

# ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

FOR ADVANCED DIGITAL  
CLAIMS AND REPAIR



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# INTRODUCTION



The insurance and automotive ecosystems currently face a revolutionary business process innovation: harnessing maturing technologies to add considerable value to the digital claims and collision repair process. With an abundance of mobile technologies and machine learning capabilities available, properly combined with expertise, powerful data and content, breakthroughs are possible for all stakeholders to unlock significant value by employing a new, modern workflow where the time from initial incident to claims resolution is significantly reduced and the consumer experience exponentially improved.

<sup>1</sup> <https://www.i-scoop.eu/digital-transformation/>

# DATA-DRIVEN CLAIMS MANAGEMENT

Companies across industries are routinely spending millions of dollars each year developing data ingestion programs and using advanced analytics that allow them to predict with near certainty any number of behaviors and outcomes. Artificial intelligence (AI) and machine learning, two distinct disciplines of computer engineering, take these successful models to the next level by correlating patterns and trends in data and continuously learning from both historical and real-time inputs to generate reliable, accurate insights to inform customer experiences. With proven examples of enhancing experiences with data, be it through personalized healthcare programs, financial forecasting or retail recommendations, there is proof for seemingly infinite possibilities to harness data.

The automotive and insurance industries have an attractive position. With advanced telematics, connected vehicles, augmented driving programs and the like, driving and insuring a vehicle has changed dramatically in the last 20 years. The data gathered through insurance monitoring programs and manufacturer reporting can be used to not only shed light on driver behavior for advancements in safety, but also to predict vehicle damage and assess repair costs. If insurance assessors could determine with guaranteed accuracy the necessary parts and pricing for a repairable vehicle without having to physically inspect it, how much time could be saved on every claim? Aided by irrefutable data, insurers and repair professionals can agree on vehicle value and price of repair, remove unnecessary complexities in the workflow and present fast, accurate estimates to customers and build brand loyalty through positive customer experiences.

The business value of artificially-enabled claims management is substantial if: the claims journey itself is redefined in its entirety; the solution extends beyond the niceties of AI and profoundly into the way data is exchanged; accuracy and agreement are derived by the insurers, assessors and shops; each party derives highly desirable and sustainable value. To accomplish such outcomes, organizations must employ this new modern workflow built on trustworthy data and strong digital architectures.

ARTIFICIAL INTELLIGENCE WILL GROW INTO A  
**\$118B INDUSTRY BY 2025**

SOURCE: STATISTA

# ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

AI is defined as “intelligence exhibited by machines to enable decision-making, predict outcomes or improve efficiency,” and was hypothesized and studied in the mid-20th century by English mathematician and computer scientist Alan Turing.

**MACHINE LEARNING IS “A METHOD OF DATA ANALYSIS THAT AUTOMATES ANALYTICAL MODEL BUILDING... A BRANCH OF ARTIFICIAL INTELLIGENCE.”**

Together, AI and machine learning enable a swift and logical analysis of data for practical application. The use of AI is widespread, with schools, companies and governments routinely employing this technology to solve complex—and seemingly simple—problems, such as reducing commuting traffic, preventing financial fraud, separating essential email from spam and identifying objects in images on social media.

Although many attempts to implement AI and machine learning into routine processes have been successful, there are numerous factors that need to be considered ahead of application. Companies and organizations wishing to deploy these technologies face a variety of challenges: insufficient or limited data, issues with scaling, lack of skilled technical professionals to manage implementation or a combination of all three.

In a well-documented AI experiment, IBM attempted to utilize its Watson technology for healthcare; however, “in trying to apply Watson to cancer treatment, one of medicine’s biggest challenges, IBM encountered a fundamental mismatch between the way machines learn and the way doctors work.” IBM is still attempting to overcome a seemingly insurmountable obstacle to address this challenge: the lack of a unified healthcare database. Without access to a wealth of cohesive, fact-based data, entry into the AI space is hindered severely.

IT IS ESSENTIAL TO NOTE THAT  
**“ALL MACHINE LEARNING IS AI,  
BUT NOT ALL AI IS MACHINE LEARNING.”**

SOURCE: EMERJ ARTIFICIAL INTELLIGENCE RESEARCH

# AUGMENTED TECHNOLOGIES



## FOR PRECISE VEHICLE DAMAGE DETECTION

Many organizations use AI and machine learning to improve processes and streamline workflows as they seek to deliver better outcomes for users. Numerous industries have the potential to adopt augmented technologies to automate physical and digital tasks, with spending on image recognition, object identification and predictive maintenance expected to reach multi-million-dollar figures over the next six years.

Over the past 18 months, Solera has invested in a core machine-learning strategy that will radically transform the claims workflow over time. Key benefits of this approach include a reduction in the number of touchpoints required throughout the workflow and increased accuracy. Where this activity previously required an assessor to come onsite to visually inspect damage, improvements in image recognition now allow for an automated review of the damage photos and a rapid identification of total loss vehicles. Similarly, AI detects damaged parts, defines appropriate repairs and calculates accurate repair costs. These actions all save time for assessors and speed up the claims process.

The application enables drivers or assessors to take images of damaged vehicles immediately following an accident. The images are used to generate a reliable estimate for the claim, validated by an algorithm and based on the company's extensive automotive datasets. The vehicle's VIN is decoded and the damage, be it a scratch on a driver's side panel or a substantial impact on a fender, is run through the database of historical claims and subjected to the insurer's unique business rules. The technology may determine the vehicle is a total loss, and the insurer, repair shop and driver can jointly agree on the settlement, as the database provides historical evidence of that particular vehicle's value.

