

GLOBAL EDITION BENCHMARKER

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Editorial

FUTURE READY AFTERMARKET

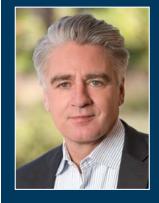
Technology is connecting multiple aspects of most businesses, and the automotive aftermarket is no exception. As consumers get more familiar with digital connectivity and expect more personal interaction, a seamless onlight perience must be readily available. The automotion is progressively becoming more digitally integrated — will have to create digital connections with its consumers in order to meet a variety of shopping opportunities.

Cities are fast becoming more populated, meaning less room for personal vehicles. Ride sharing and car sharing may soon be favored over private ownership of vehicles.

Automotive aftermarket is expected to reach around **\$1.35 trillion** by 2030.

Source: McKinsey, Ready for Inspection

We can expect many changes over the next few years as trends and preferences shift. In this issue of Benchmarker, we will analyze how the aftermarket is changing and ways in which the retail experience is transforming digitally. We will investigate processes that support technical and warranty issues faced by OEMs in an exciting new cost-saving application utilizing state-of-the-art artificial intelligence and



PATRICK KATENKAMP CEO, MSXI, Retail Network Solutions

machine learning software. We will examine the growing role of e-commerce in the parts sales and service area. We will discuss the growing importance of efficient fleet management and how to optimize the entire approach. All of these areas affect the pomotive aftermarket and, therefore, we will explore effective methods of learning and development.

With the introduction of electric and hybrid vehicles, there are going to be some challenges to overcome, and there are also going to be many opportunities to explore. We'll examine how India's growth in manufacturing is unprecedented and progressively becoming the automotive powerhouse in Asia.

The new focus on the aftermarket is not only about technology, it's also about the people. So the question is how will we adapt? That is what we are truly exploring in these articles. I am proud to present the September 2019 issue of The Global Benchmarker, and I hope it enlightens you of the forecast for the digitalized automotive aftermarket.

Sincerely,

Patrick Katenkamp

AGENDA

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Global manufacturing leader by 2021 – big investment in electric vehicles



E-COMMERCE

Online B2C sales of automotive parts and accessories in North America and Europe are expected to account for 10-15% of the

overall aftermarket by 2020.





In 2019, **Amazon** will sell **\$8 billion** in replacement parts, aftermarket parts and accessories **in the US.**

Alibaba promises to deliver vehicle parts to some **70,000 car repair shops** in 30 minutes within a radius of **five kilometers.**



NEW SERVICE MODELS

Ford

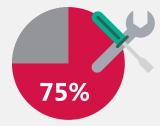
Ford is expanding a mobile-service pilot program that brings a Ford Service Vehicle to your door to perform light maintenance. Modern high-end car software has **100 million** lines of code and will triple to **300 million** lines **by 2020**.

Tesla shipped an over-the-air update that, according to CR's testing, improved the **braking distance by 19 feet.**



INDEPENDENT AFTERMARKET PARTS

75% of aftermarket auto repairs are performed by **independent auto repair shops**, while 25% of the business lives within dealerships.



Automotive aftermarket industry size to exceed

\$1000 bn by 2023.



2023

Asia will almost **double** its size and constitute nearly 30% of the global parts market by 2025.

MSXI Benchmarker

DIGITAL ENGAGEMENT



Digital-related

revenues will triple to a share in sales of almost **20%**.

21 OEMs on the likes of Audi, BMW and Toyota are now **Alexa** integrated.

BMW Intelligent Personal Assistant is powered by **artificial intelligence** and enables drivers to operate their car and access its functions and information simply **by speaking.**





CONNECTED REPAIR

If a vehicle recommends a location for a service, **58% of customers** in the **US**, **Germany, Brazil** and **China** would accept it.



A connected vehicle today already generates 25 GB of data per hour.



70% of all customers demand proactive offers of personalized service by a workshop.



SERVICE MARKETPLACES



China will account for about a **fifth of the US \$1,196 billion** global automotive aftermarket in **2030**. Connectivity services business models could expand automotive revenue pools by about **30%**, adding up to **\$1.5** trillion.

It is expected that their share of aftermarket revenue will increase by a factor of 3, from currently **6% to almost 20%** within the next **10 years.**









IT'S TIME TO PREPARE FOR AUTOMOTIVE'S DIGITAL FUTURE

The automotive industry is changing so fast that traditional business models no longer fit. Consumer behaviors are dictating a brand-new way of thinking, and manufacturers must adapt quickly if they don't want to be left behind. But there are plenty of opportunities available to help them sustain revenue from their existing models while breaking into new areas.

Pieter van Rosmalen, Global Vice President, Retail Network Solutions, MSXI, explains:

"Today's manufacturers have little choice but to scrutinize their businesses. Emissions concerns are increasing the demand for electric vehicles. Consumers expect more sophisticated in-car technology, and consumer safety is still the priority. But these are all costly to achieve and profits are suffering.

Until now, automotive companies have leaned heavily on dealerships to sell vehicles. Dealers are set up with the showrooms, infrastructure and training required to provide good customer service. But with profits falling, manufacturers can no longer rely on retail networks alone. They must explore new ways to access and engage with consumers, offering a true customer experience.

"If we don't **change** the way we think, we will lose a **whole generation of consumers**."

Nicholas Cooper, VP, Property & Retail Establishment, IKEA

Across the business, they must seek new efficiencies, cut operating costs and develop new revenue streams. Business models must become agile, entrepreneurial and dynamic. Manufacturers must support new concepts with the tools to manage and sustain them.



And they must acquire the skills and infrastructure to cope with aggressive change.

Smart manufacturers are learning to shift their mentality and are tackling these new opportunities head on. It's not an easy task but it is one that's achievable with the right tools and support.

"The sooner we drop the 'e' out of 'e-commerce' and just call it commerce, the better."

Bob Willett, CIO of Best Buy

Streamlining warranty and technical processes

Managing warranty is a major cost for manufacturers, and processes can be inefficient, slow and frustrating. But today, organizations are taking advantage of digital solutions built on artificial intelligence and predictive analytics to reduce warranty waste. These technologies use automation and machine learning to flag high-risk claims and ensure they're handled by the right people for the job. These tools alone can drive down costs by as much as 30%. By digitizing warranty handling and other services such as technical support, manufacturers can see huge cost and efficiency savings while generating the same output.



PIETER VAN ROSMALEN

Chief Product Officer

As Chief Product Officer for MSXI since February 2018, Pieter van Rosmalen leads a team focused on two essential activities: Product and Partnership Development; responding to the key trends of digitalization, connected car, and mobility that are driving change in our industry. Pieter was the Vice President of Retail Network Solutions at MSXI from March 2011 until 2018 and he previously served as Vice President Retail Network Solutions for Europe and Asia Pacific. He can be reached at **pvanrosmalen@msxi-euro.com**.



Branching into new parts markets

Around 50% of a manufacturer's total profit comes from selling parts. These sales have been seriously affected by the emergence of electric vehicles whose engines are five times more durable and contain fewer parts.

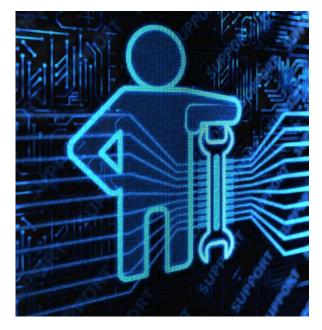
This means manufacturers need to explore other ways of selling parts. Whether it's through other, local repair chains and online channels, or by working with collision repairers and insurance companies, manufacturers can reach additional markets currently monopolized by competitors to increase genuine parts sales.

Encouraging and supporting retailers

Dealerships face similar pressures to manufacturers in reaching sales targets. But manufacturers can support them more efficiently using tools and services that help them interact more closely with dealer staff. They can introduce learning and development apps to deliver targeted communication to dealer staff. This helps improve sales techniques and provides dealer staff with the information they need to meet the needs of today's markets. Some solutions even monitor dealers' progress and financial performance, and help manage improvement programs and change-management schemes.

Facing up to fleet and mobility

Managing fleet repairs is a significant administrative burden for fleet companies, dealers and manufacturers. A manufacturer that sells 600,000 fleet vehicles a year will see 2.4 million cars visiting its dealer network and will generate roughly 5 million invoices. Organizations wanting to strengthen relationships with fleet owners can now offer centralized billing systems which manage the entire process and consolidate the bills of an entire fleet into one. It means 1,000 fleet owners will generate 1,000 invoices per month, not 400,000.



