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# EXECUTIVE SUMMARY

At SEKISUI KYDEX, our mission is to challenge what's possible while delivering beyond imagination; it's what we do, every day, every team member. Through our vision, we strive to be and will become the world's leading pioneer of thermoplastic solutions - done responsibly while making the world a better place for future generations. We do this through our values by striving to support sustainable practices at all stages of our business operations. This document contains our current initiatives, data, strategy, and goals to make positive change through our people, products, and processes.

#### **CURRENT STATE**

As part of our mission, vision, and values, SEKISUI KYDEX has been taking steps toward sustainability for many years. As a result of our in-house recycling partnership with Ultra-Poly, we currently recycle over 15 million lbs. of PVC regrind annually. This is further supported by our collaboration with the Aircraft Interior Recycling Association, which is dedicated to recycling 100% of aircraft interior parts, the Green Cabin Alliance, which SEKISUI KYDEX co-founded, and partnerships with OEMs to give a second life to their discarded thermoplastic materials.

Additionally, we are certified in ISO 14001:2015, an international standard that governs environmental management systems; ISO 9001:2015, and AS9100D, which addresses the design, development, and production of KYDEX® products; and have also completed a Life Cycle Assessment (LCA) ISO 14040 of the Bloomsburg KYDEX® Thermoplastics manufacturing facilities. In August, we engaged our employees in the United Nations' Sustainable Development Goals (SDG) to promote sustainability and good habits such as recycling, waste reduction, and more. Lastly, our community clean-ups in parks, highways, and beaches allow employees to make a tangible positive difference in our environment.

#### **FUTURE STATE**

Our future initiatives are not standalone efforts but are deeply intertwined with our corporate ownership's (SEKISUI CHEMICAL) Environmental, Social, and Governance (ESG) strategy of Innovation for the Earth. This strategy, realized through activities that support the United Nations' SDGs, serves as a strong foundation for our sustainability journey.

#### SEKISUI KYDEX will focus on:

#### Measurement

- ISO 14040:2006 and ISO 45001:2018
- Utilizing LCA to drive more environmentally friendly impact to Earth, by tracking 9 key impact categories.
- Supplier Audits

#### Management

- Sustainability Team
- Sustainability Training
- Greenhouse gas data system

#### Manufacturing

- Net Zero Emissions by 2050
- Renewable Energy and facilities investments
- Recycling Infrastructures

While we have made great strides towards becoming a more sustainable company, there is still much work to be done. Through our goals, in alignment with our sustainability strategy, we seek to become an industry leader in sustainability and pave the way for a more environmentally friendly future.



# INTRODUCTION

SEKISUI KYDEX innovates and creates sustainable thermoplastic material solutions for the next generation of product design. SEKISUI Chemical's corporate commitment to Speed, Service, and Superiority is realized through the KYDEX® Thermoplastic business model of manufacturing bespoke materials with short lead times in small quantities. This Quick Response Manufacturing (QRM) model at three manufacturing campuses expands beyond thermoplastic sheet. The KYDEX® portfolio also includes injection molding resins, proprietary Infused Imaging™ technology, integral special effects, unique textures, and custom products and design. The SEKISUI KYDEX appLab™ and designLab® Innovation Centers are collaborative spaces for clients and customers to bring the supply chain together for rapid prototyping and design development. These spaces are the bridge between engineering and art. More than 400 dedicated professionals in Bloomsburg, PA, and Holland, MI, working with a global network of sales and distribution partners, are committed to delivering more than their customers can imagine. Visit www.kydex.com for more information.







# MISSION & STRATEGY

#### **OUR MISSION**

Challenging what's possible, delivering beyond imagination; This is what we do. Every day. Every team member.

#### **OUR VISION**

World's leading pioneer of thermoplastic solutions – done responsibly. This is what we strive to be. This is what we will become.

#### **OUR VALUES**

At SEKISUI KYDEX, we CARE! We CARE about our:

- Customers & partners Provide a premier, first-class experience.
- All team members Respect each other and take ownership for what we do.
- Research & innovation Always strive for "what's next".
- Environment & the future Improve the world both locally and globally.

Our values define our character.

#### **OUR STRATEGY**

At SEKISUI KYDEX, we recognize the importance of sustainability and preserving our planet for those who come after us; it is part of our DNA and molded into our values. It is essential that we act responsibly with our limited natural resources, respect our environment, and listen to our customers and employees who are passionate about sustainable practices, policies, and products.

