

THE STATE OF IOT



INDIANA IoT LAB
FISHERS

*A collection of insights
and innovations from
Indiana-based start-ups,
scale-ups, and established
thought-leaders
transforming the
manufacturing sector.*

VOLUME 3 | SPRING



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A LETTER FROM THE LAB

Dear Readers,

The State of IoT has become more than a project for us. The publication, now in its third year, has evolved our relationships with lab members, sponsors and the growing Indiana Tech Community. For that, we are extremely thankful.

On the surface, the State of IoT has showcased connected technologies being deployed in Indiana and beyond. It was demonstrative of the idea that a more connected future is difficult, if not impossible to deny. In reality, the focus has always been about the entrepreneurs, innovators and organizations behind the tech. After all, it's their passion and know-how that is literally changing the world around us.

For this quarterly edition, we're inspired by the phrase "in Indiana, we make things." As a national leader in manufacturing, it should come as no surprise that Digital Transformation opportunities in the sector are robust. More so, there's an awareness among producers and innovators alike that understand just how ripe manufacturing is for disruption.

We invite you to meet a few of the startups, scale-ups, and established thought leaders embracing the idea that disruption can either happen to you or you can drive it, but much like change, those that don't acknowledge its imminence could be left behind.

Thanks & happy reading!

Jason Pennington

Executive Director, Indiana IoT Lab-Fishers

DIGITAL READINESS:

MOVING THE ENTERPRISE FORWARD

JOHN LACY |
ESCO GROUP | SYSTEM INTEGRATOR | INDIANA



Manufacturers large and small face numerous challenges to remain competitive, profitable, and sustainable in today's global economy. For many companies however, the optimism and potential made possible through digital transformation manifests a true digital divide. Historically for-purpose automation investments, fragmented enterprise connectivity, and the evolution of variable production demands are but a few of the barriers that make Industry 4.0 goals seem out of reach or worse yet, technically or financially unobtainable.

Roadmapping

Digital transformation is often confused with the idea of revolution rather than methodical evolution. This is why the ESCO Group works with partner organizations to create a roadmap. The successful vision begins with the end in mind. It's about mutual understanding of goals and exploring ideas between partners.



IDENTIFYING AND ENABLING METRICS LIKE OEE IS A GREAT STEP IN THE DIGITAL TRANSFORMATION JOURNEY.”

- JOHN LACY | ESCO GROUP

It is a vision that considers the people, the process, and the technology available and required to achieve a sustainable and evolving enterprise. For an enterprise to thrive and evolve means understanding and acknowledging the challenges, limitations, and barriers that exist. Consider the value of pursuing quick-win opportunities, how success will be measured, and the cumulative return that should be generated. While there is merit in starting small, the inclusive value should not be lost on ROI alone. Leverage the highly visible, small opportunities to generate momentum for the mindset required to scale fast.

Not all data is created equal

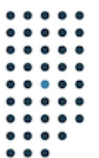
Data represents an incredibly valuable asset for an organization. Not all data however, is created equal. Bad data can not only produce bad results, it can also generate misleading insights. A solid data strategy begins with mapping data sources, their meaning, and the interdependencies. One of the biggest challenges continues to be isolated data ingestion and collection points that produce disparate reports that lack contextual attributes. Connecting diverse data systems is a critical element of a successful digital evolution roadmap. Connected, real time data does not simply produce better reports, it offers the potential to produce actionable insights.



Learn more:
<https://theescogroup.com/solutions/enterprise-solutions/>

Moving the Enterprise forward

An organization that exhibits digital readiness is strategic in working towards its vision. Before adding sensors or data gathers and certainly before targeting increasingly important metrics like OEE or overall equipment effectiveness, the successful digitalization strategy should encompass culture and mindset. To truly move an enterprise forward means that communication, continuous improvement, and adaptability are reflective of the organization and its people and not solely as a result of adopting and integrating advanced technologies.