Meanwhile, faced with rising parking costs, congestion charges and environmental concerns, consumers are moving away from traditional car ownership. Mobility models such as leasing schemes have moved into the market, but we can help manufacturers become more agile in this area, with services that scale to meet economic fluctuations or growth.

OEM aftersales 2.0: OEM aftersales transition, global, 2000–2025 **- 2000** 2005 2010 -2015 2020 -2025 → Timeline (Year) Aftersales 2.0 Aftersales 1.0 **Traditional Aftersales** Expanding customer touch points - mobile apps and Retain customers in OFS telematics system, in-vehicle channel - extended warranty Business from scheduled systems periods maintenance mostly during warranty period Multiple service models -Multiple touch points - mobile express service options and and email Major customer touch point remote servicing through telephone alone Building long term relationship -Integrating multiple digital loyalty programs, subscription Own vehicle brand parts sales platforms for parts and service contracts with premium pricing sales - in-vehicle diagnosis and Compete with national brands sales Primary revenue generation in IAM - offering value-line parts through the authorized service Compete in IAM - offering centers for parts sales and multi-brand vehicles parts Omnichannel approach - OES, services and service IAM, and eRetail Multiple mobility options such as car-as-a-service Implies Revenue Impact Source: Frost & Sullivan

MSXI Solution Portfolio



Parts and Service

MSXI helps automotive OEMs to secure maximum penetration of the parts market with solutions for channel diversification and performance optimization and thus secure parts revenue growth and profitability.

. Ml

Channel Management

MSXI is creating value for automotive OEMs and dealer networks with digitized retail improvement solutions by driving and optimizing dealer financial, operational, and people performance.

Customer Engagement

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MSXI supports OEMs with end to end solutions for actively selling vehicles

and parts to large and medium fleets,

maintaining the relationship and the remarketing of fleet cars.

Fleet and Mobility

MSXI provides the foundation for an integrated customer centric engagement model for customer acquisition and loyalty for OEMs and their retailers to align the way they manage the customer experience at all physical and digital touchpoints.

Warranty and Technical

MSXI is digitizing Warranty Handling and Technical Support which is generating the same output with less cost through automation while improving first-time fix rates and profitability.

Source: MSX International

Engaging and retaining customers

Interactions between consumers and manufacturers have also changed. Traditionally, drivers only approach dealerships to buy vehicles or for services and repairs. But today, manufacturers can build direct relationships with their customers using specialized solutions.

Manufacturers can improve the interaction between connected cars, customers and dealerships. For instance, if a vehicle informs its driver about a mechanical issue, an in-car-beacon can help manage the entire repair process from the online system warning to the repair in the bodyshop.

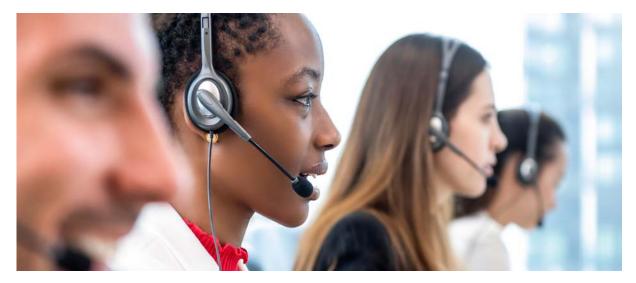
Many of these tools are transforming the automotive industry, and manufacturers who are making investments

56% of car owners are more likely to service their vehicle at a dealership that offers online service appointment scheduling.

Source: 4 TRUTHS OF "CONNECTED" RETAIL, Cox Automotive

now are already seeing the benefits. They are improving partnerships and building stronger relationships with dealer networks. Manufacturers are becoming leaner, more efficient and strengthening their knowledge. And they're showing long-term commitment to customers, proving they can adapt to and move with industry change."

Read on for more information about how MSXI is helping solve today's automotive challenges.







THE ROAD AHEAD – AN INTELLIGGENT WARRANTY FORECAST

For a smooth transition to digitalization, OEMs are further empowered by the automatically generated insight gained from telematics data that enables realtime decisions to take place for maximizing warranty management across their networks. Managing warranty control is a key area where OEMs have additional room for improvement to boost efficiency and profitability.

> "The first step is to establish that **something is possible**; then probability will occur."

> > Elon Musk, Tesla CEO

On average, a single OEM spends \$1-2 billion per year on consumer warranty claims. Approximately 10% of claims are reviewed manually for accuracy and efficiency. This translates to an OEM allowing 90% of warranty claims through limited checks. The reviewing process for warranty claims is challenging. The network uses technologies that are generally incompatible with current claim management systems. For this reason the majority of data is stored in silos, many claims are processed manually and details around quality and customer satisfaction are unattainable. It's expensive for manufacturers to overcome these challenges. But it makes little sense for every OEM to make these investments in the current competitive environment. But a solution is on its way. New developments will help OEMs discover potential guaranteed savings through the review of 100% of their warranty claims. M: WISE from MSXI is a total solution for managing warranty claims, providing OEMs with the data to unlock real business intelligence and process efficiency. Cost efficient operational delivery is fundamental to maintain the highly skilled workforces with language capabilities,



MIKAEL WEPSALAINEN

Global Director Warranty & Technical Products

Mikael leads the MSXI Warranty and Technical Product function responsible for developing and positioning the full range of MSXI products. He has a deep passion for the current automotive industry and the innovations required to support its future development. Mikael works alongside the organization's sales and operational teams helping them add value to a growing global client base. He is based in Gothenburg, Sweden and can be reached at **mwepsalainen@msxi-euro.com**.

serving the market and optimizing the cost efficiencies with offshore alternatives. In this competitive automotive market, it's these teams of people, who play a hugely important role and require all the tools necessary to be successful in providing sophisticated, world-class warranty services to dealers, their customers and OEMs.

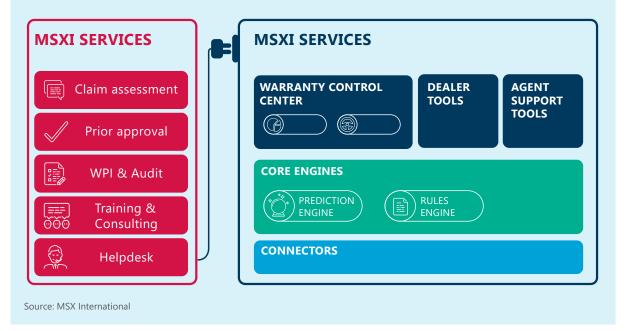




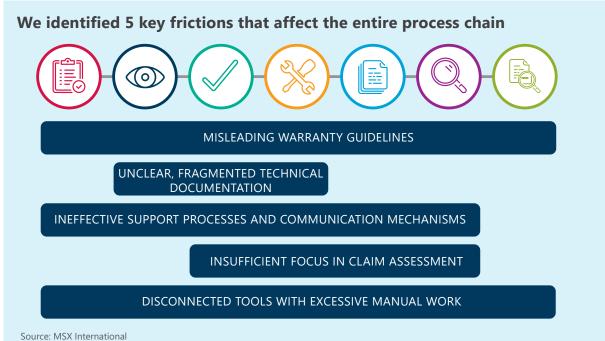
There are many challenges throughout the dealer network. With an increase in vehicle complexity, warranty processes and dealership competency levels need to improve to remain competitive. The number of first-time fixes is a key performance indicator of warranty efficiency metrics. Dealerships vary in capability depending on many factors such as inventory, training, and capability in providing quality service across the board. For example, one shop may have an impeccable first-time fix rate service record, due to investing in modern facilities, a skillful and intelligent workforce, implementing best practices and brand value on a local level. This boosts customer loyalty and increases revenue for that location. Keeping up to date on current model service information and proactively stocking the correct parts for a common fix is boosting the market saturation and increasing efficiency and customer confidence.

On the other hand, there are dealerships within the same network area who are struggling with their firsttime fix rates. These dealerships are underperforming. Digitalization provides data specific, actionable information to support better decision making in the future and to help improve dealer performance whilst driving out warranty waste.

The comparison of two service garages concerning first-time fix rates is just one example of efficiency versus inefficiencies when warranty management assessment tools are in place. When it comes to warranty management, better decision making involves automotive experts initializing the M:WISE digitalization platform across the OEM's dealer network. The digital platform is capable of enhancing the day-to-day, minuteby-minute claim performance data that translates into an improved quality of service. This equates to



MSXI warranty intelligence suite will super charge MSXI services



Source. WSX international

improvements in workshop productivity, customer confidence and brand loyalty. Additionally, boosting the digitalization platform with real-time diagnostic information from the customer's vehicle supports the claim management process. When integrated with technical support, this information helps the workshop to correctly repair a vehicle, reducing warranty cost and bringing the warranty performance to a new level.