A key driver of sustainability is the growing global middle class, with over 3.5 billion people considered the 'middle class' today and expected to grow to 4.8 billion by 2030. With this demographic shift comes higher standards of living, greater disposable income, and increased macroeconomic development. These factors all mean that the demand for sustainability will continue to grow.

As a manufacturer of bespoke thermoplastics, we will focus our efforts on areas where we can have the greatest impact. We will aim to create long-term, sustainable growth in air and rail transportation, medical devices, and heavy equipment for agriculture and construction. Additionally, we are striving to expand into emerging technologies to find new applications for our products in eco-friendly infrastructures.

Our strategy is to manufacture and innovate specialized polymers for use in global industries, while taking action to minimize negative impact on the environment, support sustainable practices at all stages of our business operations, and promote growth rooted in environmentalism, ethics, and a long-term mindset. We strive to be and will become the world's leading pioneer of thermoplastic solutions - done responsibly. We intend to realize this strategy in three key areas: measuring our processes, managing our people, and manufacturing our products.



# **OUR GOALS**

SEKISUI KYDEX will focus on the following areas to support a more sustainable future:



#### Measurement



#### **Management**



### Manufacturing

- Utilize LCA to drive positive impacts to Earth based on 9 potential impact categories, influence sustainable NPD focus, improve sustainable raw materials, and invest in renewable energy and facility improvements.
- Implement ISO 14040:2006 and 14001:2015 to track our products throughout their life cycle.
- Greenhouse gas data tracking system to measure and reduce emissions.
- Supplier audits to ensure ethical and environmental standards are met throughout our supply chain.

- Develop a sustainability team to spearhead initiatives to further support our green strategy.
- Comprehensive sustainability training for employees, including environmental strategy, initiatives, and goals.
- Retain ISO certifications and improve ISO standards to continue working towards a more sustainable future.

- Implement renewable energy by 2030.
- Strive for net zero emissions by 2050.
- Develop a renewable energy plan to reduce reliance on coal, petroleum, and natural gas.
- Expand recycling infrastructures to eliminate waste and achieve our goal of a circular economy.



**FSTLab** 

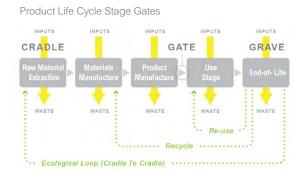
# OUR **MEASUREMENT** GOALS



#### ISO 14040:2006

This standard allows us to analyze the environmental impact of our products from "cradle" to "gate" and quantifies the environmental effects associated with all stages of a product's life cycle. SEKISUI KYDEX completed an LCA of the Bloomsburg KYDEX® Thermoplastics manufacturing facilities and is currently exploring completing this for the Holland manufacturing facility.

The data collected includes energy uses (electricity, natural gas, propane, and more) that keep our manufacturing facilities running, water, sewage, waste (landfill, plastic, wood, oil, and water, and waste to energy) that are part of our daily manufacturing activities. In late 2023, SEKISUI KYDEX completed the final report reviewed by an independent third party and received the subsequent verification that the evaluation was completed and met the requirements set forth by ISO14040:2006, giving us the data to assess our environmental impact and adjust our processes accordingly.



# Implementation of a Greenhouse Gas (GHG) Data Tracking System

By utilizing GHG tracking software, our company will be able to gather comprehensive data on emissions of  $CO_2$ ,  $CH_4$ ,  $N_2O$ , and more. Having a complete overview of these various greenhouse gases will enable us to observe trends over time and pinpoint key areas in our operations to improve. This work will be completed by the Renewable Energy Strategy Team (REST), a group of employees devoted to sourcing cleaner solutions of energy, analyzing data, conducting environmental research and more.

### **Supplier Audits**

SEKISUI KYDEX strives to conduct audits of our suppliers, to ensure that material inputs are being sourced ethically and sustainably. By doing so, we can operate in good faith and move away from vendors that fail to live up to our standards.



# OUR MANAGEMENT GOALS



## **Development of a Permanent Sustainability Team**

This team will be comprised of strategic leaders within the company and employees with a passion for sustainability to spearhead the initiatives as outlined in this document. The team will be developed from our Renewable Energy Strategy Team (REST), a group of employees devoted to sourcing cleaner sources of energy, analyzing data, conducting environmental research, and more.

