining workers' commitment to support that transformation requires a commitment from the employer as well.

Our UI wage record data from IDES gives us some insight into progress made by Genesis companies toward reducing workforce turnover, which is an indicator of job stability and quality. Genesis companies reduced turnover both in absolute terms and relative to their industry averages. Using a measure of turnover defined by the US Census Bureau that counts new hires and separations relative to a company's employment, Genesis companies as a whole saw their turnover rates decline by nearly one-quarter, from a high of 5.5% in 2015 to 4.3% in 2017. Among the 12 companies who were engaged in projects with IMEC as of September 2017, the decline was even greater from 2015 to 2017: from 5.8% to 3.3%. Over that time period, Genesis companies, on average, went from being 10% to 30% above their industry benchmarks in worker turnover in 2014 and 2015 to about 10% to 25% below in 2017.

Workforce Turnover Trends, Genesis Companies, 2014-17

Turnover rate	2014	2015	2016	2017
All Genesis (N = 22)	5.4%	5.5%	4.8%	4.3%
Engaged with Genesis as of 9/2017 (N = 12)	5.5%	5.8%	4.8%	3.3%

Turnover as % of industry average	2014	2015	2016	2017
All Genesis (N = 22)	118%	111%	102%	93%
Engaged with Genesis as of 9/2017 (N = 12)	128%	121%	107%	76%

Notes:

- Turnover calculated as: $(\text{New hires} + \text{Next quarter separations}) / (2 \times \text{"Stable"} \text{ quarterly employment})$. Based on methodology of US Census Bureau, Quarterly Workforce Indicators program.
- Average values for the third quarter of the previous year through the second quarter of the named year (i.e., 2014 = third-quarter 2013 through second-quarter 2014).
- Industry average based on US Census Bureau, Quarterly Workforce Indicators for four-digit NAICS industry, Chicago metropolitan area.

Business Outcomes

“We went from 16 to three people to make a part. We gained more business as a result. It allowed the company to move the saved labor into new accounts and, in the process, reduce costs for individual orders.”

– Plant manager

“We had many issues prior to training — starting out our on-time production was miserable — in the 50% range; our quality was questionable at times. We are now in the 90% to 95% range for on-time production.”

– Plant manager

Annual surveys of IMEC's business clients, conducted by NIST-MEP, help show us the impact they perceive Genesis has had on their business outcomes. Although the surveys' confidentiality provisions prevent us from reporting individual company results, we compared results between two groups of Genesis companies (all 22 companies and the group of the 12 most actively participating companies) and other Chicago-area SME manufacturers that IMEC worked with during the same time period.²⁰

Sales Growth and Retention

Genesis firms were much more likely than other IMEC clients to report sales growth and sales retention. Just over half (55%) of all Genesis companies and 61% percent of the most active Genesis companies reported an increase in sales as a result of their work with IMEC, compared with 37% of non-Genesis companies. An equivalent share (55% and 61%, respectively) reported sales retention as well, compared with 39% of non-Genesis companies.

Sales increases for the most actively participating Genesis companies were approximately 20% higher than those for non-Genesis companies; sales retention was more than three times higher. The median increase in sales reported by the most actively participating Genesis companies was \$251,820; the median sales retention amount was much higher, at \$1.8 million.

²⁰ To make for a more meaningful comparison, we limited the comparison to non-Genesis IMEC clients in the Chicago metropolitan area with 250 employees or less, whose projects with IMEC in a particular reporting period were 25 hours or more in duration. Because MEP clients report impacts annually, the unit of analysis here is “company project-years” — companies with projects in multiple years would be surveyed for impacts in each year, meaning that the number for Genesis company project-years exceeds the number of Genesis companies. “Most actively participating companies” were a subset of Genesis companies with greater than 150 total project hours over multiple reporting years.

Job Growth and Retention

Improved job stability for workers means improved worker retention for companies. Genesis companies reported much higher job retention and new job creation impacts than did non-Genesis companies. Sixty-three percent of all Genesis companies, and an even higher 68% of the most actively participating Genesis companies, reported job creation as a result of their efforts with IMEC, compared with only 44% of non-Genesis companies. Similar shares of Genesis companies reported retaining the number of jobs provided (65% all Genesis, 74% most actively participating Genesis), compared with 42% of non-Genesis companies.

The number of jobs created by companies served by IMEC, which are mostly small manufacturers, was relatively minor. The median job creation figure was 2.5 jobs for the most actively participating Genesis companies. This figure was a little higher than median job creation for non-Genesis companies: 2.0 jobs. The median job retention figure for actively participating Genesis companies was 11.5 jobs—compared with 6.0 for non-Genesis companies.

Cost Savings

Genesis companies were also more likely to report cost savings as a result of their work with IMEC. More than two-thirds (71%) of all Genesis companies and nearly four-fifths (79%) of the most active Genesis companies reported cost savings, compared with 47% of non-Genesis companies. The median reported cost savings for actively participating Genesis companies was \$92,500, compared with \$50,000 for non-Genesis companies.

New Investments

Finally, Genesis companies were more likely than non-Genesis firms to report new investments as a result of their work with IMEC. The widest margin came in workforce investments. More than four out of five (82%) of all Genesis companies, and 87% of most actively participating Genesis companies, reported that their company made investments in their workforce as a result of their work with IMEC, compared with just over half (55%) of non-Genesis companies. Interestingly, similarly large margins in company investments were found in information systems, which likely reflects Genesis' emphasis on data-driven strategic planning and metrics to inform continuous improvement.