"We're at the beginning of a golden age of Al. Recent advancements have already led to invention that previously lived in the realm of science fiction — and we've only scratched the surface of what's possible."

Jeff Bezos, CEO Amazon

Mobility trends are pointing towards a new mindset when it comes to vehicle ownership. Individuals, especially in urban areas, prefer to use ride sharing services. The trending curve suggests OEMs intend to increase fleet operations. Projections indicate in this segment that consumers purchase rides, as opposed to owning vehicles. The warranty management costs will solely reside with the fleet owners of ride-sharing networks. With the advent of new mobility opportunities, especially autonomous vehicles, scheduling technical updates and maintenance programs boils down to keeping the cost of ownership as low as possible. OEMs will increase their penetration in future mobility concepts with fleet ride-sharing networks to remain competitive and profitable. Keeping the OEM's best interests in mind, a digitally integrated warranty management platform is the intelligent answer to cost control in the future of mobility.

Digital solutions are vital to OEMs and their dealer networks to navigate the road ahead.

The MSXI warranty journey delivers the OEM a foundation to enable the required transformation of warranty processes, allowing MSXI as a partner to bring best practices in the industry, and to be part of the shared objective of a reduced warranty bill, optimized costs control and a predictive, low risk infrastructure.

MSXI warranty solution:

M:WISE is a customizable solution offering the OEM access to state-of-the-art technology with continuous development of new features and service offerings.

M:WISE offers an end-to-end warranty process, integrating relevant data that provides a first-class user experience throughout the warranty management process.

M:WISE combines domain expertise with AI, incorporating image recognition, optical character recognition and natural language processing technologies, increasing accuracy and speed of decisions. At the same time, M:WISE brings increased value of improved accuracy of warranty spending as well as cost efficient operational structures.

M:WISE integrates warranty and technical support processes into one solution.

M:WISE brings predictive warranty insights into the market enabling OEMs to bring down warranty costs and gain the confidence to release warranty accruals to explore underwriting opportunities.





THE VEHICLE FOR NAVIGATING THE ZETTABYTE ERA & BEYOND

Berlin's growing startup sector could create **40,000** new jobs **by 2020**.

If you are a startup in Europe, then Berlin is the place to be. With a new startup founded every 20 minutes in the city, Berlin is a breeding ground for entrepreneurs who seek to change the world through innovation.

The new MSX International (MSXI) Digital Innovation Hub is a state-of-the-art research and development facility where automotive experts join forces with business consultants, engineers, software developers, and data scientists with one mission in mind – designing next-generation BPO services and solutions. MSXI is introducing the automotive industry to a portfolio of new digital technologies and related business initiatives, that aim to increase operational performance and profitability and spark innovation across the entire organization.

The new Digital Innovation Hub is situated in the heart of one of Europe's most vibrant and hightech cities, Berlin. With more than 1,300 start-ups, the iconic capital is fast becoming recognized as the Silicon Valley of tomorrow. MSXI proudly shares the landscape with tech giants like Alphabet, Apple, and Amazon, all of whom have opened new offices in the neighborhood. Furthermore, Berlin's tech scene and progressive culture are attracting the best and brightest talent from around the globe, creating a truly unique pool of talent and worldclass professionals.

Digital Ventures, a division of Boston Consulting Group, is a strategic collaborative partner for this Digital Innovation Hub project bringing into



the mix additional cutting-edge technologies for optimization of data, creating a link between data storage and Artificial Intelligence (AI) systems. Companies also need a good balance between internal sourcing of innovation, utilizing the company's own capabilities, and external sourcing of innovation, including collaborating with deeptech pioneers. This joint technology partnership is producing a high precision automated pipeline to identify which bits of data are relevant for efficiency modeling. With so much data flowing in today's digital ecosystem, it is becoming clear, that management of data is evolving.

Autonomous vehicles will generate 4,000 gigabytes of data a day according to Intel.

Source: Intel

Smart cities are relying on optimized data analytics for the advent of future mobility, and our Digital Innovation Hub arrives just in time. Autonomous vehicles will generate 4,000 gigabytes of data per day according to Intel. OEMs are in unchartered territory when it comes to the sheer amount of data management capability that is required for their products. A good example of our optimized analytics



TATHAGATA "TEDDY" SARKAR

Director of Product Engineering & Innovation, MSXI

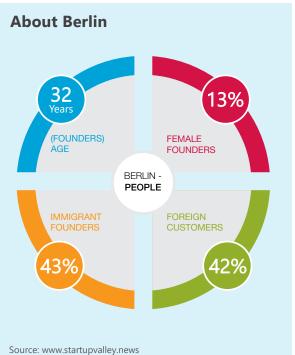
Teddy has a wealth of experience building and managing teams and platforms across global businesses within the automotive industry. He has introduced digital, scalable platforms to support venture development, which include AI, telematics, embedded systems development, big data analytics, distributed systems and parallel computing. With more than 18 years working with some of the largest product organizations in the world, Teddy is now an integral part of the team at MSXI's Digital Innovation HUB in Berlin. He can be reached at **tsarkar@msxi-euro.com**.





capability in the zettabyte era is Airbus making its way into the automotive scene. Airbus, universally known for aviation, has recently partnered with ITAL Design creating a concept to solve the future needs of megacities - such as Rio de Janeiro and Shanghai - plaqued with over congested roadways. It's a zero emission vehicle capable of flight, cosmically referred to as Pop. The three-stage, autonomous flying pod prototype has risen to fame following the 87th Annual Geneva International Motor Show in Switzerland, where it was well received by industry experts and spectators alike. Clearly, with these future projects coming to market, great waves of data follow in their wake and it's important to understand which specific data is vital for decision making in the future. At this very moment in history, a diverse team of experts is engaging with AI, quantum machine learning, data analytics, and digital systems to address the growing need of the automotive industry to restructure existing business models for the future.

Furthermore, efficiency improvements involve large amounts of data within the automotive sphere, where vehicles create tremendous volumes in a microsecond. Attention must be given to identifying



Artificial intelligence (AI) is the capability of machines to interact with the world around them. Machine learning (ML), a type of AI, focuses on the ability of machines to receive data and reconfigure autonomously without additional programming. ML differs from traditional computer programming by allowing you to teach or "train" an algorithm so that it can learn on its own, and then the computer progressively adapts and improves as the machine learns more about the data it is processing. Innovative ML technology has the capability to optimize data with high precision and render results exponentially.



MSXI Benchmarker

what information is important for increasing operational performance, and how well the businesses strategize efficiencies by understanding real-time data. Being efficient with the amount of data needed for analysis is equally beneficial for the company's best performance. When it comes to the revolutionary modern car market, which data sets are important for decision making? A methodology in determining what data to store and what data to cache will take center stage in the years to come. Al supercharged systems, once initiated, are sophisticated enough in scope to answer this exact question with detailed insight. Other concepts like this are just the beginning of a great awakening for the modern automotive world.

The future of mobility is currently showing sophisticated avenues for gathering raw data from existing processes and translating it into actionable information, which is an improvement in retail performance. This existing information is optimized to improve and modify processes in order to maximize market profitability. MSXI Digital Innovation Hub with AI-powered machine learning systems are accurately forecasting cost-effective navigation with respect to each domain, in an entirely new structure, ultimately improving upon existing OEM processes.

Remaining competitive in today's marketplace boils down to how well a business manages its key processes now and in the future. Data optimization is important when tough decisions are made; MSXI has the expertise and with the new Digital Innovation Hub, is systematically driving methods of gathering and studying data that produce proven results, in the present, in the future, and beyond.

About Berlin

RANKED 20th BY WORLD BANK GROUP IN TERMS OF "EASE OF DOING BUSINESS"

ONE OF THE **TOP 3** STARTUP ECOSYSTEMS BY STARTUPBOOTCAMP

100000+ **NEW JOBS** BY 2020

Source: i.pinimg.com







TAKING PUBLICATION OF OWNER INFORMATION TO THE NEXT LEVEL

MSX International (MSXI) has launched a new authoring system that provides seamless delivery of an owner's technical information to support multiple channels.

Technical writing programs are now being built from the ground up to solely focus on bringing a higherlevel of quality and excellence to OEM clients seeking to print technical branded publications.

Leading this program is a group of experienced industry experts with vast amounts of technology expertise, having launched and managed content development projects and overseen content development in a variety of business areas worldwide. This new authoring system utilizes off-the-shelf software and quickly customizes it for major OEM requirements.

A **manual** typically contains details about **2000 internal working components of the car.**

Source: MSX International

It's these experienced professionals and their ability to develop groundbreaking innovations that continue to drive increased satisfaction for automotive OEMs.