VISUALIZING SAFETY

- CHRIS HARRIS | WPR SERVICES

WPR Services PoW Platform creates a smart, contextual, and predictive environment for your employees and plant. PoW connects the right combination of sensors, video, audio, and metrics to ensure a cohesive and safe environment. The use cases range from providing basic machine metrics to advanced solutions leading to predictive insights. The platform is a full stack designed with customer experience, challenges, and application goals in mind. The possible integrations are as diverse as the industries and applications that WPR Services supports.



Learn more:
<https://wprservices.net>



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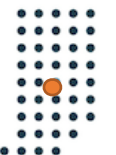
IN A MULTI-SENSE PLATFORM, THE RESULT IS A COHESIVE RELATIONSHIP BETWEEN PEOPLE, PROCESS, AND PRODUCTIVITY. “

- CHRIS HARRIS |
FOUNDER & CEO, WPR
SERVICES

Multi-sense integration for safety awareness throughout your plant

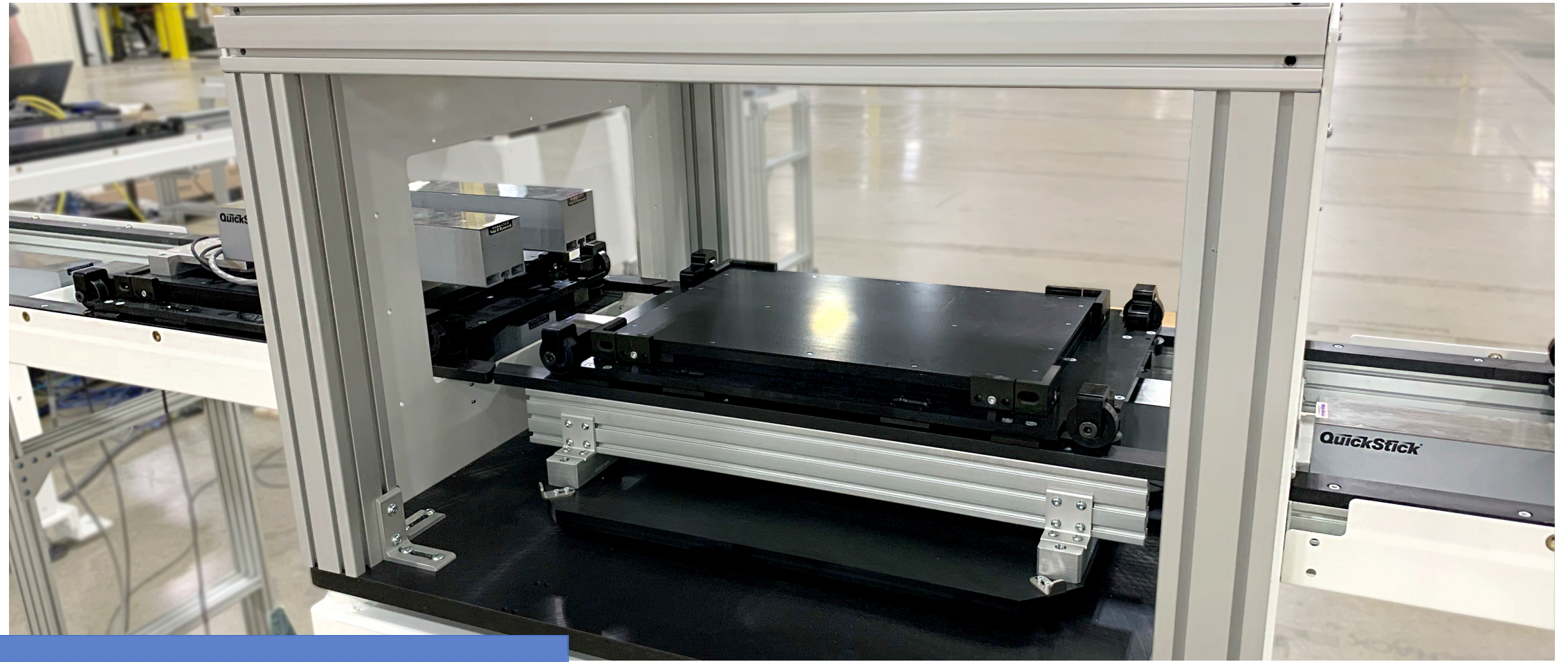
Vision, voice, and sensing are connected and complimented by machine and work cell data. Depending on the end users requirements, PoW can leverage augmented reality overlays, provide video based monitoring and metrics, and integrate to safety systems to ensure the safest possible environment is realized. For example, if a person is approaching an unsafe work area, PoW can notify the employee of a potentially dangerous condition. Similarly, if people are moving in proximity to an industrial ground vehicle, PoW can provide audible warning to the individuals, remotely stop the machine, and record an interaction to document the near miss event.