Business Outcomes: Genesis- Versus Non-Genesis Clients

Business Outcome	% Reporting Impact			Median Impact Reported	
	All Genesis Companies	Actively Participating Genesis Companies	Non-Genesis Companies	Actively Participating Genesis Companies	Non-Genesis Companies
Increased sales	55%	61%	37%	\$251,820	\$210,000
Retained sales	55%	61%	39%	\$1,800,000	\$500,000
Created jobs	63%	68%	44%	2.5	2.0
Retained jobs	65%	74%	42%	11.5	6.0
Achieved cost savings	71%	79%	47%	\$92,500	\$50,000

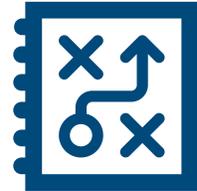
New investment in:	All Genesis Companies	Actively Participating Genesis Companies	Non-Genesis Companies
New products or processes	55%	66%	38%
Plant and equipment	71%	68%	50%
Information systems	57%	66%	33%
Workforce	82%	87%	55%
Other areas	39%	37%	18%

Notes:

- N = 49 All Genesis Companies, 38 Actively Participating Genesis Companies, 224 Non-Genesis Companies
- Analysis limited to IMEC clients with less than 250 employees, in the Chicago metropolitan area, and reporting 25 hours or more of project work with IMEC during the reporting period.
- "Actively participating" indicates companies with greater than 150 project hours total with IMEC/Genesis over multiple years.
- Companies were surveyed in all years they received services, so a company that received services from IMEC in four years during the evaluation period completed four surveys. A company that received services in two years completed two surveys.

Section 7

How IMEC Approached the Genesis Effort



How IMEC Approached the Genesis Effort

When IMEC initially launched Genesis, it was as a pilot initiative that leveraged CWFA seed funding to engage a subset of firms in an experimental approach to providing services. As described in Section 2, this funding allowed IMEC to test different ways to implement a strategic approach for working with companies on “people-process-product” improvements. What resulted was a longer-term approach that integrates “process” (e.g., efficiency and productivity) improvements with “people” strategies to improve workforce engagement, productivity, and stability, and “product” strategies to keep up with changing market demands. Rather quickly MEP determined that the Genesis approach was a superior strategy for advancing IMEC’s mission. In 2017, IMEC’s board of directors formally approved making a strategic organizational shift in which the Genesis approach would become the default approach to service delivery for all manufacturing firms. Over the past two years, IMEC has worked on organizational change to implement this strategic shift.

Moving Genesis from experimental sidelines to the core required IMEC to undergo substantial organizational transformation — parallel in many ways to the cultural changes that IMEC has helped manufacturing firms work on via Genesis. IMEC staff have had to adopt a new way of working with firms, broadening their areas of focus and taking a longer-term perspective. This approach has represented a marked contrast to the earlier practice of identifying an immediate challenge for a firm and selling a point solution to solve that problem. IMEC staff now refer to the Genesis approach of holistically engaging with firms with an eye toward long-term, sustainable outcomes as “transformational coaching.” IMEC leaders and Genesis-supporting staff relied on four major elements to embed the Genesis approach in everyday practice:

1. Launching with internal champions
2. Bringing in new staff capacity
3. Growth through learning and empowerment
4. Leveraging existing tools

Launching With Internal Champions

Because Genesis began as a pilot initiative, IMEC leaders relied on two regional managers to test the strategic engagement approach with firms. These two regional managers also became internal champions who supported the dissemination of Genesis within IMEC. Regional managers are responsible for building relationships with business owners and framing the value proposition for working with IMEC. The two regional managers who supported early implementation of Genesis had worked in executive-level positions within manufacturing firms prior to their employment with IMEC. As such, they were comfortable engaging firms in different product markets, at different stages of development, and with different levels of financial ability. Importantly, these two managers immediately embraced the underlying philosophy of Genesis: that people are a business's greatest asset and that workforce practices are central to operational excellence and profitability.

In the first year of Genesis implementation, these two regional managers experimented with different approaches for engaging firms' leaders and learning about pressing managerial, financial, or structural issues that could keep a firm from moving forward on people-related actions. The managers were seeking to identify firms that were "right and ready" for Genesis engagement, but the early days of implementation were also times when IMEC had to establish its credibility and build the trust needed to lead firms in strategic planning.

The two "champion" regional managers were critical to organizational learning, bringing new and existing staff into the Genesis fold and sharing knowledge and insights across the entire IMEC community. They helped other staff understand the "nuts and bolts" of their work with Genesis firms, sharing information at monthly IMEC meetings and writing case studies and blogs. They formally trained and mentored other regional managers, encouraging managers to shadow them in their work with Genesis firms.

Who Are Regional Managers?

In 2017, IMEC developed a regional team approach for client service delivery. IMEC has 14 regional managers who are responsible for client engagement for specific territories statewide. The managers typically have 15 to 20 companies in their portfolio and play a key role in the cultivation of relationships and networks of firms. They initiate and maintain relationships with manufacturers, assess firm challenges and opportunities, and sell IMEC's consulting and training solutions.

The regional team is field based and decentralized in terms of operations. Regional managers have monthly in-person meetings as a team to share information and reflect on their work with firms. IMEC leverages these monthly meetings to provide professional development opportunities, including supporting Genesis strategy expansion.

Bringing in New Staff Capacity

Early in implementation, IMEC leadership recognized the need to bring in technical experts who could support people-related services and programming. The HR generalist, hired in 2015, was initially tasked with documenting HR management practices within participating Genesis firms and working with business leaders on items such as job descriptions, developing or updating employee handbooks, and reviewing policies for PTO and benefits. Within the first year at IMEC, the HR generalist broadened that scope to include developing the new EES to support strategic planning, assess workplace culture, and help firms implement follow-up actions based on the survey results. Moreover, to support Genesis diffusion into work with more firms, the HR generalist worked with numerous regional managers and technical experts to help them learn about the myriad HR supports and services that IMEC could offer. This resulted in a printed service kit, which regional managers now use to guide their discussions with client firms. The HR generalist has also worked with regional managers to determine effective strategies for responding to what are sometimes misguided assumptions about workforce challenges. For example, they help regional managers address employer concerns about worker turnover — especially involving new hires — by convincing business owners of the need to redesign their employee onboarding and engagement processes and to look at their wages rather than assuming that “new workers just aren’t loyal.”