Today, authoring software has the capability of producing an array of user information, as well as useful publications that provide owners with information on legislation and OEM product information. The software currently offers timely delivery exceeding 1,000 publications per year, as well as offering translation of content into 23 languages via an integrated application and automated workflow tool.





ROB MARCOTT (I.)

Director of Publishing for MSXI

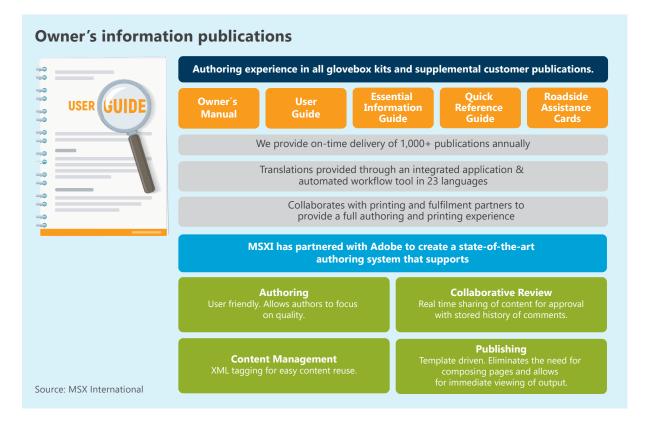
Rob is responsible for managing the content development operations which include departments responsible for the development of owner's information. Rob is a 20 year+ veteran in service operation practices, tools, technology, deliveries and employee management and engagement practices. He has successfully deployed five technical development start up programs over his career within OEMs and OEM Tier 1 suppliers. He can be reached at **rmarcott@msxi.com**.

SCOTT JILES (r.)

Director of Authoring & Account Management

Scott is responsible for all technical content and managing customer relationships. Scott has 15+ years of experience working with FCA on technical documentation development. Scott has successfully launched FCA Owner's Information Development with two Tier 1 OEM suppliers. He can be reached at **sjiles@ msxi.com**.





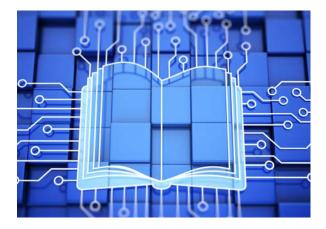
Modern digital authoring tools and systems provide **real time data updates**, saving time and money for **OEMs**.

Source: MSX International

The key to top production

The success of technical publication services starts with the right people. Acquiring experienced industry experts is a significant objective, however retaining them is key. OEMs must offer an attractive work environment that is focused on professional development and growth.

This emphasis on finding knowledgeable and highperforming employees has led to the creation of a technical authoring program staffed by more than 125



specialists. Supported by a team of experts managing data acquisition, content development, program management and quality control, these individuals have the experience required to produce these documents.

Digital spin in traditional print

Allowing for files to be reviewed in multiple formats, this distinctive solution records approval history and tracks changes, ensuring that content has been reviewed by OEM engineering and legal teams as required, and that the necessary changes have been made. With the capability for real-time review by up to 10 professionals at once, authoring tools are capable of providing a higher level of checks and balances. This not only enhances the quality of information during the content creation process, but it's done in a manner that is more coordinated, saving time, and money.

Another significant advantage of the technical authoring program is the use of an industry tool that utilizes templates to aid the composition of the documents. This reduces several steps in the production process, saving time and cost. It also means the authoring team can spend more time understanding product functionalities, working closely with engineering teams and, subsequently, creating higher quality content.

Tip Cards

This versatile solution also offers a smart print ready feature which can create stickers and leaflets, as well as customer tip cards for visual display inside the vehicle. The information contained within the tip card is gathered from the original data submitted by the



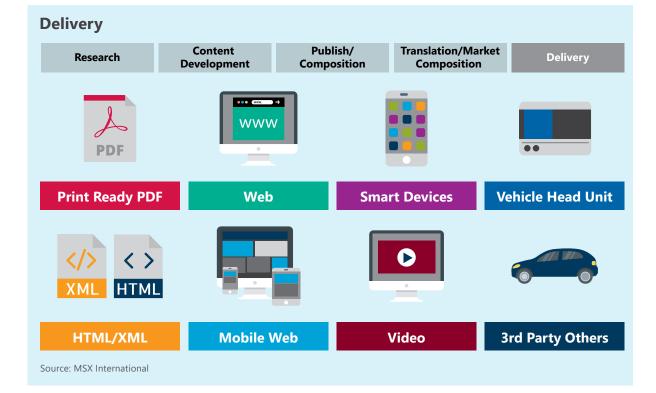
engineer, and published in a template. The template has an intelligent AI machine-learning element that locates the appropriate data and translates all relative information into an easy to read, condensed format. Additionally, the template is capable of adding visual icons for in-car display purposes.

Global Publishing

For a global presence, it's important for OEMs to have this solution supported by a multi-language translation tool. This offers easy publishing in multiple languages. It supports multiple language types and foreign language characters, and publishes these in a display window for quick editing. As the complexity of vehicles and their incar technology continues to evolve, OEMs must ensure that their product information and user guides capture all these new features. Another beneficial feature is the tool, which is part of the quality control process of a technical author. Using this tool, employees who are not technical specialists are asked to review content to simulate how well an end user will read and comprehend the material.

The Fresh Eye Review tool helps introduce continuous improvements to our operational standards, recognizing challenges and discovering solutions before issues arise.

From the initial research phase to the delivery of products, there has been a significant emphasis on bringing a sophisticated, high-level of excellence to technical authoring services. Through delivering high-quality publications that serve clients' needs, technical authoring systems are now able to provide an extremely important and valued resource for vehicle owners and drivers worldwide.







MSXLBEACON – CONNECTING CARS IN A FLASH

MSXI Beacon is a new technology offering the automotive industry valuable insight into its service and repair processes. Similar to the way modern courier services track a parcel from the warehouse to your door, MSXI Beacon provides the automotive industry with a way of tracking vehicles through their entire service process in the workshop, with the primary intention of improving efficiency in operational performance.

Maximizing service times

The length of time it takes to complete a service or repair is critical to providing excellent customer service. MSXI conducted an evaluation of services times in dealerships and identified areas for improvement in their current processes. The advanced system behind MSXI Beacon provides the OEMs with detailed data about their dealership network, focusing on the length of time vehicles spend at each stage of the service process. The installation process is quite simple. MSXI experts fit transmitters throughout service bays in an automotive facility. The transmitters are configured to scan for specific beacon signals in connected vehicles. The beacon sends a signal to the transmitter and a the data is captured for further analysis. This allows OEMs to identify inefficiencies and bottlenecks in their service process. MSXI experts can then combine this data with industry best practice to provide tailored solutions to improve overall service times and operational efficiency.

In the retail space

MSXI Beacon technology provides real insight into the way dealers are managing their service and repair processes, and offers a positive return on investment (ROI) by reducing the length of time it takes to service a vehicle. Capable of producing, measuring, and reporting valuable data, MSXI Beacon can help OEMs gauge performance, spot weaknesses and make informed decisions on their operational processes.



MSXI Beacon technology posts real-time data from dealership transmitters to a centralized portal for analysis.

With automotive experts analyzing this valuable data, OEMs can start to abandon their standardized processes and tailor them to the individual dealership needs.

"Beacons are the missing piece in the whole mobileshopping puzzle."

Chuck Martin, Harvard Business Review

Beacon tech offers OEMs real value. By analyzing this workshop traffic data, OEMs are able to improve performance and produce positive results, as well as promote an improved service experience for their customers.

Customer engagement connectivity

In a competitive marketplace that sees shoppers using the Internet as a major research tool to guide their service and maintenance decisions, as well as a platform for sharing customer experience and feedback, it makes sense for the automotive sector to tune in and stay engaged. MSXI Beacon offers a digital way for



CORY ALLEN

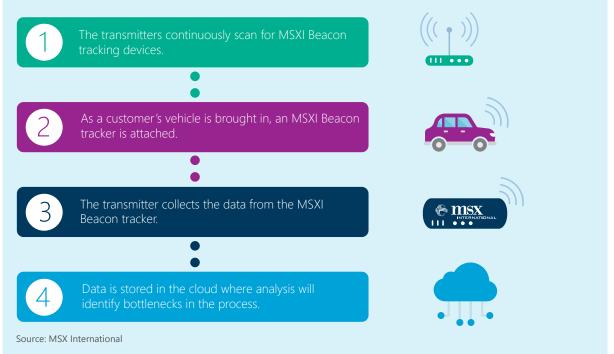
SME – Business Management, Data & Analytics

A highly skilled professional in the realms of information technology and business intelligence, Cory Allen serves as a subject matter expert in business management and analytics for MSX International. His breadth of expertise in data mining and consultancy has led to him working with major OEMs like Ford Motor Co. and General Motors Co, as well as at the automotive consulting firm Urban Science. A graduate of University of Michigan, Cory has a bachelor's degree in computer science. He can be reached at **callen@msxi.com**.