The Pow™ Platform as a Service (PaaS) hardware, software, and engineering services expand well beyond safety. The same platform can be used to inspect production quality as an output of the machine center and support staff it is continuously monitoring. The result is a cohesive relationship between people, process, and productivity as compared to simply monitoring anomaly or reactive alarm inputs. This truly, multi-sense integration provides contextual insights to improve uptime, increase efficiency and predict real-time alerts that can keep your people and plant safe.



QUALITY IN REAL TIME

- BILL FLETCHER |
PHOTON AUTOMATION



Photon Automation is a custom machine builder headquartered in Greenfield, IN. In a recent integration for the electric vehicle industry, the company deployed an intelligent conveyor system to literally deliver innovation throughout a production system. A traditional pick-bin is replaced by an autonomous car within Photon's conveyor system. The cars are capable of managing a variety of payloads, part sizes, and milestone reports as they stream their progress to data gatherers and production management systems throughout a process.

“

OUR AUTONOMOUS VEHICLES CARRY
IDENTIFICATION AND QUALITY
INFORMATION FOR EVERY PART THAT
DIRECTS THEM THROUGH THEIR
PARTICULAR PROCESSING STAGES. “

- BILL FLETCHER |
SALES & MARKETING MANAGER |
PHOTON AUTOMATION

Autonomous, Intelligent conveyors optimize production and quality

Today's manufacturing processes demand a high degree of flexibility and feedback to be competitive and successful while maintaining a safe environment. In the intelligent conveyor systems, the autonomous vehicles carry identification and quality information for every part that directs them through their particular processing stages. Each vehicle is equipped with sensors like RFID, transceivers, and unique protocols linking them to peers and networks. These systems broadcast relevant information to local operator and supervisor displays as well as provide data to control and supervisory systems.

The connected vehicles essentially pass the baton from one processing station to the next. The entire material flow loop consists of linear motors, track switching actuators, speed, and position controllers. Optional rotary tables can even redirect vehicles from multiple lines to optimize production or move bad parts to re-work zones. Not only does the Photon intelligent conveyor help optimize production and track quality flow through operation, the connected system is aware of its peers in the ecosystem. This feature allows manufacturers to restart their lines quickly and confidently subsequent to an unplanned shutdown.

