In this lesson, you have learned:

* Examples of real-world applications of Watson in Energy, Natural Gas Production, Farming, and Insurance.
* Deep Learning enables Watson to learn from unstructured data and constantly improve the quality and accuracy of results by learning on the job.
* Transfer Learning enables Watson to learn faster from smaller sets of data while also protecting customer's data and insights.

In this lesson, you have learned:

* IBM Watson Assistant is helping businesses deliver personalized customer experiences and supporting their contact center agents with the knowledge and expertise they need to give outstanding customer service.
* IBM Watson Regulatory Compliance has made compliance with rapidly evolving regulatory requirements into an accurate, timely, trustworthy, and efficient process.
* AI professionals are building, training, and deploying their custom models using the Cognitive APIs and end-to-end collaborative environment provided by IBM.

In this lesson, you have learned:

**Watson is helping teams and businesses**

* Reimagine their workflows, using its capabilities to process massive amounts of data faster, to remember, understand, and make recommendations.
* Learn more from less data, using a technique called Transfer Learning.
* Protect their data and insights, using a 3-layered learning model.

**It is important to recognize how Consumer AI is different from Business AI**

* Consumer AI is all around us, on our smartphones, in our homes and devices, and impacting virtually all aspects of our everyday lives.
* Business AI impacts how we engage with our clients, the way we perform our responsibilities at work, and our business processes.

**The 3 steps of that can help customers get started on their AI journey**

* The use case through which they can prove that AI can benefit their organization.
* The governance frameworks, methodologies, best practices, and anything else needed to adopt the proven use case across the organization.
* Mechanisms for continuous improvement, continuous adoption, and continuous scale.

In this lesson, you have learned:

* IBM Watson provides a portfolio services, tools, and APIs to enable businesses to use and develop AI powered applications.
* The Watson AI portfolio enables you to perform a wide range of tasks, including accelerate research and discovery, enrich your customer interactions, scale expertise and learning, and detect liabilities and mitigate risk.
* Watson is available on any cloud empowered business.

In this lesson, you have learned:

* Watson Assistant helps you to build chatbots and virtual assistants for a variety of channels, including mobile devices, messaging platforms, and even robots.
* Watson Assistant combines machine learning, natural language understanding, and integrated dialog tools to create conversation flows between your apps and your users.

In this lesson, you have learned:

* Watson Discovery unlocks hidden value in data to find answers, monitor trends and surface patterns with the world’s most advanced cloud-native insight engine.
* Watson Natural Language Understanding offers a suite of features for text analysis extracting entities, relationships, keywords, semantic roles in up to 13 languages.
* Watson Knowledge Studio provides you with a way to teach Watson the language of your domain with custom models that identify entities and relationships unique to your industry.

In this lesson, you have learned:

* Watson Speech to Text converts audio and voice into written text for quick understanding of content.
* Watson Speech to Text automatically transcribes audio from 7 languages in real-time, in real time or from recorded sources.
* Watson Text to Speech converts written text into natural-sounding audio in a variety of languages, dialects, and voices.
* Watson Text to Speech enables you to construct very specific pronunciations for terms, phrases, and words that may appear in your use case.

In this lesson, you have learned:

* Watson Language Translator translates text from one language to another, enabling you to communicate with your customers in their own language.
* Watson Language Translator supports customization which can be especially helpful for translating technical terms.
* Watson Natural Language Classifier uses machine learning to analyze text, and labels and organizes data into custom categories.

In this lesson, you have learned:

* Watson Studio lets you build, train, deploy and manage AI models, and prepare and analyze data, in a single, integrated environment.
* Watson Machine Learning enables you to use your own data to create, train, and deploy machine learning and deep learning models.
* Watson Knowledge Catalog drives collaboration and transform data and AI into a trusted enterprise asset through dynamic data policies and enforcement.
* Watson OpenScale provides insights into AI health, recommends next steps to improve outcomes, and orchestrates tasks to remediate issues around performance, accuracy, and fairness.

In this lesson, you have learned:

* IBM developed some of the earliest computer vision systems.
* Some of the applications of computer vision include self-driving cars and analyzing difficult to reach cabling for maintenance needs.
* Watson Visual Recognition allows you to quickly and accurately tag, classify and train visual content using machine learning.

In this lesson, you have learned:

* Watson Personality Insights predicts personality characteristics, needs and values through written text.
* Watson Personality Insights helps you understand a customer's consumption preferences so you can tailor your social messaging for each client based on their personality, needs and values.
* Watson Tone Analyzer understands emotions and tone in even small amounts of text.
* Watson Tone Analyzer can be used to analyze the tone of online reviews, enhance customer service interactions and improve customer communications with chatbots.

In this lesson, you have learned:

* Watson Compare and Comply streamlines contract workflows to save time and improve accuracy, and simplify contract governance.
* Watson Compare and Comply identifies elements in each document, and associates categories, and parties with those elements so that you can analyze the relationships between them.

# **Watson in Use at Bradesco**

This case study represents just one of the successful implementations of Watson AI services across the world. You may recognize this company and the features in use from other modules in this course and the Introduction to AI course. Read the case study summarized below.

## **Bradesco**

Bradesco is one of Brazil’s largest banks, with over 5,200 branches. Before they partnered with IBM to create an AI system, branch employees had to call a central office for answers to unresolved queries. As the employee waited, customer also waited, and sometimes those waits were lengthy. Not good for any company in a highly competitive industry. Being IBM’s first customer in Brazil brought meant that Watson not only had to learn Bradesco’s products in detail, it had to learn it in Portuguese – including culture, regional accents, and regional variations in question structure.