How it works?

Using Bluetooth-based technology, the MSXI Beacon system is simple to install and use. It consists of small tracking devices, called beacons, and transmitters, which are installed throughout your service center by MSXI.



customers to track the progress of their repair at the dealership. Imagine settling into a comfortable chair at the local dealership, while sipping a cup of coffee, waiting for the green light notification on your mobile device alerting you that a car repair is complete. Additionally, this innovative new spin on interactive customer engagement is enabled to send customer notifications for additional work directly via text message. For example, if a technician identifies additional work during a regular maintenance check (for example, replacement tires) a notification is sent to the customer requesting their approval. The customer can approve the additional work directly from their mobile device, and the technician can proceed with the repair. This is just the beginning of many future possibilities for the automotive industry. Innovative technology solutions like MSXI Beacon are turning service challenges into service opportunities in aftermarket sales.





Consumers who are **most** satisfied spend **2.5 hours** or

less at the dealer for service.

Source: Cox Automotive, 2018 Service Industry Study

This technology is easy to incorporate with the help of MSXI's automotive experts. The digital dealership is what consumers expect in today's automotive aftermarket, and MSXI Beacon now delivers that reality.

Technology like Beacon, developed by MSXI, helps organize teams around the service shop to work towards a common goal. The trackable achievements of a group of automotive professionals are paramount in providing world-class best practice principles and further promoting favorable customer interactions. Automotive teams engaging with cutting-edge technology – aimed at boosting performance – is something all stakeholders can get on board with. MSXI Beacons are impactful for teams as well as effective customer engagement tools, which translates to moving beyond the realm of retail into the automotive aftermarket - coming soon to a dealership near you.

Valuable data, professional expertise

By pairing the MSXI Beacon system with the specialized skills of our experts, dealerships will have access to forward-thinking solutions to improve their overall service operation.



Source: MSX International





THE DIGITAL LEARNING ECOSYSTEM: ENRICHED, EMPOWERED, ESSENTIAL

In the midst of the Internet of things, smart technology, interactive media, and digital content; there are new learning experiences for employees on the move. Today's learner is mobile, always connected and pressed for time. Therefore, learning programs must adopt modern technology, including mobile devices, and be designed with on-the-go flexibility in mind.

"AI should be better than humans at virtually everything in **about 45** years."

Source: University of Oxford

Digital learning is not an entirely new phenomenon in learning automotive OEMs and dealer networks. The core components driving this development and its success are advances in cognitive science and technology that address the current demands of business. Incorporating real science into the learning and development mix fulfills the needs and expectations of the modern employee as well as the OEM. Modern learning and development enable and enhance accelerated learning any time, anywhere.

Artificial intelligence in learning and development

Microlearning, powered by AI, automatically selects the right training, at the right stage of development for advanced educational enrichment. Microlearning is an adaptive approach to training that delivers content in short, focused bites throughout the work day. It maps how the brain learns and retains knowledge, then incorporates that information into



TOM RING

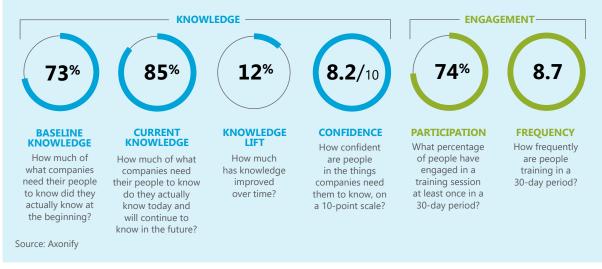
Global Director Channel Management

Tom Ring joined MSX International on 1 January 2018 in a newly created global function responsible for Product Strategy and Development in Automotive Channel Management. In this role, Tom is responsible for providing strategic leadership, development and execution as well as driving the implementation of strategic Retail Network Performance initiatives. Tom is a multinational automotive professional with 28 years of automotive retail experience, including 18 years at senior management and Board level in national, regional and OEM organizations in seven different countries. Tom is a Finnish citizen living in Cologne, Germany - holding an MBA in business administration. Tom speaks six languages fluently. He can be reached at **tring@msxi-euro.com**.



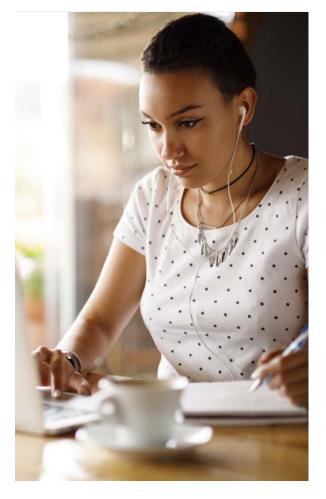
Snapshot of microlearning platform

The following provides a snapshot of the knowledge and engagement data averaged across a sample of 78 organizations using a Microlearning platform. These are the modern learning metrics organizations are adopting to improve the impact of their learning strategies.



a proprietary AI platform. With a Digital Learning Platform, the learner is engaged and empowered, and starts driving his/her own development with access to a wide range of cutting-edge learning material. With small, easily digestible bits of information, the employee is able to provide better quality of service. "If employees don't have the **correct training** to perform their jobs properly, they will disengage. This, in turn, will result in work **quality, productivity** and **customer satisfaction** issues."

Carol Leaman, CEO of Axonify



Characteristics of a robust learning ecosystem

Instructor-led training (ILT) and classroom training will remain part of a learning ecosystem. Application Program Interfaces (APIs) enable connectivity with a Learning Management System (LMS), Learning Record Store (LRS), and training content libraries. Additionally, the digital learning solutions are customizable to the unique goals of an organization, while employing a strong sense of cohesiveness. They offer powerful and predictive real-time analytics and reporting. These new age data technologies engage people to take the right steps, in the right sequence, and in all the right ways, so people become comfortable with accessing information on the go and adopt a whole new way of learning.

The value of commercial learning and development

Interactive learning and development solutions produce insightful data about the culture of a business. This valuable information is vital to stakeholders, helping them to accurately monitor their progress towards organizational goals. It also offers the ability to adapt learning content to meet the needs of the business. Moreover, with comprehensive, modern

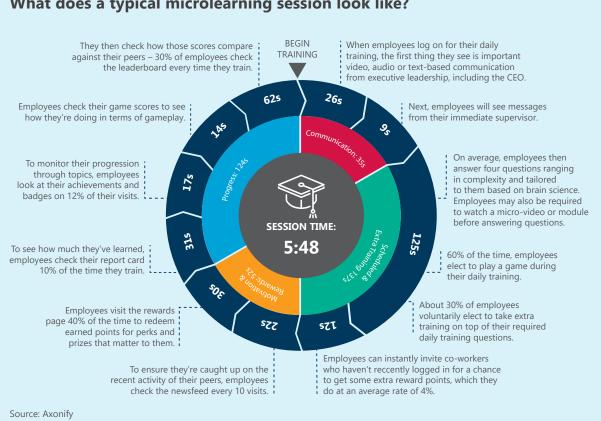


learning and development programs, senior managers can gauge their organization's competency. Realtime data helps them evaluate and strengthen current skillsets with greater precision. Delivering on-the-go access to education for employees reduces the need for frequent travel, reducing cost, and demonstrating stronger gains to investors. With the rapid pace of business today, professionals involved in educational initiatives are empowered by applying newly acquired skills in real-world environments. One of the most valuable ways to drive business results, with respect

Learners can now interact with an AI **assistant** within the e-learning platform, which understands and recognizes a learner's spoken language.

Source: MSX International

to people, financial, and sales performance, is by incorporating exciting learning and development platforms built for today's workforce.



What does a typical microlearning session look like?





ACCESSORY SALES – THE BRIDGE BETWEEN SALES AND SERVICE

OEMs produce a wide variety of car models, and the customization of these models drives profits for OEMs in new and certified used car segments. OEMs and dealer networks are gaining traction in the accessory sales market by increasing the number of digital touchpoint options for adding accessories at the point of sale – a market that is expected to grow significantly in the next five years. As a consequence, the demand for services designed for the virtual shopping world is also increasing. And easier, simpler processes encourage customers to select additional accessory packages during the transaction, resulting in a win-win situation.

What are the wins?