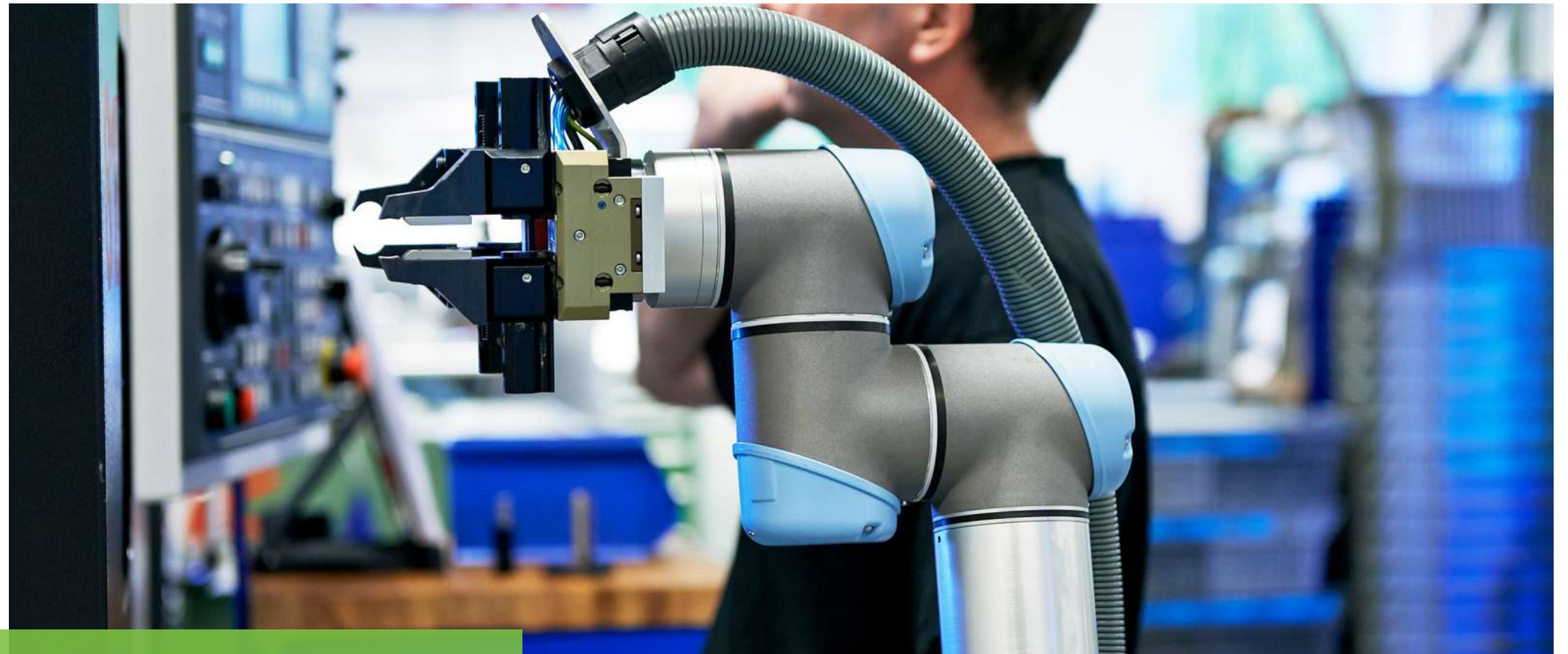


Learn more:
<https://www.photonautomation.com>



SCALING PRODUCTIVITY

- ANDREW JONES |
UNIVERSAL ROBOTS



Collaborative robots or “cobots” are being deployed by a wide variety of manufacturers. Unlike their historical, industrial predecessors, cobots have gained a reputation and understanding for being flexible, adaptable and perhaps most importantly, accessible. Their accessibility can be described in a classical financial context or in a more subjective adoptive scenario. That is to say, cobots can reduce the technical and cultural barriers required by an organization to successfully deploy, maintain and thrive against a problem set.

 Learn more:
<https://www.universal-robots.com>

“

UR AUTOMATION SOLUTIONS ARE NOT ABOUT RUNNING A PROCESS WITHOUT PEOPLE, THEY'RE ABOUT RUNNING A FACTORY MORE EFFICIENTLY WITH THE PEOPLE YOU HAVE”

- ANDREW JONES | STRATEGIC
BUSINESS MANAGER | UNIVERSAL
ROBOTS

Connected robots generate productivity and performance insights

Given the current health crisis and subsequent economic impacts, cobots are providing manufacturers a means to balance the unique skills available in their labor pool against a relatively dynamic consumer demand. Effectively, UR automation solutions are not about running a process without people, they're about running a factory more efficiently with the people you have. On any given day over the last year, it's unfortunate, yet reasonable to have experienced a variable workforce or unplanned absence(s). Insights gained from these on-demand use cases can easily be analyzed for future strategic opportunities.