The initial work in support of Genesis by the two champion regional managers also informed IMEC’s approach to hiring professionals for Genesis and the larger IMEC team. Between 2014 and 2017, IMEC had opportunities to hire regional managers to replace staff who left the organization. IMEC leadership noted using this opportunity to strategically hire managers who can work with businesses more broadly, noting:

Previously we were looking for managers with lean, Six Sigma, and other continuous improvement practice experiences. But now we’re also looking for someone who has had responsibilities for profit and loss or who has had experience in sales and marketing.

– IMEC Executive Director

Growth Through Learning and Empowerment

Early on, IMEC leaders recognized the need to tap Genesis-supporting staff to train others within the organization. Early Genesis champions were encouraged to share their knowledge across the entire organization and help establish an open learning environment that could support further Genesis strategy expansion. Over time, more and more IMEC staff have gained new skills and brought important specialized expertise that, together, supports the holistic Genesis approach in-house.

Two regional managers have become certified as TWI instructors. Each has taken ownership of a different component of TWI and become the go-to IMEC expert. Staff have also developed expertise in Development Dimensions International — a leadership development program that incorporates individualized coaching to help leaders learn about their personality and what drives their interpersonal relations, and to improve their work with people. More recently, IMEC hired a bilingual technical specialist with experience in quality and continuous improvement strategies. This specialist is well positioned to support IMEC's HR generalist with conducting the EES and focus groups in Spanish.

Further, as the domain expert in a specific area, a regional manager can now cross-serve multiple firms and work with fellow regional managers in a more coordinated way. This interconnectedness is self-reinforcing: IMEC managers report that discussions in regional team meetings have shed light on new areas that could be supported through in-house expertise — with manufacturing company succession planning and diversity and inclusion now recognized as emergent areas to support.

Leveraging Existing Tools

Without a recipe to guide Genesis implementation, IMEC experimented with different approaches to work with firms on intertwined people, process, and product strategies. Over the course of implementation, IMEC realized the value of leveraging existing tools that staff are familiar with and that have credibility within the business community.

Existing business consulting tools have legitimacy in industry and an extensive base of published literature and resources that IMEC staff can draw on to support their work with firms. Also, staff have found that the tools have been helpful in building relationships with new manufacturing clients. One regional manager stressed, “They [the tools] have credibility. Rather than trying to reinvent, there is a history of success that can be shown [to the business owner] and a body of knowledge that can be pulled from.” Further, because these tools are recognized in the business community, firms are willing to pay for them rather than IMEC’s broadly defined strategic consulting services.

The Baldrige Excellence Framework²¹ is an example of such a credible tool. Baldrige is well known within the Chicago business community and has the added benefit of a highly prized business award system for which regional managers are helping IMEC client businesses compete. The framework outlines seven broad areas for improvement,²² which align well with the Genesis push to make concurrent advances in support of people, products, and processes. The quality reputation of Baldrige helps IMEC staff make the business case for a holistic and transformative approach to manufacturing extension.

IMEC also found that drawing from an existing base of sound tools — such as Baldrige, TWI, value stream mapping, and lean daily management — has helped foster internal staff comfort with taking on a new strategic approach. Staff do not feel like they are being expected to conduct work in areas that are removed from their core skills sets.

²¹ Established in 1987, the Baldrige Performance Excellence Program is administered under the US Department of Commerce to enhance the competitiveness of American businesses. In 2015, IMEC received the contract to administer the IPLEEx Recognition Program, Illinois state’s affiliate to the Baldrige Program.

²² Within Baldrige, the seven areas of improvement are leadership; strategy; customer engagement; measurement, analysis, and knowledge management; workforce; operations; and results.

Genesis' Contribution to IMEC's New Organizational Profile

The strategies discussed above capture the transformational approach to working with and supporting IMEC staff, but IMEC leaders have also taken steps to reorient their organizational profile, presenting a substantially revised image of manufacturing extension to external partners, funders, and prospective collaborators. At a basic level, this change is reflected in IMEC's public communication and outreach efforts. Currently, online, IMEC describes its service offerings around five core areas: leadership, strategy, customer engagement, operations, and workforce. This is a notable change from when Genesis was first launched in 2014, when service offerings were organized around tactical areas in lean manufacturing and quality systems (e.g., continuous improvement, supply chain optimization, sustainable manufacturing practices). IMEC has also expanded its workshop and networking events to emphasize its more strategic focus on employee engagement, leadership development, and a quality-supporting business culture.

Also, importantly, IMEC's board of directors has been instrumental in reinforcing IMEC's new organizational profile. The board consists of 17 Illinois business leaders, with representation from both small and mid-size manufacturers as well as larger original equipment manufacturers, such as Deere and Caterpillar. As noted previously, the board supports IMEC's transformation and incorporated the Genesis approach into the 2017 strategic plan. IMEC has recruited two new board members who support, and in some cases have directly experienced and benefited from, the Genesis process. Having these representatives not only reinforces the value of the program to IMEC staff but also helps create a new set of champions within the business community for supporting future Genesis programming.

IMEC — A Star MEP

Major changes introduced by one unit within a much larger national structure could result in misaligned objectives or missions. So, how does IMEC's commitment to Genesis affect its overall standing as an MEP provider? Since implementing Genesis, not only has IMEC increased its overall MEP performance — adding five additional stars to its national rating — it is now at the highest performance level, having earned 10 out of 10 stars since 2018. As this suggests, IMEC's holistic and long-term engagement through Genesis does align with national requirements set by MEP. And while learning from Genesis has the potential to inform thinking about MEP metrics going forward, IMEC performance to date should remove any doubt about Genesis-like programming conflicting with larger MEP goals. The Genesis approach and MEP are squarely aligned.