## **Cohesive Employee Sustainability Training**

SEKISUI KYDEX will revitalize our internal sustainability training. Our training will educate employees on common assumptions about plastics, SEKISUI KYDEX environmental policy, Sustainable Development Goals, the recyclability of KYDEX® thermoplastics, and how to act more sustainably. In doing so, we will further our green company culture and ensure that employees are well-versed in our strategy and values.

#### ISO Standards Retention

Through internal audits, our sustainability team, and a strong company culture, we intend to maintain our current and future ISO certifications. We will regularly analyze any relevant data to ensure that we are compliant with ISO standards and identify areas to enhance our current practices.

KYDEX

# OUR MANUFACTURING GOALS



## **Achieve Net Zero Emissions by 2050**

In the past, zero emissions was primarily waste focused, looking specifically at landfill use, recycling, and incineration. Moving forward, "emissions" will be defined as anything we control that has a carbon footprint. By 2050, we want to achieve the practice of circular economy and become a net zero carbon company.

# **Increase Energy from Renewable Sources by 2030**

In alignment with SEKISUI CHEMICAL's 100% renewable energy by 2030 plan, our Renewable Energy Strategy Team is currently exploring ways to shift from natural gas to renewable energy from both external and internal sources. Externally, we intend to investigate utilization of greener sources of power, such as wind, geothermal, and solar. Internally, we are examining our manufacturing processes to find places where we can harness excess energy (for example, thermal energy from heavy equipment).

## **Maximize Recycling Markets**

We seek to expand our recycling initiatives in alignment with our corporate 2030 vision of a circular economy which creates innovation for the Earth. Ultimately, we are striving towards 100% recycling in our manufacturing processes and with our customers. This means sending nothing to landfills or waste to energy. SEKISUI KYDEX is exploring options through local recycling facilities and investing in infrastructure and processes to maximize the amount of end-of-life material we receive from our customers. This will allow us to increase our output of recycled-grade product.

KYDEX

# UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS

The United Nations, recognizing the importance of sustainable growth, has laid out a framework of seventeen Sustainable Development Goals (SDGs) to ensure prosperity for future generations. These goals focus on key areas that are essential for improving the quality of life of people across the globe. At SEKISUI KYDEX, we strive towards making this mission a reality. We recognize that it is difficult to address all of these goals at one time, but have found strategic areas that we can make an impact in with current and future programs.



- Pays fair market wages
- benefits
- Regular donations to United Way and other charity





- Company events to promote healthy living
- COVID contact tracing



- Offers stipends towards tuition and student loans
- Heavy involvement with local schools and universities
- Internship program for students



- Has dedicated diversity







- Has created over 300 jobs
- Stimulates local economy



- Products designed for use in infrastructure
- Has multiple industry partnerships (GCA, AIRA)
- Constantly innovating more sustainable alternatives



Has dedicated diversity







Striving towards net zero emissions



Beach clean ups





appLab

- Bloomsburg University
- Penn College of Technology
- Central PA Manufacturing Partnership



- Green Cabin Alliance
- Aircraft Interior Recycling Association
- UltraPolv



**FSTLab** 

# **OUR INITIATIVES**

At SEKISUI KYDEX, being "green" is no recent trend. In fact, being environmentally responsible is an essential part of our business philosophy. We strive to produce and sell all of our products while keeping with our commitment to and regard for safety, health, and environmental protection worldwide. Our broad range of sustainability initiatives are made possible by the dedicated employees that make sustainability a part of their daily lives.