### Watson uses a five-step learning process:

* **Trained** in Portuguese and in banking.
* **Tested** in a pilot roll-out with a limited number of branches.
* **Launched** for all employees in all branches.
* **Got results** and reduced response times from a few minutes to a few seconds as employees began to trust Watson.
* **Keeps learning** and improving thanks to constant feedback.

After 5 months of training, Watson understood 100% of written questions and 83% of spoken ones. After 10 months, the system was answering 96% of all questions correctly. Now Watson is trained on 62 products and answers 283,000 questions a month with a 95% accuracy rate, with just 5% requiring calls for further assistance.

# **Watson in use at Coca-Cola Company**

This case study represents just one of the successful implementations of Watson Services for Core ML across the world. You may recognize this company and the features in use from other modules in this course and the Introduction to AI course. Read the case study summarized below.

Apple and IBM began collaborating in 2014 to make Watson AI services and the Apple ML framework, Core ML, available through apps on mobile iOS devices, even when they are not connected to a network.

## **Coca-Cola Company**

The Coca-Cola Company is interested in the possible in-field applications of Watson Services for Core ML, and is exploring visual recognition for problem identification, cognitive diagnosis and augmented repair of their beverage dispensing machines.

Previously, field technicians relied on their own expertise and experience to resolve issues with a wide range of beverage dispensing machines. On location, connectivity to the internet could not be assumed – the client site may be rural, or the machine located in the depths of a building where there is no data reception. This made accessing information for support and troubleshooting very difficult.

With Watson Services for Core ML, Coca-Cola developed an app that uses visual recognition and augmented reality to help the technician on-site. Using the app, the technician can use their iPhone or iPad camera to diagnose system problems via a virtual overlay and guided instructions pulled from the cloud. Watson Visual Recognition on the device helps the technician identify unfamiliar systems and parts.

Data is captured as the technician is working on resolving the issue, and that data is added to the cloud once the device has internet connectivity, meaning information can be shared between field technicians faster than ever before. Field technicians can now diagnose and correct an enormous array of problems on-site, with little or no network connectivity.

# **Watson in use at KONE**

This case study represents just one of the successful implementations of Watson AI services across the world. You may recognize this company and the features in use from other modules in this course and the Introduction to AI course. Read the case study summarized below.

## **KONE**

Elevators, escalators, and automatic doors ensure the passage of tens of thousands of people every day in the world’s tallest buildings. To keep people moving swiftly and safely takes an enormous amount of effort to plan routine maintenance and resolve unforeseen issues quickly. KONE services over a million elevators and escalators that move a billion people a day.

KONE uses Watson to help monitor the condition of equipment and predict maintenance and upgrade requirements, to help the customer manage their equipment over its entire lifecycle. This means less downtime, fewer faults, and more detailed information for maintenance crews.

# **Watson in use at Woodside**

This case study represents just one of the successful implementations of Watson AI services across the world. You may recognize this company and the features in use from other modules in this course and the Introduction to AI course. Read the case study summarized below.

## **Woodside**

Woodside is Australia's largest independent oil and gas company. It’s an industry requiring absolute accuracy, and previously Woodside has relied on historical context and procedural information to ensure precision. The problem is, that historical context is being lost as the older generation of workers retires. So, the question for Woodside is how to retain that information in a way that is accessible and useful for the current workers.

Woodside began a company-wide initiative to gather information, especially from workers with years of experience nearing retirement. They recognized the value in spending time to train Watson with that data, and to teach Watson the natural language the staff use to pose and respond to questions. This effort enabled engineers to quickly become fully informed of what has been done and how an issue was managed in the past. With Watson, time spent on researching has been reduced by 75%.

At Woodside, Watson has engendered a change of mindset – retiring workers are proud to leave their knowledge as a legacy, and younger workers still benefit from their years of experience while making their own contributions to the company knowledge base.

Like Bradesco, Watson at Woodside learned in five steps:

* **Trained** with over 600,00 pages of documentation.
* **Tested** the machine learning model was continuously updated to be able to analyze a higher volume of records.
* **Launched** Over 80% of employees adopted Watson for their day-to-day work.
* **Got results** Employees used to spend 80% of their time researching problems and 20% fixing it. Watson has reversed that.
* **Keeps learning** Employees are encouraged to provide feedback, whether they’re brand new or have years of experience.

The aim for Watson at Woodside is to be innovative and grow. “The biggest thing in oil and gas is health and safety, and Watson can help us make better decisions to ensure that,” said Alexander Russo, an IBM Cognitive Engineer.

To read the full case study, go to: [Instant expertise.](https://www.ibm.com/watson/stories/woodside/)

In this lesson, you have learned:

* The industries where Watson AI services are being used are many and varied, including oil & gas, elevator maintenance, healthcare, automotive, and many more.
* There are three broad categories of use case: Conversational assistance, Compliance, and developing AI powered apps in-house.
* ADNOC are using AI to gather and retain knowledge from their experienced workers, and to make it easily accessible to younger workers.
* LivePerson are collaborating with IBM to create LiveEngage, a single platform that integrates AI, chatbots, and human agents.
* Connie is a member of Hilton’s concierge team, providing natural language assistance to hotel guests.
* Bradesco, one of Brazil’s largest banks, is using AI to improve response time to customer queries.
* Coca-Cola Company are using Watson Services for Core ML to provide their field engineers with a handheld repair assistant for beverage dispensing machines.
* KONE are using IoT sensors in elevators to provide information for an AI system that gives their maintenance team up to the minute information.
* Woodside, Australia’s largest oil and gas company is using AI to gather information from their retiring workforce, and make it easily available for their workers.