Building a Role Within the Workforce Ecosystem

IMEC's experience in Genesis has helped improve IMEC's position within the regional workforce ecosystem. As noted in Section 2, IMEC began working in the Chicago region in 2011 and at that time was still seen as a relative newcomer not only within the local business community but also within the local workforce. IMEC therefore identified opportunities to work with local workforce intermediaries in mutually beneficial ways. We interviewed some of leaders of the local workforce intermediaries, and they welcomed these opportunities. As one states, "I believe in collaborating and leveraging each other's expertise. If we can extend IMEC as one of the resources in our tool belt, then it benefits us, and it benefits them."

IMEC's affiliates manager played an instrumental role in developing IMEC's work with local workforce development intermediaries in several ways. First, staff from several of the workforce intermediaries noted that IMEC was relatively new, but they had past work experiences with the affiliates manager, which made them feel more comfortable working with IMEC. Second, through joint sales calls and presentations, the affiliates manager helped broaden these workforce intermediaries' connections to local manufacturers. Interviewees noted that visiting manufacturers with the affiliates manager allowed them to learn about the manufacturing plant environment and operations and businesses' hiring needs. Ultimately, this helped them connect job-seeking clients to employment opportunities. The workforce intermediary leaders we interviewed further noted that, through these connections, they started conversations about the needs of residents and the value of working with local workforce providers. As one leader noted, "IMEC is creating a pathway for CBO organizations like [ours] to have a conversation [with businesses] about what the workforce in the community looks like and how businesses can connect [and work with] community-based workforce organizations." Finally, the affiliates manager helped connect workforce intermediaries holding funds for on-the-job training activities to eligible firms.

Who Is the Affiliates Manager?

Created by IMEC in 2013 (pre-Genesis), the affiliates manager position helps develop strategic relationships with workforce organizations and identify partner resources that can help support IMEC's mission. In filling this role, IMEC hired an individual who had been employed at various workforce development organizations in the Chicago area, and through that prior work had established strong relationships with public workforce entities that have financial resources to support workforce training efforts. IMEC leveraged this manager's relationships and expertise to lead firm recruitment in the early days of Genesis. Unlike typical IMEC staff, the affiliates manager had the background to easily discuss topics related to people practices with firm owners. Further, his ability to help connect firms to public training dollars helped incentivize firms to participate in Genesis and invest in people-related strategies, including connecting to local workforce intermediaries to support specialized training or apprenticeship development.

Over time, IMEC has expanded its role as a strategic partner in a specific community: the Calumet region, which is the southern part of Chicago and Cook County. In 2016, IMEC was awarded a \$4 million America's Promise Grant by the US Department of Labor. Through subgranting, IMEC strengthened its relationship with workforce service providers. An important aspect of the Calumet project is to convene manufacturers in a sector partnership in which they meet regularly and discuss and develop solutions to address their workforce needs. An objective of this effort is for workforce development programs to get information that helps them design and implement programs that meet the hiring needs of employers in their local labor markets. Developing these deeper connections with businesses is a time- and resource-intensive activity, and it is often a challenging area of practice for workforce service providers. Calumet partners have credited IMEC for providing supports that have been instrumental to recruiting firms for the sector partnership. As one workforce partner emphasized, "It's about inviting companies that you think are going to get engaged in this and commit to [the partnership] with an understanding that it's not just about attending a meeting." Aligned with this sentiment, several partners showed great appreciation for how IMEC recruited an engaged and committed set of firms. Partners also felt that IMEC's involvement with the work helps add legitimacy to the project. As one partner noted, "Everyone [at IMEC] comes directly from manufacturing. They are industry experts. I think there's a legitimacy that this isn't just another flash-in-the-pan project."

Section 8 Conclusion



Conclusion

IMEC's Genesis approach to serving manufacturers was predicated on the idea that workforce practices are central to a company's operations and are therefore critical to a company's productivity and competitiveness. By paying closer attention to workforce management, skill requirements, and the needs and concerns of its workers, a business can be more successful in implementing strategies that promote near-term and longer-term business success.

At the beginning of our formative evaluation, Genesis was new. Because both the evaluation team and IMEC anticipated that the Genesis approach would be adapted over time, we set out to answer questions related to both implementation and outcomes, including the following:

1. What are the business outcomes for companies that have participated in the Genesis project, and to what extent have improved business outcomes resulted in improved livelihoods for front-line workers?
2. What are the characteristics of change process for companies that have participated in the Genesis project?
3. How has the Genesis project influenced IMEC's way of doing business? What are implications for other manufacturing extension partners that may undertake similar work?

Overall, we found that IMEC's strategic work with 22 Genesis firms yielded benefits for both workers and businesses. Benefits for workers came in the form of improved job stability and security, safer operating procedures, clearer job descriptions and advancement pathways, and improved wages and benefits. Companies realized benefits in production efficiencies, cost savings from reduced injuries, improved adherence to customer quality standards, improved sales retention, and increased profitability and growth.

NIST-MEP data collected from IMEC's clients show that Genesis companies experienced notable sales growth, sales retention, cost savings, and job retention in comparison with other Chicago-area SME manufacturers that IMEC worked with during the same time period. Highlights of findings include the following:

- Fifty-five percent of all Genesis companies and 61% of the most actively participating companies reported increases in annual sales that they attribute to working with IMEC; 37% of IMEC clients that were non-Genesis companies reported increases in annual sales.
- Similar percentages reported that their companies retained sales that, without IMEC services, would have been lost. Fifty-five percent of all Genesis companies and 61% of the most actively participating companies reported sales retention; 39% of IMEC clients that were non-Genesis companies reported retaining sales.
- Median increase in annual sales reported by the most actively participating Genesis companies was \$251,820, and median sales retention was \$1.8 million.