The OEM benefits from increased profits. The business can scale factory-fit options to fit the needs of the operation, driving market demand and using volume pricing to boost profit. The local dealer's workshop wins when the customer selects the accessory package after the purchase of their new or certified used car, increasing the billable service hours for that workshop, additionally creating revenue for accessory upgrade and installation. When the consumer personalizes their vehicle with original manufacturer approved accessories, the installation is guaranteed to be safe and certified for vehicle use.

Connectivity options

The manufacturer-approved accessories market is highly beneficial to OEMs globally. However, some customization options are more readily available in certain regions based on climate and geographic location.

The profit margin and revenue potential strengthen local markets as well. The push for locally sourced



accessories provides regional industry viability and cost saving in production lines. This is key when OEMs have enormous growth potential, especially when it comes to technology accessory upgrades. The integration of new wearable tech and seamless in-car connectivity with wireless capability will be expected by consumers in future.

"My definition of 'innovative' is providing value to the customer."

Mary Barra, CEO of General Motors

Furthermore, the increasing demand for automotive technology upgrades and integration of smart devices creates an opportunity in the used car market, an important area for customization upgrades.

Digital POS

When a customer places an accessories order with the OEM, there is a certain level of confidence in that customization. Supporting the manufacturer is a choice, but consumers may be more likely to choose a manufacturer with a direct, digital channel offering services at the point of sale. A-Store is a digital product assisting OEMs and dealer networks to sell original parts direct to consumers while on the

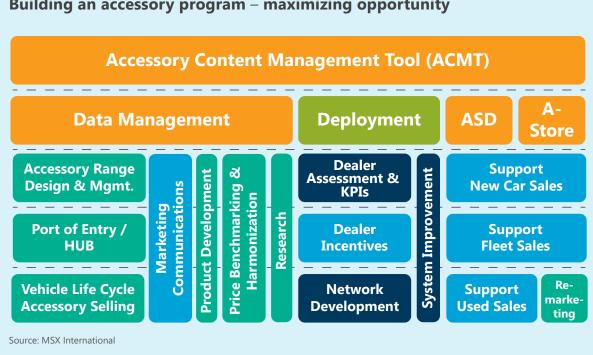


DAVID GORVETT

Commercial Director & GAE

Entering the industry as an engineer developing early diagnostic equipment, David transitioned into sales and marketing, and for over 20 years has held a variety of positions with Rover Group, BMW, and Volvo. In 2005, David joined Impetus Automotive with the primary focus of growing the business, overseeing 400+ consultants in the UK and Asia. David is currently a UK based Director with MSXI continuing growth of the broader business globally. He can be reached at **dgorvett@msxi-euro.com.**





path to purchase and beyond. When a customer is making a decision through a digital portal on buying a new or older model car, the A-Store facilitates the buying process for them on behalf of the OEM.

The digital platform informs the consumer of the optional accessories for their particular make and model of vehicle while providing accurate information

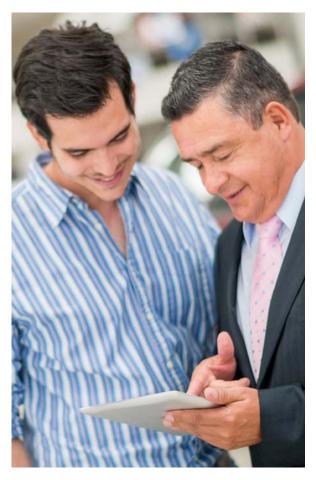
The worldwide market for Auto Parts and Accessories is expected to grow at a CAGR of roughly 4.4% over the next five years, will reach 2.543.700 million US\$ in 2024.

Source: GIR (Global Info Research) study

on the options available. It even includes a shopping cart for completing the checkout process, all from the convenience of a digital application. The database also includes previously owned vehicle makes and models for up to five years with all options and upgrades from the original manufacturer's accessories catalog. This used car segment is rapidly becoming essential for consumers wanting to customize used vehicle purchases, giving the OEM an option to boost revenue on older model cars.

Customer's support innovation

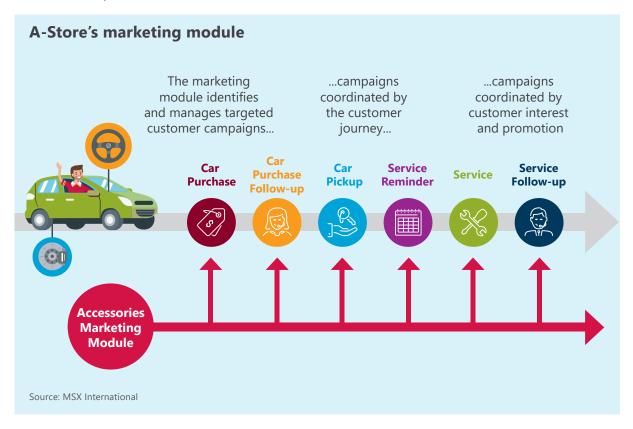
The accessories and customizable options market for new and used vehicles is showing astounding growth potential. OEMs are creating proactive strategies to embrace digital sales tools to further engage with customer-driven technology in order to boost revenue. Customers have become accustomed to shopping online via smart devices and expect everything in



Building an accessory program – maximizing opportunity



the auto buying process to be digital, including customization of accessories. OEMs must create product saturation in the personalization marketplace to remain competitive in the accessories market. Digital solutions provide additional touchpoints for manufacturers wanting to engage with the modern consumer while boosting their original accessories and becoming more profitable.





THE MRA BOOK: THE BUSINESS UPGRADE

'MRA: The Car Dealer's Game Changer', 35 years in the making, is the culmination of Paddy O'Brien's knowledge and experience, working with the best dealers in every corner of the globe. We were fortunate to interview him and discuss his new book.

What is the MRA book?

In my mind, The MRA book is a framework for decisionmaking. About 12 years ago, I came up with the idea to write about my 35 years of experience working with dealers in the automotive industry. The three components of MRA are MIX – RETAINED – ACTIVITY and this model helps dealers to discover which levers to pull in the business in order to maximize their performance. This is a simple yet effective model for dealers, which, when implemented, shows results.

Let's delve a little bit deeper into the MRA formula. What does MRA mean?

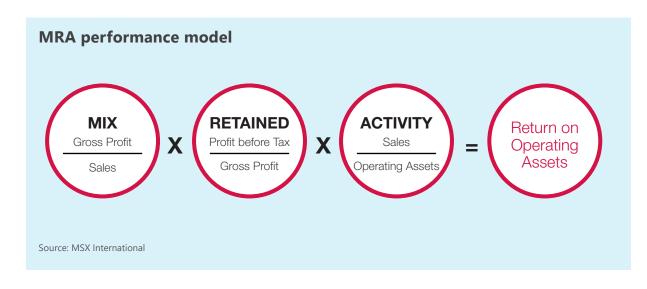
The M stands for the MIX component, as in the business MIX. How is the business balanced? How is the business performing? This includes the contributions of the various departments, which collectively add to what the *MIX* definitely is. The richer the MIX, the better the results. The R is for *RETAINED* which refers to the income of the business and the cost structure. The wider the gap between income and costs, the more



PADDY O'BRIEN

Automotive Specialist Sewells MSXI

In his 35 years in the industry, Paddy has influenced thousands of auto industry leaders and managers, particularly in the way that planning and decision making is considered and executed. The effect Paddy O'Brien has had on automotive retail groups and dealers around the world has been profound. After taking over Sewells Group in South Africa in the 1980s, Paddy transformed and grew the company to eventually become a definitive adviser in the area of auto retail financial and performance data and benchmarking across nine countries. His book is available in digital form at www.msxi.com/mra.



MRA Book



"Paddy's laser-like focus, coupled with his charisma and drive to uncover untapped potential is masterful. He has earned the **respect of auto dealers** around the world simply because he gets it!"

Alan Batey, President of General Motors North America

is *RETAINED*; dealers are encouraged to drive the gap wider in order to improve results. Lastly, the A is the *ACTIVITY*, the sales generated from the assets, the energy of the business, the principal stock. The key drivers, *MIX* – *RETAINED* – *ACTIVITY*, all fold into a neat equation, which the book details.

How is the book a "Game Changer" for dealers?

The MRA book contains a moniker for dealers to change the game by integrating the MRA model for optimized business performance. The MRA requires that dealers view their businesses in an entirely different way, which at times may seem unconventional or odd.

Do you view the MRA as being helpful to automotive OEMs?

Yes, auto manufacturers gain valuable perspective from the book due to the growing demand for more and more investment from their dealers. This includes upgraded facilities, which are able to accommodate more inventory and better levels of stock. I believe the MRA model is definitely in the manufacturer's best interest for healthier dealers.