Solera's solution also allows drivers and assessors to model and report light, cosmetic\* vehicle collision damages through guided image capture and markup tools. This in turn allows the repairer, after accessing the images, to determine what parts are needed for the repair prior to the vehicle leaving the scene of the accident—thus the wait time for parts can be significantly reduced and the claim settled at a much faster rate.

**72% OF DECISION MAKERS SAY AI WILL BE THE BUSINESS ADVANTAGE OF THE FUTURE.**

SOURCE: PWC

# THE MODERN WORKFLOW



The process described here is an example of a modern workflow enabled by technology to avoid redundancies and inefficiencies and increase productivity, resulting in more claims processed in less time with assessors focused on complex claims that require a human's expertise and judgment.

Traditional claims workflows, where there is little to no digital involvement, are often inhibited by inefficient communication streams and obstacles such as errors in the estimate build or delays due to heavy workloads. Repetitive tasks—traveling to the vehicle, hand-writing the estimate, spending time communicating back and forth through a variety of channels—ultimately increase the key-to-key time for the customer and only serve to increase potentially costly error rates. These tasks produce comparatively little value compared to the actual assessment and diagnosis and are therefore ripe for a digital transformation. Rather than resolving a relatively simple claims case over the course of several weeks, assessors and repair professionals may be able to close a claim in a few days.

The modern workflow is not exclusive of human involvement. After vehicle images are intelligently triaged by the AI and machine learning algorithms, assessors validate the assessment and utilize the digital claims management process to finalize the estimate. The assessor can verify the conclusion of the technology or adjust accordingly. The assessor, insurance provider, repairer and driver have insight into the estimate and can agree on the factbased findings. With the technology acting as the intermediary between parties, significant time maybe won back as these parties agree on value and costs.

With reduced cycle times and more accurate repair diagnoses, more vehicles can be repaired and returned to customers in their original state, improving overall vehicle safety. Additionally, total losses can be more appropriately and factually determined, reducing the number of hazardous vehicles on the road.

Users of these technologies can make better decisions for their businesses and, in turn, serve customers with greater care, fulfilling a higher mission to provide convenience and transparency in the handling of their vehicle

# CONCLUSION

In the age of advanced computer algorithms, predictive modeling, data-enabled technologies and scaling solutions, blending these systems with human expertise can achieve better customer experiences. The multitude of actors involved in vehicle claims experience a slew of benefits grounded in impartial and accurate valuations generated in a fraction of the time an average claim would be resolved.

- Insurance carriers can deliver a singular level of service by enabling drivers to act independently and receive expert guidance through mobile applications and AI-driven processes.
- Global organizations can deliver a predictable experience across their network and distill disparate regional practices into a simple, streamlined workflow.
- Assessors can reduce their time in the field visiting vehicles that have minimal damage and instead focus on complex cases that are not cosmetic in nature and cannot yet be accurately addressed by visual intelligence.
- Repair shops and businesses can reduce the time spent waiting for parts and negotiating with insurance carriers over costs.
- Customers can expect fair and transparent actions by the insurers and repair professionals they rely on for mobility.

These outcomes, achieved through accurate and irrefutable data, can become the new normal. Solera has invested extensively in the technology and resources to enable a digital transformation of the claims management process through our modern workflow, supporting customers in their objective to deliver powerful and convenient driver experiences. With leading claims platforms currently available throughout North America and Europe, Solera has been pragmatic in devising the new offering to enhance and extend value to its customers worldwide. Unlike other providers operating in disparate markets, Solera has the ability to draw from its global data set to feed higher volumes of data back into the system to derive insights and propagate learnings faster. These insights not only enhance the claims workflow but also deliver enriched data across the vehicle value chain to support assessors, insurers, repairers and manufacturers alike.

**COLLABORATION WITH LEADING TECHNOLOGY COMPANIES  
WILL PROVIDE [INSURERS] OPPORTUNITIES TO DEVELOP A  
COMPETITIVE EDGE IN A NUMBER OF AREAS.**

SOURCE: GLOBALDATA

# ABOUT SOLERA

Solera is a global leader in risk and asset management data, software solutions and intelligence. We empower companies across the automotive and insurance ecosystem with trusted solutions that support connectivity at scale and unlock innovation across the vehicle value chain.

Solera's suite of next-generation solutions connects customers, insurers and suppliers to unlock smarter decision-making through combined service, software, enriched data, proprietary algorithms and machine learning. Our unrivalled global data lake of 300 million historical claims and one billion historical images delivers the intelligence and accuracy that ensures customer vehicles and property are optimally maintained and expertly repaired.

Solera serves over 235,000 customers and partners in more than 90 countries across six continents. We combine cutting-edge technology and global business best practice, to provide unsurpassed scale and strength. With significant global R&D investment per year, Solera delivers superior performance and continuous innovation to support customers and move the industry forward.

For more information, visit [solera.com](https://solera.com)

# ADDITIONAL RESOURCES

## **Artificial Intelligence**

B.J. Copeland - <https://www.britannica.com/technology/artificial-intelligence>

## **Machine Learning: What It Is and Why It Matters**

[https://www.sas.com/en\\_us/insights/analytics/machine-learning.html](https://www.sas.com/en_us/insights/analytics/machine-learning.html)

## **How IBM Watson Overpromised and Underdelivered on AI Health Care**

<https://spectrum.ieee.org/biomedical/diagnostics/how-ibm-watson-overpromised-andunderdelivered-on-ai-health-care>

## **50+ Vital Artificial Intelligence Statistics: 2019 Data Analysis & Market Share**

Jenny Chang - <https://financesonline.com/artificial-intelligence-statistics/>