- Seventy-one percent of all Genesis companies and 79% of the most actively participating companies reported cost savings that they attribute to their work with IMEC; 47% of IMEC clients that were non-Genesis companies reported cost savings.
- For the most actively participating Genesis companies, median annual cost savings was \$92,500, compared with a median annual cost savings of \$50,000 by IMEC's non-Genesis companies.
- Sixty-five percent of all Genesis companies and 74% of the most actively participating companies reported that they retained the number of jobs they offer as a result of working with IMEC; 42% of non-Genesis companies served by IMEC reported retaining jobs.

Analysis of UI wage data for Genesis companies provided evidence that earnings, job stability, and job security improved for front-line production workers as companies became more stable, secure, and profitable. Highlights of findings about worker outcomes for Genesis and non-Genesis manufacturing firms include the following:

- Average annual earnings for all workers employed by Genesis companies increased by 12% in real, inflation-adjusted terms from 2014 to 2017.
- Genesis companies made progress closing the gap between their average wages and industry wage benchmarks, increasing from 78% of industry average in 2014 to 84% of industry average in 2017.
- Among Genesis companies' front-line workers who earned less than \$50,000 annually, average year-over-year increases in earnings nearly doubled (5.4% increase 2014 to 2015; 9.9% increase 2016 to 2017).
- Genesis companies reduced the share of their workforce earning low incomes, defined as less than \$30,000 annually. In 2014, 34% of full-year workers earned less than \$30,000; by 2017, 26% earned less than \$30,000.
- Average worker turnover rates among all Genesis companies declined from 5.5% in 2015 to 4.3% in 2017. Among the most actively participating companies, turnover declined even more — from 5.8% in 2015 to 3.3% in 2017.
- Genesis companies' turnover declined substantially relative to industry benchmarks. Between 2014 and 2017, among all Genesis companies average turnover declined from 118% of the industry benchmark to 93%. For the most actively participating Genesis companies, average turnover declined from 128% of the industry benchmark in 2014 to 76% in 2017.

Through Genesis, IMEC fine-tuned a strategic planning approach that helped companies explore process- and product-related challenges that were deeply interwoven with people-related challenges. Front-line production worker engagement was a critical component of strategies to improve firms' profitability. But workforce issues were not generally what initially motivated company leaders to seek help from IMEC. Many of the companies face fluctuating markets for their products. At the start of their engagement with IMEC, some of the firms were experiencing sales decline. They sought IMEC support on strategies to retain and grow customers and sales and to establish new niche markets. Other companies were interested in IMEC support to manage increased volume of sales and customers. In both situations, process-related challenges — the need to reduce costs, improve quality, or adopt new technologies — provided the impetus for engaging with IMEC. Through Genesis, IMEC worked with firms to plan and sequence projects to address people, processes, and products, and IMEC staff often started with people-focused projects in order to underpin next steps.

Implementing the Genesis approach involved substantial organizational change and staff development on the part of IMEC — parallel in many ways to business culture changes that IMEC helped manufacturing firms work through. Funding for Genesis from CWFA provided important seed capital for IMEC to innovate and experiment with new service delivery approaches. CWFA funding also supported IMEC staff development. Today, Genesis is no longer viewed as a separate project within IMEC. The transformational people-process-product approach, which requires working with firms longer and more holistically, has been approved and adopted by IMEC's board of directors and is embedded within IMEC's strategic plan.

Considerations for MEPs, Policymakers, and Funders

The final sections of this report highlight considerations for MEPs that want to adopt the Genesis people-process-product approach and for funders and policymakers who want to support it. We recognize that not all MEPs are alike. Each operates in a distinct local manufacturing economy, and MEPs play different roles within their local economic and workforce development ecosystems. But while there is no one-size-fits-all approach to an MEP implementing the Genesis approach in a community, the principles underlying IMEC's people-process-product approach to delivering technical assistance to manufacturing firms will likely be of interest to many.

Considerations for MEPs

Key factors that supported IMEC's implementation may be helpful for other local MEPs that want to develop holistic people-process-product approaches to their work with manufacturing firms. The following are some examples:

Leadership that embraces the vision and purpose of the Genesis approach

The Genesis approach represents a significant departure from more traditional manufacturing extension practices. A critical component to IMEC's success was early leadership buy-in for the strategy. Based on his experiences with SME manufacturing firms and their challenges, IMEC's president saw the importance of forging more holistic practices to serve firms more effectively. The new Genesis strategic direction is aligned with IMEC's mission of fostering long-term economic and workforce competitiveness among the region's SME manufacturers. The president also worked over time to forge strong, internal commitment among IMEC staff and IMEC's board of directors.

Starting small when launching a new strategic approach

Although IMEC launched Genesis with plans to work with a larger number of firms, fairly early on it determined that starting small and phasing Genesis implementation over time would be more feasible. In addition to starting out with a small group of firms, IMEC engaged a limited group of staff who were excited about the change. Staff experimented with developing new approaches to engaging company leaders to plan long term around systemic issues affecting their businesses. Over time, champion IMEC staff helped onboard others in the organization. Champion staff provided peer-to-peer internal organizational learning that was critical to broader staff buy-in.

MEP staff may need different skills to provide business consulting services beyond traditional lean manufacturing service offerings

To support successful implementation of the Genesis approach, IMEC needed new staff capacity to provide technical expertise in areas such as strategies for increasing top-line revenue and workforce and talent development practices. Key staff engaged in Genesis implementation at IMEC included an HR generalist and regional managers who had held executive-level positions at manufacturing firms and had expertise in such areas as financial management, leadership development, and sales and marketing.