Is there anything further that you would like to share with dealers about the book?

The MRA book assists dealers in making impactful business decisions based on an innovative formula of *MIX* – *RETAINED* – *ACTIVITY* performance strategy that is proven to maximize dealership performance. World-class, best practice dealers have benefited greatly by installing the MRA formula.

The innovative MRA formula is surprisingly simple in Paddy O'Brien's book, while encouraging readers to follow a 'world-class best practices' principle of putting science into motion to boost performance and improve revenue.

Now available in ePUB & PDF formats

Written by Paddy O'Brien, this proven business model is designed to boost your automotive business profitability – the industry standard for highly successful dealerships globally.

Make sure to download your complimentary digital copy of the MRA Book! *Click here*.





THE MCON COLLABORATION

The vast amount of data created today provides automotive retailers with insights that can help improve customer loyalty and customer experience at every touchpoint. When OEMs analyze the data created by their sales and aftersales activity, they can start to build a picture of who their customers really are. An accurate profile of your customers allows you to target business activities or promotions to those most likely to make a purchase.

> "MCON's product suite and digital expertise is an excellent fit to our market positioning, digitalization strategy and our customers' aspirations."

> > Patrick Katenkamp, CEO, RNS MSX International

Today, digital profiling of customers is becoming more high-tech, with pixel technology and sensor recognition of customers enabling a seamless onlineto-offline journey. For example, when a potential customer walks into a dealership, the dealer can use profile data to understand the customer's behaviors and continue the shopping experience in a way that's tailored to that individual. Personal information, which is kept in a secure profiling system, is combined with every detail of the retail journey, giving dealers specific insight into what their customers need, possibly even before the customers know themselves.

The game is changing. Dealership systems are becoming fully digitalized and are relying on cloudbased technologies to interact with customers onsite and remotely. MSXI is supporting this transformation,



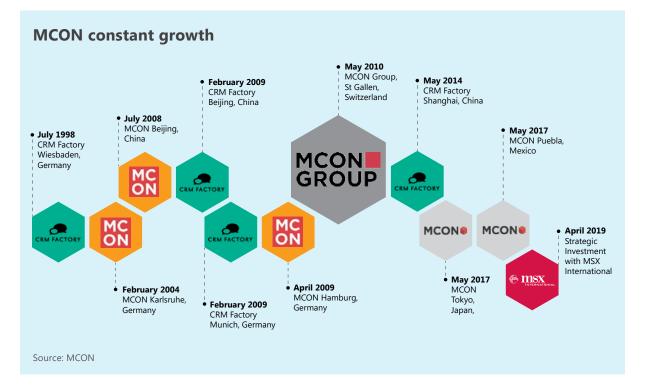
PHILIP JUNGE

Global Director, Customer Engagement

Philip Junge is responsible for creating and managing the global MSXI solution portfolio for customer engagement activities. He joined MSXI with 15 years of customer engagement experience in the automobile industry at both OEM and dealership levels. Previously he was a lecturer of marketing at the Munich University of Applied Sciences. He was formerly Managing Director of VEACT, which he co-founded, and has published several papers on his areas of expertise. He can be reached at **pjunge@msxi-euro.com.**

offering ever-expanding digitalization capabilities to the automotive industry. These capabilities have become even stronger thanks to a collaboration with digital solutions provider MCON and its system architectures that include a spectrum of groundbreaking digital technologies.





Transforming the customer experience

FairGarage[®] is a comparison and booking portal for vehicle servicing. This independent workshop booking platform uses fixed repair prices to calculate service costs across all registered workshops. Enduring more than 800,000 searches per month, the FairGarage[®] database is a unique source of data intelligence and maintenance predictions. For example, the database enables OEMs to compare fixed prices based on regional competitive offerings. Although this engine is currently only available in the German automotive market, MCON is in the process of scaling the platform to reach many other markets. Focused on automotive retail, Cardess[®] is a modular, digital architecture that unifies information and communication from sales and aftersales into one platform. It does this while tracking the online and the offline journeys of both leads and customers. These completely integrated views of customers' retail experiences give manufacturers the information needed to predict an individual's needs and tailor their offerings accordingly. The results include happier customers, cost reductions and increased sales.

The technology's modular approach allows for easy integration in legacy software environments. By incorporating partners like VEACT®, a leading provider



MSXI Benchmarker



of marketing automation software for dealers and OEMs, or CitNOW, a leading provider of video technology in sales and service, Cardess® creates an ecosystem of shared information and seamless processes.

MCON is redesigning customer engagement from the ground up and its systems will lift the quality and capabilities of MSXI's business process solutions to a whole new level.

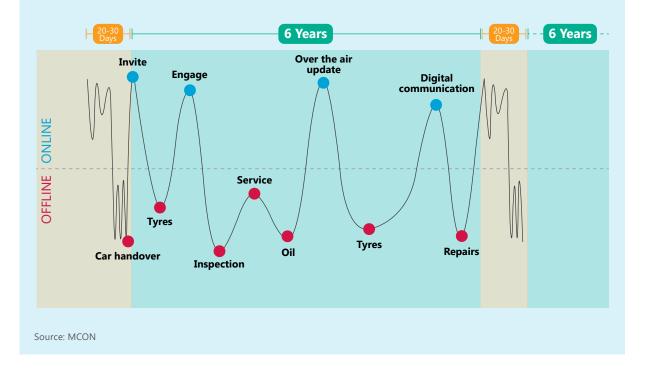
These systems will be integrated into MSXI's central processes. For example, they will help create a more seamless customer experience within the MSXI Customer Relationship Center, which handles omnichannel, inbound customer requests for OEMs; and its Business Development Center, which handles outbound call-center campaigns, books service appointments and qualifies leads.

"Together with **MSXI**, we will focus on integrating **all aspects of innovation** – business processes – data and digital for creating a unique offering."

Christian Dietrich CEO, MCON Group

Real automotive customer journey

Long ownership period vs. a short (re-)purchasing phase







COLLISIONS – A BUSINESS FOR GENUINE PARTS

When a vehicle is involved in a collision, those responsible for its repair should adhere to strict standards and specifications to ensure it's safe to return to the road. Original equipment manufacturers (OEMs) invest in meeting these standards through the manufacture of high-quality, genuine parts. But the industry is fast becoming saturated with alternative parts (aftermarket) suppliers, who undercut OE parts prices and find favor with insurers.

Insurance companies use the costs of repair and the vehicle's current value to determine if its repair is viable. They allow the substitution of genuine parts with aftermarket parts, with little consideration for vehicle standards and warranty requirements. In some cases, the insurer will deem the vehicle irreparable, or, a 'write off', resulting in total vehicle loss.

Automotive collision repair market is projected to exceed US\$ 275 billion by 2024.

Source: "Global Automotive Collision Repair Market size Report", Market Study Report

Managing substitution and total loss

Today, OEMs have greater influence over the impact of parts substitution and total loss on the automotive industry. They can improve the likelihood of a vehicle's repair and return to service, subsequently retaining ongoing parts sales for that vehicle while it continues its serviceable life.



This is because new services - tailored to meet the needs of the collisions business - offer OEMs the people, processes and technology to intervene in the estimate process and influence the parts chosen for repair. These services address the demand for genuine OE parts over aftermarket parts. And they create a win for insurers, bodyshop repairers, dealers and OEMs by reducing the number of write-offs, increasing vehicle repairs and keeping more cars on the road.

> Average total costs of repairs for vehicles in the US have risen roughly 3-4 percent annually.

> > Source: CCC

Today's offerings help manufacturers manage substitution and total loss avoidance more effectively. OEMs can access crash repair estimates and, using software configured to their specific requirements, review relevant information relating to each recommended part. Using this information, case handlers can then offer a more competitive price to secure the sale of a genuine part instead of an aftermarket part.

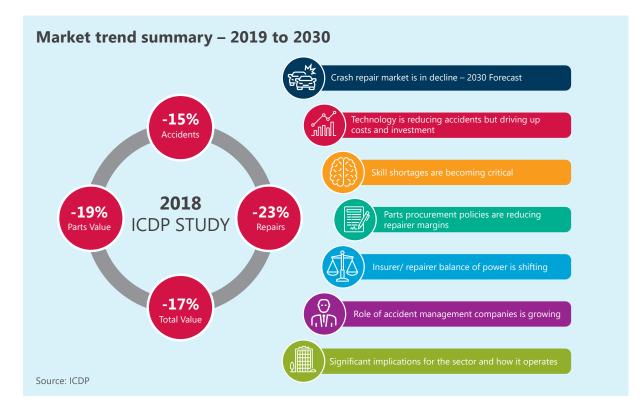


ROB VAN RIJSWIJK

Vice President Product Management

Rob leads the MSXI Global Product Management Team. He is responsible for developing and positioning the full range of MSXI products and services. Rob has a deep passion for strategic innovation and he works alongside the organization's global account executives, helping them add value to a growing global client base. Rob is based in Cologne, Germany and can be reached at **rvanrijswijk@msxi-euro.com**.