#### **CURRENT STATE**



InHouse Recycling: UltraPoly



On-campus electric vehicle fleet



Water coolers & reusable water bottles



SEKISUI KYDEX Zero Emission Program Certification for Bloomsburg North Campus



Annual United Nations' Sustainable Development Goals Week



**Community Education** 

Greenhouse Gas

Reduction Initiative



Highway & Park Cleanup

Waste converted to energy

powers our campuses



Monitor energy & waste concerns with ECO Track software



ISO 14001:2015, 1440:2006, 14040:2006, AS9100D



appLab

# OUR JOURNEY

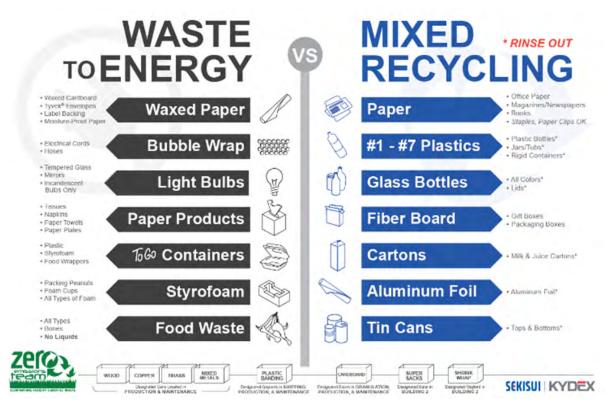
SEKISUI KYDEX has been committed to sustainability for over 30 years, but the strategic focus began in 2013 when SEKISUI CHEMICAL, our corporate owner, introduced the Zero Emissions Certification. In pursuit of this certification, a dedicated team from all areas of the business came together to develop the Zero Emissions process.

The team audited all company purchases and identified 18 core items, including wood, energy, electronics, and ink cartridges. They established a color-coded bin system for waste management, with black bins for waste-to-energy items, blue bins for mixed recycling, and green bins for non-recyclable materials.

In 2015, an internal bin system and external infrastructure were installed, and the team focused on educating and engaging

employees in proper waste disposal. By 2016, SEKISUI KYDEX achieved the SEKISUI Zero Emissions program certification for its Bloomsburg north campus.

This success served as a springboard for other sustainability initiatives, such as SDG Week, material recycling, and the Life Cycle Assessment (LCA) journal. In late 2023, SEKISUI KYDEX embarked on a comprehensive LCA ISO 14040:2006 report of the Bloomsburg KYDEX® Thermoplastics manufacturing facilities, which received certification from an independent third party. This report demonstrates our unwavering commitment to transparency and sustainability. The data collected provides valuable insights for evaluating and adjusting our environmental impact.



# OUR ACCOMPLISHMENTS

## **Recycling Infrastructures**

Bloomsburg, PA Facility

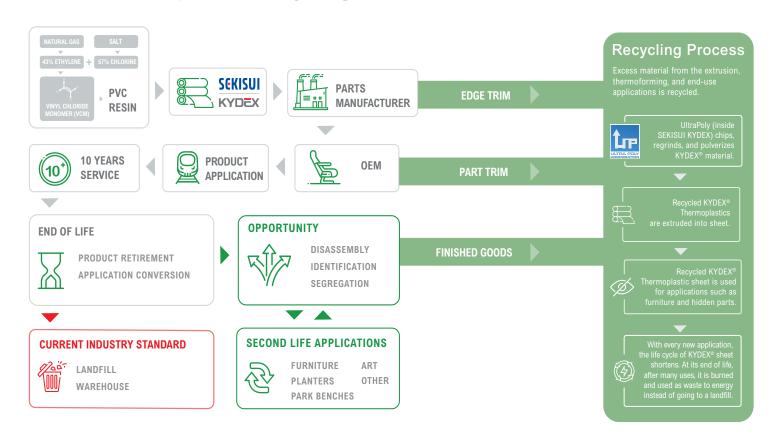
Ultra-Poly

From the beginning, SEKISUI KYDEX used a single in-house granulator to chip, regrind, and reuse scrap and edge trim material. We wanted to expand our recycling operations to accommodate a thermoplastic trim scrap buyback program, providing customers an avenue to recycle their materials rather than send them to landfill. Through partnership with Ultra-Poly, we were able to scale up our recycling programs with a 100,000 sq. ft. in-house processing space. This partnership has led to the annual recycling of over 15 million pounds of PVC scrap material.

See this process in action here: https://youtu.be/53DJQdhs3Dg



## **KYDEX®** Thermoplastics Recycling Process





**FSTLab** 

# **OUR ACCOMPLISHMENTS**

## **Recycling Infrastructures continued**

# Holland, MI Facility Company Buybacks

At our Holland, MI facility, recycling buybacks are conducted directly with customers. After delivering product orders, the trucks are filled with customer edge trim material before returning to the SEKISUI KYDEX facility. When the trucks return, this scrap is fed into grinders located directly by the loading docks. This regrind is stored in boxes separated by customer and are held for 120 days. If the same customer places another order within this period, the regrind from their previous order is used in their product. If an order is not placed within 120 days, the regrind boxes is sold for use elsewhere.