Leveraging existing business consulting tools

Rather than focusing on developing new tools, IMEC used existing tools that already had credibility within the business community. Using tools with a demonstrated record of success to engage firms was helpful for building what IMEC hoped would be a different type of relationship. Because IMEC staff were already familiar with using several of the business consulting tools, the approach helped foster staff buy-in and comfort with trying out new ways of engaging clients. Overall, leveraging existing tools made efficient use of staff capacities while also indicating value to firms, thereby contributing to the financial viability of the new Genesis approach.

Finding mutually beneficial ways to work with local workforce organizations

Through their strategic advising role in Genesis, IMEC staff developed a deep understanding of the workforce issues that affect business success and were often in a position to recommend that firm leaders undertake strategies such as investing in skill development training for incumbent workers, considering hiring from a new pipeline of qualified workers, or providing new supports and resources to support employee on-boarding and retention. Rather than attempting to develop new capacity to provide these types of services, IMEC collaborated with local workforce development organizations. These partners helped firms access public training dollars and provided specialized trainings for incumbent workers. By working with IMEC, workforce development organizations developed new relationships with local manufacturers seeking workers.

Considerations for Funders and Policymakers

The following are considerations for funders and policymakers who are interested in helping sustain and grow the work of Genesis locally in Chicago or to encourage uptake of the approach by other MEPs.

Providing funding to support collaboration between organizations

Through Genesis, IMEC has made considerable progress in helping firms improve both business competitiveness and workers' job quality. We see both appetite and opportunity for IMEC to strengthen its relationships with established workforce development organizations. Doing so could help IMEC leverage the institutional strengths of workforce service providers and enhance its work with firms on their workforce practices such as recruiting, on-boarding, and training. Workforce service providers know the skills, aptitudes, goals, and motivations of their unemployed and underemployed constituencies — and they understand the types of challenges that keep people from successfully transitioning from unemployment to work and from retaining employment. Several organizations within Chicago's workforce ecosystem are seeking to improve employment outcomes for people of color, a major goal of CWFA for the Genesis program, particularly for African American men. Funding to support collaboration between IMEC and workforce organizations that operate in and/or have connections to African American communities could provide important resources that accelerate equity and racial inclusion in the manufacturing sector.

Raising the visibility of IMEC and its success

The Genesis approach is aligned with NIST's Next Generation Strategy, which calls for MEPs to expand service offerings beyond lean manufacturing; its goal is to help companies improve their top-line revenue, supply chain development, and workforce and talent development practices. National MEP leadership could help raise the visibility of IMEC and the Genesis story to encourage other local MEPs to adopt holistic workforce-centered consulting approaches with manufacturers.

Reviewing MEP performance metrics with the goal of encouraging adoption of holistic people-process-product approaches

National MEP leadership could help promote the adoption of Genesis-informed approaches to service delivery more broadly. Federally established metrics for assessing MEP performance favor short-term projects with immediate impacts, rather than the depth and length of engagement required by more holistic approaches needed to improve competitiveness.²³ In particular, the existing framework for assessing performance does not provide incentives for MEPs to work with companies in areas such as workforce development and workforce management, which may have less visible near-term effects on the bottom line but may contribute to sustained improvements in business performance over time.

Providing funding to support adoption of the Genesis approach by other MEPs

The funding structure for MEP centers poses constraints to working more deeply and over the longer term with firms. Centers operate with a mix of federal and nonfederal funding support; each dollar of federal funds must be matched by two dollars from state, local, or nongovernmental sources. Private funds can be generated by fee-for-service revenue from businesses, which reinforces incentives to orient services around quick projects that have an immediate effect on revenue. As such, flexible funding is critical for encouraging innovation and deeper engagement with businesses. CWFA funding for Genesis provided a source of seed capital for IMEC to experiment with new approaches to service delivery that emphasized holistic, long-term approaches to business transformation and that foregrounded the issue of job quality for front-line workers. The funding also provided IMEC the time and space necessary for it to establish its credibility and build the trust needed to lead firms in strategic planning.

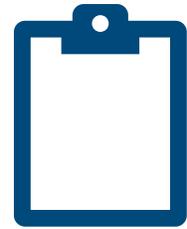
Supporting intermediaries to build capacity to provide business advising services in other sectors

Many of the workforce and operations challenges faced by Genesis firms are not unique to manufacturers; they are experienced by businesses in other sectors too. IMEC staff and leaders learned that it takes specialized staff expertise to work with businesses to address operational challenges as well as to design better-quality jobs. But in other sectors, business consulting intermediaries focused not only on competitiveness but also job quality are rare. Success of Genesis's integrated people- process-product improvement approach may point the way to opportunities for other types of intermediaries, such as workforce development and small business development programs, to change the way they work with business. But most existing intermediaries would need to build or acquire new types of staff expertise.

²³ MEP metrics focus primarily on three aspects of center productivity: reach and penetration in terms of numbers of businesses served and projects undertaken, impacts of MEP services on business revenue, and job creation and retention. Reach metrics are weighted more heavily than other metrics in assessing MEP performance.

Section 9

Appendix - Firm Survey Instrument



Appendix - Firm Survey Instrument

IMEC Genesis Movement Evaluation: Data Collection Tool

The purpose of this data collection tool is to support the evaluation of the IMEC Genesis Movement, by providing a baseline assessment of product, process and people practices on the part of companies participating in Genesis. Follow-up surveys will be conducted annually to track each company's progress on product, process and people outcomes.

The information you provide will be treated confidentially by IMEC and the evaluation team at the Aspen Institute, Portland State University and the University of North Carolina at Chapel Hill. This means that no information provided will be reported publicly in a way that would allow readers to connect to specific firms; instead it will be reported in aggregated form.

Company Name:

Date Genesis Action Plan completed:

Date data tool completed:

Completed by:

Primary IMEC contact:

I. Process

The following questions ask about outcomes at this company in the 12 months prior to the completion date of the Genesis Action Plan.