Where a vehicle is deemed a total loss, the manufacturer can lower the repair costs of the vehicle to within the insurer's repair cost threshold, converting the write off into a manageable repair with genuine OE parts.

Services can include specialized collision software which can be customized to reflect a manufacturer's own set of parts-pricing rules and brand requirements. It adapts to changing market conditions and is highly transparent, enabling the OEM to see precisely how its investment adds value.

A good service will combine software with human expertise. Dedicated case handlers can be trained to develop relationships with bodyshops, dealers and insurers. And they can also use the software to identify discrepancies in parts suitability or spot opportunities for OE parts sales.

Collision technology can offer user-friendly dashboards that provide details of estimates on a case-by-case basis. It validates prices and part numbers, compares estimates against insurer rules and examines stock availability at regional or local levels. The software also flags parts which are considered most at risk of substitution and are therefore likely candidates for support.

Advanced analytics reveal detailed business intelligence, providing OEMs with insight into their collision management approach, and helping them refine their strategy and boost revenue.



MSXI Benchmarker

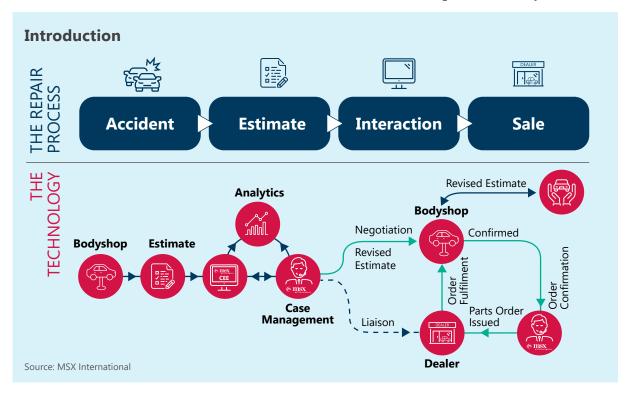


Transforming the automotive industry

Collision services open up new opportunities, not just for OEMs but for every stakeholder in the collision business, helping them see the value in repairing damaged vehicles with original parts.

Insurers can retain customers with more competitive terms, reduce risk with genuine parts replacements, and minimize write offs and repair costs. Bodyshops increase throughput and can fit parts faster and more efficiently. They can support manufacturer guarantees and benefit from greater customer satisfaction. Meanwhile, dealers can increase their trade sales to independent bodyshops and increase parts revenue. These services reduce workload and labor costs, and minimize the number of parts returns, benefiting dealers and manufacturers.

Above all, vehicle manufacturers can better support the evolution of safer vehicles, helping maintain the highest vehicle standards by making genuine parts more cost effective for use throughout the industry.







SPOTLIGHT: INDIA

At a glance

With over 26 million vehicles produced in the country in 2019, India is poised to generate US\$ 300 billion in revenue, a contribution of 12% of total GDP and the creation of 65 million jobs by 2026. These are the aspirations set for the Automotive Mission Plan 2016-2026 – a vision document created by the Indian Government along with industry stakeholders to promote automotive businesses. These numbers reveal a glimpse of the potential that lies in the Indian automotive industry.

> Indian automotive industry contributes **more than 7%** to national GDP.

Currently, the automotive industry contributes more than 7% of the total GDP and employs about 32 million people. Strong domestic consumer demand, government initiatives, and urbanization have supported the Indian automotive industry's current growth.

India's market growth is driving mobility innovation

The rise of India to global dominance in the automotive industry is multifaceted. The will of the people to innovate their infrastructure is a driving factor. The installation of electric vehicle (EV) charging stations in metro areas is gearing up for the transformation to zero emission vehicles - a commitment the country has made along with other industrialized nations. Moreover, OEMs are investing greatly in technology incubators to unleash the innovation potential in the region, whereas future investment projects in the



INGO MEYER VP - OPERATIONS APMEA

Ingo is responsible for the MSXI business operations across Asia Pacific, Africa & Middle East regions. He began his working life in financial line management, and over the past 25 years has held senior roles in financial management, consulting and general management, including experience with a Big-4 consulting firm. He is a Chartered Global Management Accountant, a CPA (Australia) and he also holds an MBA. He can be reached at **imeyer@sewellsmsxi.com.**

Pacific and the Americas are being hedged based on their current economic climate. The industry outlook suggests India may be the largest automotive market worldwide in the coming years – even bigger than China and the United States. The primary driver of this shift in automotive outlook is a recent development, in part due to a large government investment in infrastructure that allows for technological





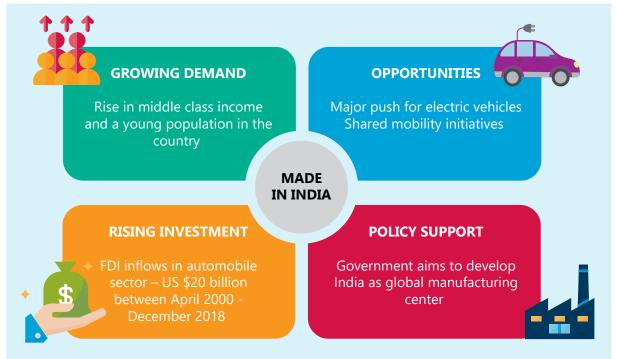
innovations in the area of mobility, electric vehicles and manufacturing set-ups. The technology revolution in India has major implications for businesses seeking to grow in the automotive sphere.

Aftermarket professionals in India are employing **virtual technology** for training purposes.

Technological megatrends in India

India-based OEMs and Tier – 1 suppliers have shown tremendous innovation in the local automotive landscape. EVs are today's prime focus within the industry and government, but many activities are happening in the areas of connected cars, autonomous driving, vehicle data generation and setting up of global research and development centers. Many start-ups have emerged which are focusing on artificial intelligence and machine learning applications in the automotive sector. Indian OEMs are also active on both the acquisition and alliance fronts with other companies and start-ups for shared mobility, e-mobility and powertrain solutions. The last couple of years have also seen joint ventures

happening between OEMs for developing connected vehicle projects, electric battery vehicles, battery technology and research and development in these areas. Automotive businesses are welcome and rewarded for their success and innovation, which benefits the region. These operations are a win-win for the people of India, creating a highly skilled modern automotive workforce utilizing the engineering and computer science-driven culture. By giving more flexibility to stakeholders in India to build new operations facilities, auto manufacturing is booming. This is in stark contrast to the growing regulations and costs of franchising operations in Asia-Pacific and the Americas. The Indian government



Source: MSX International

Five broad themes which will facilitate digital transformation for the Indian automotive industry.

Not exhaustive

Skill Development	Develop relevant digital skills through provision of programs by industry- academia, training infrastructure, Centre of Excellence (CoE) etc.
Data Sharing	Enable data sharing by creating data governance mechanisms, developing APIs, standardization of data sharing protocols amongst others
Digital Infrastructure	Set-up digital infrastructure such as data center, transmitters, fiber infrastructure, etc. for data storage, processing and transmission
Connectivity	Ensure fast, reliable and ubiquitous data network such as 5G for connected cars, V2V communication
Finance and S Insurance	Provide innovative financing and insurance facilities to enable pay-as- you-go and user-based service fee models in alignment with regulations
Source: A.T. Kearney	

also acknowledges the challenges of environmental concerns, depleting fossil fuels and high import costs of fuel with conventional internal combustion engines. To tackle this challenge, National Mission on Electric Mobility was launched in 2013. As a follow up, FAME (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India) scheme was launched in 2015 to promote the EV ecosystem and related research and development activities. The second phase of this scheme was launched in 2019 which offers incentives on the purchase of EVs and established a charging infrastructure.

Digitization of India's aftermarket

Higher earnings in India are driving vehicle sales, creating great opportunities for manufacturers and supply chains to develop effective aftermarket strategies. Aftermarket professionals in India are employing virtual technology for training purposes, grasping new concepts, and furthering the knowledge base of repair service and maintenance techniques for the mobility market including replacement parts, accessories, and lubricants.





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Dealer Principals, Department Managers and Senior OEM Executives who engage with automotive retail activity anywhere in the world are welcome to join the expanding list of email recipients of the biannual editions of the Global Benchmarker by sending their name, designation, and business details to **benchmarker@msxi.com**.

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