Universal Robots has built a vast partner network of innovators, manufacturers and startup companies alike to develop a unique marketplace experience. The marketplace showcases a comprehensive and interoperable portfolio of networking tools, software, cameras, end of arm tooling and effects. Combining these features with the classical characteristics of being light weight, highly (re)programmable, and safely collaborative yield on-demand versatility with a single unit that can help balance and scale productivity throughout an enterprise.





THE NEW FACE TO FACE

VIRTUAL REALITY FOR YOUR

Even before the pandemic struck the globe, the need to re-invent the way we approached sales and training was there. Outdated methods of slide decks and exhaustive e-learning sessions were in desperate need of replacement. The answer lies in the immersive and risk-free nature of Virtual Reality. Only, we didn't stop there. Enter V3CORE Sales and Training.

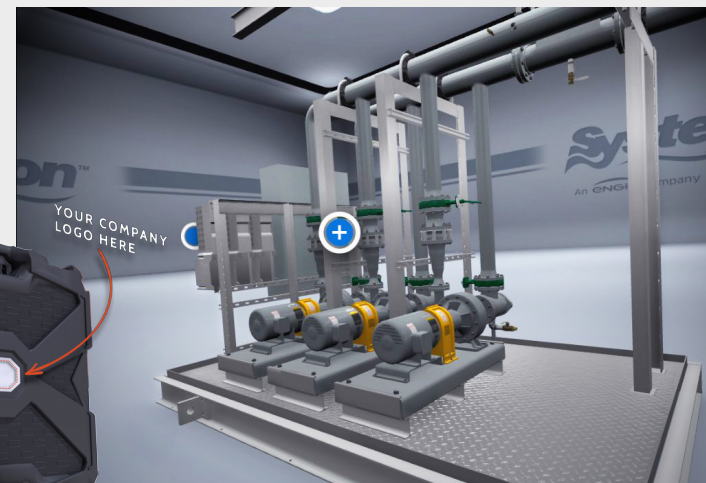
V3CORE TRAINING

Training is a constant need for all organizations. We now find ourselves needing to change the way we train in order to adapt to the new future being defined for us. The demand for distance learning is at an all-time high. Finally, we are able to address that need and do so with an even higher quality of training than previously possible. Enter V3CORE Training. The networking capability of V3CORE is only the beginning. The platform contains many other features and components designed to conquer training logistics, generate ROI, and streamline the addition



V3CORE SALES

Recently, the economic effects of the pandemic uncovered how important it is for sales teams to be with their customers, having meaningful conversations. V3CORE Sales exists to restore the ability of sales teams to communicate with their customers once again. Use the power of VR to safely get in front of your customer again in the virtual environment. VisionThree can even handle hardware logistics for you! For more information on VR Sales, [visit our site!](#)



Learn more:
<https://visionthree.com>



INVEST IN SCALABLE TECHNOLOGY

KODEX is a simple, scalable, interactive platform for creating and managing interactive content. Build multiple interactives with KODEX for less than the price of one custom application. Plus, you can switch out the copy, images, audio or videos anytime to keep up with your ever-changing content and technology innovations. Simply upload your content and load it onto any touchscreen kiosk in your facility.