Beyond recycling during the manufacturing process, the next step is to implement recycling streams for end-use materials. With SEKISUI KYDEX's support, AIRA began development of the next generation of the internal recycling system for Safran Seats' Great Britain location. To promote more efficient segregation and material packaging, collection bins were put on the production floor to move trim pieces to a compactor for efficient transport. The compactor can condense the trimmed plastics, allowing more material to be transferred to the recycler at one time. In addition to the carbon reduction from recycling thermoplastics, this process enhancement allows for carbon reduction within the collection process and the transportation of materials.

#### Carlisle Interconnect Technologies 2022 Sustainability Champion

SEKISUI KYDEX was graciously named Carlisle Interconnect Technologies 2022 Sustainability Champion during their annual Supplier Award Ceremony. Carlisle Interconnect Technologies stated, "we can confidently say that of the suppliers we have visited, SEKISUI KYDEX has placed the most organizational focus on EH&S, and it shows in the impressive global initiatives they are driving. We want to thank SEKISUI KYDEX for their commitment towards sustainability, and we look forward to building on those initiatives together."







appLab" designLab" FSTLab

# OUR ACCOMPLISHMENTS

#### **SDG Week**

Every year in August , SEKISUI KYDEX hosts an SDG Week to celebrate, educate, and engage employees in sustainability. Activities include recycling initiatives, nature improvements, and training on ways to reduce electricity and water consumption and minimize their carbon footprint. We focus on promoting the three R's (Reduce, Reuse, Recycle) with electronic equipment recycling for our employees, which averages approximately 2,200 lbs. of recycled electronics every year. Our teams will also go out to highways, parks and beaches to support their local communities in cleaning up before the fall season. Throughout the week, employees also learn about different behaviors that can positively impact the environment such as carpooling, shutting off lights, and more. SDG Week is important for our company because it instills a work culture that values sustainability and supports our long-term initiatives.







#### **Community Involvement**

At SEKISUI KYDEX, we believe that every action, no matter how small, can have an impact. With our park, highway, and beach clean-ups, employees can make a tangible difference on an individual level.

## AS9100 D & ISO 14001

SEKISUI KYDEX has developed and implemented an integrated Safety, Quality, and Environmental Management System (SQEMS) to document the company's best business practices, better satisfy its customers' requirements and expectations, enhance its environmental performance, support and promote good health and safety practices, and improve the company's overall management.

SEKISUI KYDEX meets the requirements of the international standard AS9100 D. The system addresses the design, development, and production of KYDEX® products. It incorporates the process approach, where consistent and predictable results are achieved more effectively and efficiently when activities are understood and managed as interrelated processes.

Additionally, in late 2023, SEKISUI KYDEX completed an ISO 14040:2006 Life Cycle Assessment (LCA) of its Bloomsburg KYDEX® Thermoplastics manufacturing facilities, analyzing the environmental impact of its products. The final report was reviewed by an independent third party and verified to meet the required standards, providing valuable data for evaluating and adjusting environmental impact.

SEKISUI KYDEX also meets the requirements of the international standard ISO 14001. The system addresses the management of environmental aspects, compliance obligations, and actions to address risks and opportunities. The management of the interactive processes provides for the achievement of continual improvement and focuses on efforts that lead to the prevention of undesirable outcomes.



## **On-Campus Electric Vehicle Fleet**

SEKISUI KYDEX has two electric vehicles for employee use. These vehicles are used for transportation between our North and South campuses and for shuttling visitors to and from our facilities. These vehicles have been driven over 26,000 miles. On average, a new passenger non-electric vehicle gets 25.4 miles per gallon. Considering a gallon of gasoline typically emits 8,887 grams of CO<sub>2</sub> when consumed, our electric vehicles have prevented over 5 tons of CO<sub>2</sub> emissions.



# **OUR PROGRESS**

Sustainability begins with the data, which is necessary for tracking current impact and future improvements. The following data was collected during FY2023 (April 1, 2022, to March 31, 2023). Through our strategic goals, the available data will become more detailed each year.



3,135 METRIC TONS

CO, EMISSIONS



1,114,269 <sub>GAL</sub>



16,261,703 кwн **ENERGY USE** 



64 METRIC TONS

WASTE TO ENERGY



Pounds of Product Material Recycled

12,585,739 LBS **BLOOMSBURG** 

7,252,495 LBS **HOLLAND** 

19,838,234 <sub>LBS</sub> **ТОТАL** 



\$138,140 SPENT ON COMMUNITY ASSISTANCE



13

COMMUNITY

AGENCIES

HELPED



TREES SAVED
BY PAPER
SHREDDING



15
COMMUNITY
EVENTS
HELD



# **OUR PRODUCTS**

Thermoplastics make an immense contribution to environmental sustainability through their energy saving potential, intrinsic recyclability, and energy recovery options. At SEKISUI KYDEX, our products are designed with this sustainability in mind from the beginning. Our research and development team are innovating and exploring new options to improve lifecycle, recyclability, and the sourcing of raw materials. The thermoplastics we manufacture are primarily comprised of two types of polymers: polyvinyl chloride (PVC) and acrylonitrile butadiene styrene (ABS).