1. During this time, what was the **average lead time** for products manufactured by this company?

Average lead time is defined as the total time between order processing and shipping, whether to a customer or to inventory (if made-to-stock).

2. What percentage of **units produced was scrapped**, meaning that it was produced with defects that could not be repaired and could not be sold?

3. What percentage of this company's orders were **completed and delivered on-time** to its customers?

4. What percentage of the company's orders were **rejected or returned** by customers due to defects or late delivery?

5. How many OSHA-reportable incidents occurred at this company?

	wk(s)
	%
	%
	%

6. How many work days were lost at this company due to OSHA-reportable incidents?

Certifications and Process Improvement Practices

The following questions ask about this company's certification status and process improvement practices **as of the Action Plan completion date**.

7. Was this company ISO 9000 certified?

- Yes – Certification date:
- No
- Pending

8. Did this company have any other 3rd party certifications? (e.g., RoHaas, R2, ISO 13485, ISO 14000)

- Yes – List name and date:
- No
- Pending – List name:

9. Did this company use Key Performance Indicators (KPI), or other data systems for monitoring performance?

- Yes
- No, but it did in the past
- No, never

10. Did this company use an Enterprise Resource Planning (ERP) system?

- Yes – Type:
- No, but it did in the past – Type:
- No, never

11. Did this company use Total Quality Management (TQM) or some other form of quality control or quality assurance system?

- Yes – Type:
- No, but it did in the past
- No, never

12. Did this company use Lean Manufacturing processes and principles?

- Yes – Number of Kaizen events in the past year:
- No, but it did in the past
- No, never

13. Did this company use strategic planning processes?

- Yes – If yes, list completion date of most recent strategic plan process:
- No, but it did in the past
- No, never

14. Did this company have a vision, mission, and values statement?

- Yes – If yes, list date most recently updated:
- No, but it did in the past
- No, never

15. In the year prior to the Action Plan Date, did this company work with any organizations or consultants, including IMEC, around the process improvement issues and practices listed above (e.g., Lean)? If so, which organizations and which issues/practices.

II. Product

The questions in this section ask about this company's sales and market outcomes in the **most recently completed calendar or fiscal year**.

16. What was this company's **total sales or shipment value** in the most recently-completed calendar or fiscal year? How does this compare to two years prior?

Year ending date:

Throughout this section, please use this reference period to signify the "past year."

2 years prior

17. Of this company's sales in the past year, what is the share that came from:

Its five largest customers?

Products (SKUs) introduced within the past 2 years?

	%
	%

18. Of this company's sales in the past year, what is the approximate share that was shipped to customers: (If your products are intermediate components or inputs, answer this based on the location where they are processed next, not where the final end customers are located.)

In the Chicago metropolitan region? (defined as the 14-county region spanning from Kenosha WI in the north, Dekalb County to the west, and northwest Indiana)

In the U.S. Midwest? (defined as IL, IN, WI, MN, IA, MI and OH, **including the Chicago region**)

In the United States, outside the Midwest?

Outside of the United States?

	%
	%
	%
	%

19. In the past year, what percentage of this company's total sales volume was:

Made to order (products are not built until a confirmed order for products is received)

Engineer to order (products are designed and built after orders are received)

Made to stock (products are designed and built based on anticipated demand)

	%
	%
	%

20. Of this company's sales in the past year, what were the top 3 end products/markets (choose from the options in the menu, or add "other" and specify if not listed)?

End market	% of sales

20a. Have the shares above changed significantly in the last 2-5 years? If so, how?

21. What was the **total value-added** (sales minus materials) by this company in the past year?

22. What was the **cost of goods sold** (COGS) by this company?

COGS is defined as the direct costs attributable to production of goods, including materials and direct labor costs; indirect costs like distribution and sales are not included in this figure.

23. What was the average **value of the plant's inventory**?

24. What was the total value of **investments in plant and equipment** made in the last year?

24. What was the total value of **investments in plant and equipment** made in the last five years?

24a. Briefly describe the most significant capital investments made by this company in the past five years.

25. What was the company's **total expenditures for research and development**?

You may answer either in terms of a total figure or as a share of revenue. For a definition of research and development activities, see: <http://www.nsf.gov/statistics/randdef/business.cfm>

26. Optional comments/explanation regarding data in this section:

III. People/Workforce

This section asks about workforce outcomes at this company **as of, and prior to, the Action Plan Date**, unless otherwise noted.

Employment Level

27. What was this company's **total workforce level**, including production and non-production workers and part- and full-time workers, as of:

	Action Plan Date	2 Years Prior
Permanent payroll (# of workers)		
Temporary help (# of workers)		
Contract employees (# of workers)		
Total workforce		

28. As of the Action Plan Date, how many of the total workforce were **production workers**?

(Production workers include workers, up through line supervisor, engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, auxiliary production for plant's own use (e.g., power plant), and other services closely associated with these production operations).

	# of workers
Total workforce	
Production workforce (see definition above)	
Non-production workforce, including management, administrative, finance, sales, engineering and any other categories not listed above	

29. What was the size of this company's production workforce, by **full/part-time status and employee type**, as of the Action Plan Date?

	# Working Full-time (≥ 30 hrs/week)	# Working Part-time (< 30 hrs/week)	Total Workforce
Permanent payroll (# of workers)			
Temporary help (# of workers)			
Contract employees (# of workers)			
Total production workforce			

29a. Optional comment/explanation about employment levels:

30. Are any production workers at this company represented by a union? If so, indicate which occupation(s) and which union(s).

Production Workforce Characteristics

The following questions relate to the characteristics of this company's **production workforce** as of the action plan date. You may give figures **either** by number or by share (out of 100%).