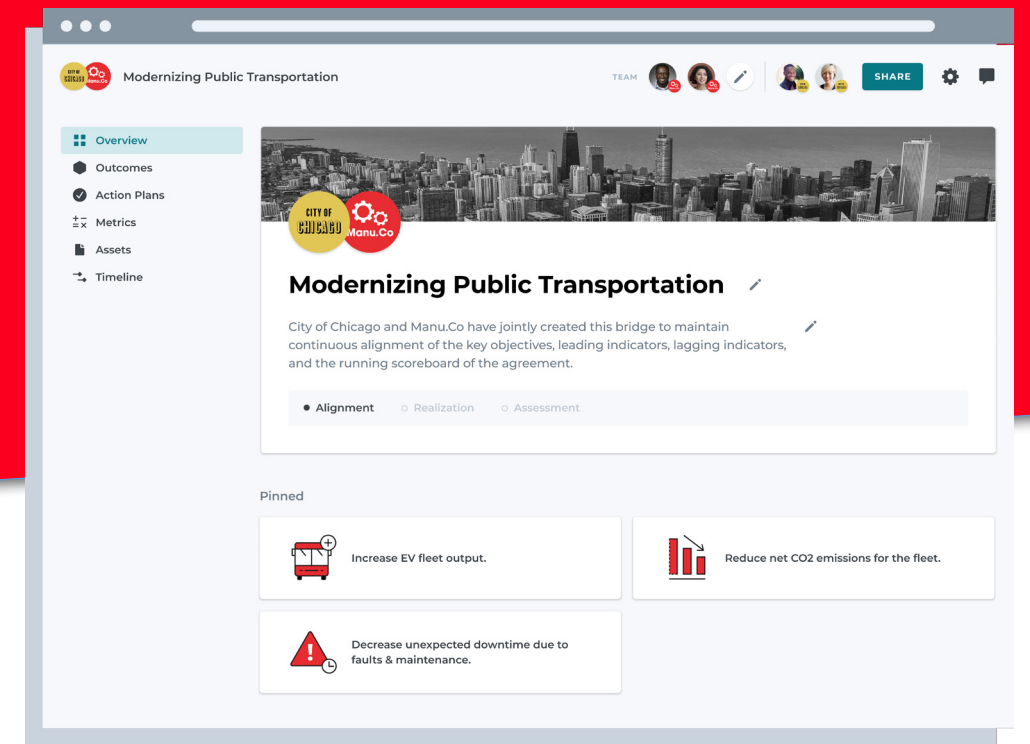
Want to learn more? Check us out!

www.kodexinteractive.com

CO-CREATING VALUE IN YOUR ECOSYSTEM

MEASURABLE OUTCOMES. SHARED SUCCESS.

DAVE DUKE | METACX | CO-FOUNDER & CCO



Welcome to the Performance Economy

The goal of digital transformation is to fundamentally change how manufacturers operate and deliver value to partners and customers in their supply chain by creating a connected digital ecosystem. A change of this magnitude, however, is not without its challenges.

For one, in order to change a manufacturer's value delivery model, the first step is understanding the value each partner and customer in their supply chain is looking to receive—something that is easier said than done when there is no formal way to document and collaborate around goals and objectives.

For another, through digital transformation, virtually every product, physical or digital, has the potential to be instrumented as an endpoint. For many manufacturers, the volume, velocity and variety of data generated from these endpoints can be overwhelming and difficult to turn into actionable insights.



CO-CREATING VALUE IS THE PATH TO
SUCCESSFUL PARTNER AND CUSTOMER
RELATIONSHIPS. ”

-DAVE DUKE | METACX

This is especially true when it comes to proof of value. Measurable outcomes are the only thing customers and partners care about, yet most companies can't prove they're making an impact. Organizing the billions of interactions and data points generated from a complex manufacturing environment is extremely difficult, but necessary in order to prove value delivery.

MetaCX's Approach to Value Delivery

MetaCX offers a multi-pronged approach to managing your most strategic business relationships. To ensure alignment through your value chain, the platform provides a shared space where manufacturers and their partners and customers can come together to co-create and collaborate around desired business outcomes.

Then to prove delivery against these outcomes, MetaCX provides a real-time data integration layer that allows manufacturers to instrument any application, system, or digital endpoint and to surface these insights, not just as data, but as the indicators of health and progress of the relationship and proof of performance against target outcomes.

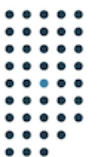


Learn more:

metacx.com/metacx-for-manufacturing

Value throughout the Ecosystem

The age of digital transformation has heightened customer expectations and even the most innovative organizations have trouble keeping up. MetaCX helps manufacturers manage and perfect the entire customer value chain across all departments within a single platform—all by capturing, processing and contextualizing the billions of signals and events within an entire IoT ecosystem.





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Or book a visit to network with our members, sponsors, and partners in person at:

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