#### **PVC**

PVC, as a raw material, is energy efficient to process. More than half of the raw material used in production of resin is provided by salt. This means that PVC consumes proportionally less non-renewable energy resources compared to other common building materials.

PVC's main way into sustainability is its lifecycle properties. PVC's life expectancy is superior to that of comparable materials, such as fiberglass, which is hazardous to health, heavy, and hard to recycle. PVC has been proven to have durability in its application for 50-70 years. At SEKISUI KYDEX, we multiply the lifecycle of PVC through recycling for multiple applications, making thermoplastics a solution that spans hundreds of years: ultimately, this leads to less resource consumption and waste.

Additionally, PVC is light weight, resulting in less nonrenewable resources being expended during transportation. This is true not only for shipping the product to consumers, but over the product's lifetime when it is applied for use in a transportation vehicle. Because our material is engineered to be lightweight, when used in place of other materials, we can reduce approximately 62 tons of greenhouse gas emissions per 1kg of weight reduced. Furthermore, PVC is resistant to weathering, chemical attack, rotting, corrosion, shock, abrasion, and vermin.



#### **ABS**

Likewise, our ABS product line is similarly designed to be durable, stable, and easily recyclable. In fact, ABS is one of the key drivers for having multilayer extrusion capabilities. This process allows us to use recycled material in the substrate of the thermoplastic and reduce the amount of virgin material required, while still meeting regulatory and aesthetic requirements. To fill the recycled content funnel, we pick up trim material from customers within a given proximity while dropping off customer orders.



# **OUR RECYCLED PRODUCTS**

#### KYDEX® RCL

In 2022, SEKISUI KYDEX introduced a new flight-ready recycled product line, KYDEX® RCL. The initial product launch featured KYDEX® 5555 RCL, utilizing recycled KYDEX® Thermoplastics. Because the recycled material is made from the KYDEX® 5555, it is specifically formulated to exceed low heat release requirements for aviation interiors.

This development is only a small step in the big changes required in the industries we serve. Developing infrastructures to collect, sort, and recycling materials along all stages of its life are key to providing recycled materials down the road. SEKISUI KYDEX is currently working with AIRA and customers to develop these infrastructures.





#### **KYDEX® V103**

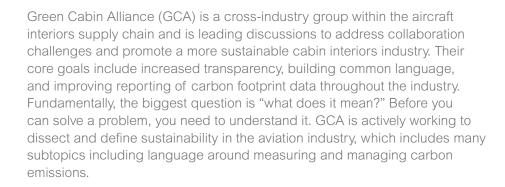
KYDEX® V103 is a recycled grade of a proprietary thermoplastic sheet that is cost competitive with other grades of thermoplastic sheets while offering improved performance. Developed using recycled KYDEX® T, KYDEX® V103 is Underwriter's Laboratories, Inc® recognized Std 94 V-0, 5V. It has thermoforming cycle times equivalent to FR-ABS.



# COLLABORATIVE INITIATIVES FOR A BETTER PLANET



FOUNDING MEMBER





The Central Pennsylvania Advanced Manufacturing Partnership, branded as MADE In Central PA, is a network of over 25 manufacturing leaders, representing a cross-section of the industry from Pennsylvania's Central region, with support from the region's workforce, education, and economic development partners. The partnership was launched in January 2018, with several key community and government organizations committed to supporting the coordination and implementation of the Partnership's priorities. Increasing awareness of manufacturing career opportunities to students, parents, and educators has been a consistent topic of conversation within the partnership.



SEKISUI KYDEX supports the United Way to make a broad reach of recovery possible. The United way distributes funds to community agencies right in our back yard when they need it, from a catastrophic event to everyday needs. This year, as you may expect, our community has been impacted by the pandemic with loss of jobs and housing and an increased need for resources such as food. In 2022, employees and the company were able to donate \$31,666 to the Columbia Montour County United Way and Greater Ottawa County United Way.



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