31. What was the approximate **gender** breakdown?

Gender	Permanent (incl. PT workers)		Temp/contract	
	Number	Share	Number	Share
Male				
Female				
Total		100%		100%

32. What was the approximate **race/ethnicity** breakdown?

Race/Ethnicity	Permanent (incl. PT)		Temp/contract	
	Number	Share	Number	Share
White, non-Hispanic (nH)				
Hispanic/Latino				
Black or African-American (nH)				
Asian or Pacific Islander (nH)				
Other races, including multi-racial				
Total		100%		100%

33. What was the approximate **age** breakdown?

Age	Permanent (incl. PT)		Temp/contract	
	Number	Share	Number	Share
Under 30 years of age				
30-54 years of age				
55 years of age or older				
Total		100%		100%

34. What was the approximate breakdown in terms of **educational attainment**?

Highest degree obtained	Permanent (incl. PT)		Temp/contract	
	Number	Share	Number	Share
Less than HS degree or equivalent				
High school, GED or equivalent				
Any postsecondary credentials, including certifications or college degrees (associate's or higher)				
Total		100%		100%

34a. Are there any **postsecondary credentials** or **industry-recognized certifications** that are important for production work at this facility? If so, which ones? What share of your production workforce has such credentials or certifications?

Compensation levels

35. What was the company's **total compensation expenditures** in the most recently-ended fiscal or calendar year, including wages and benefits, for its production workforce?

Year ending date	
Total production wages	
Total benefits expenditures	
Total production hours	

36. What is the **typical hourly starting wage** for production workers at this company? If there are multiple positions at different wages for which the company regularly hires, list the three for which it hires most regularly.

Position	Starting hourly wage

37. What share of the company's production workforce made a base wage of less than:

\$10 per hour?		%
\$15 per hour?		%

38. In general, how do the company's compensation levels for production workers, including wages and benefits, compare with other companies in the area offering similar types of work?

Much lower
 Somewhat lower
 About the same
 Somewhat higher
 Much higher

Don't know/ Not sure
 No comparables in area

39. Approximately what share of the company's production workforce is currently covered through a company-sponsored health insurance plan? %

	%
--	---

40. Do production workers at this facility earn paid **vacation or personal leave time**?

Yes

No

41. Do production workers at this facility earn paid **sick leave** benefits, separate from vacation time?

Yes

No

42. Optional explanation/comment about benefits provided by company (e.g., payments in lieu of health insurance):

Hiring and Retention

43. How many new production workers were **hired on payroll** in the 12 months prior to the action plan date?

44. From **what sources** were those new hires recruited? Please give an approximate breakdown, **either** by number or share.

Recruitment source	Number	%
Referred by existing employees		
Existing temporary workforce or staffing agencies (i.e., temp-to-perm)		
Public agencies (e.g., One Stops) or community-based organizations (specify)		
Walk-ins or other respondents to job ads posted by the company		
Other sources (specify)		
Don't know or Not sure		
Total		100%

45. How many production workers **separated** from the company in the 12 months prior to the action plan date?

46. What were the reasons for those separations?

Separation reason	Number	%
Retirement or voluntary separation		
Termination or layoff		
Other		

47. Of the production workers hired in the past 12 months, how many are still with the company?

New hires:

Still with company:

48. How difficult is it for the company to hire entry-level production employees who meet its standards?

Not at all difficult

Somewhat difficult

Very difficult

49. How many production workers **received promotions** in the 12 months prior to the action plan date?

49a. Of the figure in Q49, how many experienced a **change in job title** as a result of their promotion?

49b. How many of these received or became eligible for a **5% or greater increase** in pay rate as a result of their promotion?

Training and Development Practices

50. As of the Action Plan Date, did the company provide the following types of training to its production workforce?

Type of training	Yes	In the past	Never has
Formal training (defined as training that is delivered in a fixed setting, such as a classroom, or in an organized way, as in vendor provided training)			
Informal training (defined as on-the-job training where an experienced employee demonstrates or explains the proper way to perform a task, including formal mentoring programs)			
Tuition assistance or reimbursement for costs associated with continuing education			
Apprentice program			

51. In the 12 months prior to the Action Plan Date, what share of the production workforce received:

	0%	1-25%	26-50%	51-75%	76-100%
Formal training?					
Informal training?					

52. Different firms use different ways to fill higher positions - some firms prefer to hire at the bottom of a ladder and then fill higher positions with internal promotions, other firms prefer outside candidates. In general, **when this company needs to fill higher level production positions**, does it:

- Prefer to promote from within
- Prefer outside candidates
- Have no preference (Equal preference for inside and outside)

53. In general, does this company promote based on:

- Seniority
- Merit
- No preference

54. Has anyone at this company talked or worked with any of the following types of organizations or institutions in the 12 months prior to the Action Plan Date regarding hiring or training needs at the company?

	Hiring	Training
Community colleges or other public entities		
Non-profit organization		
Private, for-profit firms		
Others (specify below)		

54a. Please identify which organizations or institutions this company talked or worked with.

55. As of the Action Plan Date, did this company utilize any of the following Human Resource Management practices?

Practice	Yes	In the past	Never has
Piece rate system			
Performance bonus, gain- or profit-sharing system (define)			
Employee stock ownership system			
Formal performance appraisal			
Formal job ladders or lattices with pay progressions			
Regular (at least quarterly) sharing of business and financial information with production workers			
Regular (at least monthly) meetings of management and all production workers to discuss concerns			
Formal system or incentives for employees to make suggestions for improvement, such as suggestion box			
Self-managed work teams for production workers			
Ad-hoc problem-solving groups, involving production workers			
Flexible hours or job-sharing for production workers			
Rotation of production workers across multiple jobs			
Formal grievance, disciplinary, and separation procedures			
Skill and personality testing of new production hires			
Probationary period for new production hires			

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