

# Welcome to the machines

EY Global Assurance Innovation Leader *Jeanne Boillet* says that Artificial Intelligence has the potential to transform audit, but it will never replace the auditor.

**Artificial Intelligence (AI)** could be a game-changer for business generally, and professional services in particular. With the rapid developments in machine learning, data mining and cognitive computing, the next decade promises to see huge leaps forward.

While the excitement over the potential applications of AI is understandable, there are some misconceptions – and indeed fears – developing. Central to that is the fear that AI will in fact replace humans in the value chain – doing the tasks we currently do, but faster and more accurately, and thus rendering many of us redundant.

At EY, we are trying to dispel these myths and explain how AI will in fact enable us to work better, smarter and faster, rather than simply replacing humans in the workplace.

## UNDERSTANDING THE WORLD

We are currently at the beginning of that journey. Following a lull in the pace of development, the last three years have seen applications of AI becoming more mainstream across professional services.

I call this phase “understanding the world.” By that, I mean that AI is getting better at handling, organizing and analyzing a range of inputs; most critically, huge amounts of structured and unstructured data. To a large extent, this is because we now have the critical mass of data to allow that to happen. The digital revolution has created the fuel to feed the AI engine, and its application to a number of narrow tasks is now beginning to yield some very interesting results.

Take, for instance, the issue of lease accounting. This is a hot topic, given the recent accounting changes that demand that companies scrutinize

their position with regard to leases and recognize related liabilities.

Until now, analysis of lease accounting has mainly been performed using human review. However, current pilot programs indicate that AI tools may allow the analysis of a larger number of lease documents in a much shorter timeframe. These pilots show that AI tools would make it possible to review about 70%-80% of a simple lease's contents electronically, leaving the remainder to be considered by a human. With more complex leases (in real estate, for instance), that figure would be more like 40%, but as the tools improve, and the machines learn, it is likely that more complex contracts and data can be read, managed and analyzed.

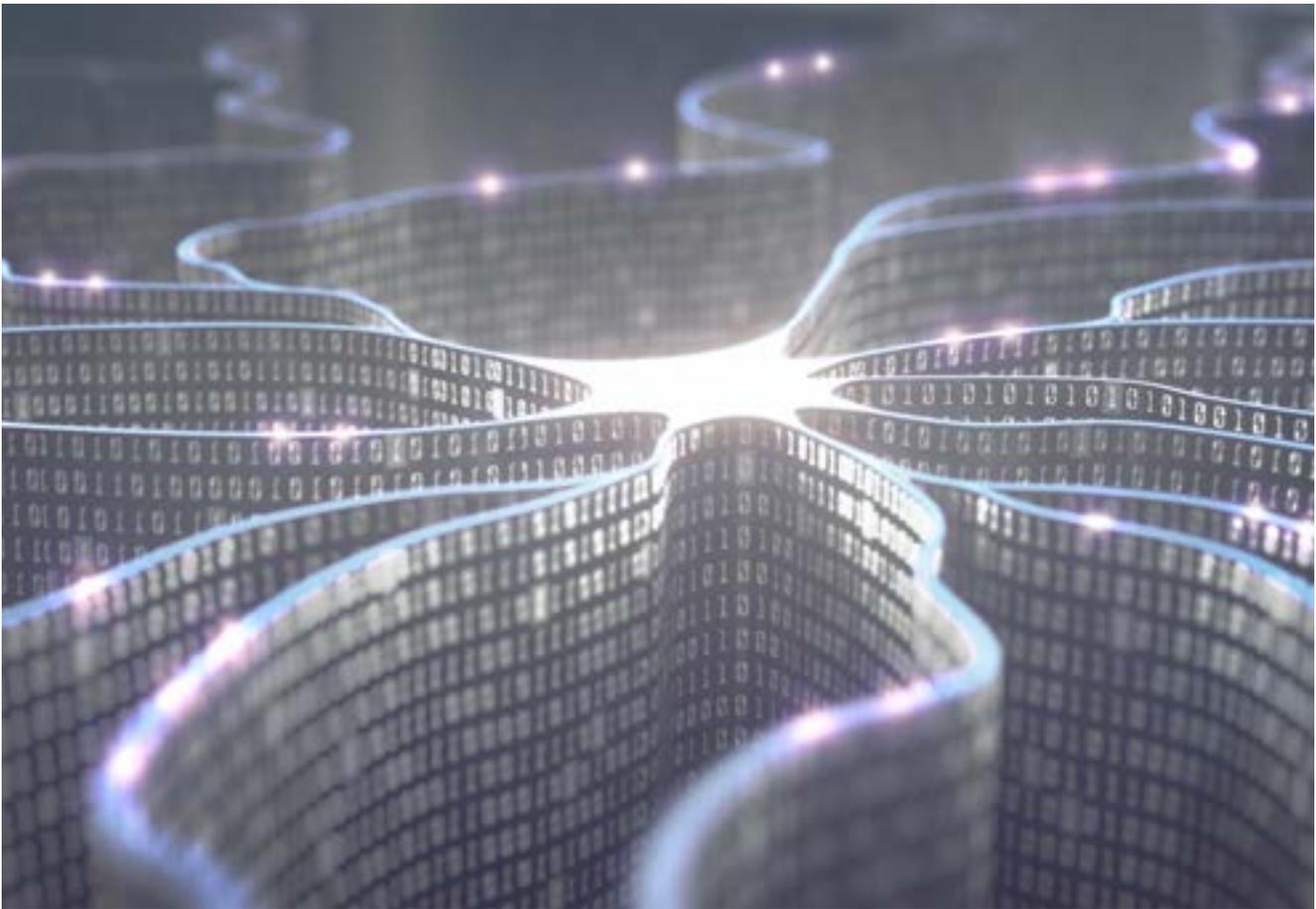
This illustrates some of what narrow AI can deliver. It cannot, as yet, replace the judgment, skepticism or experience that humans bring to their work. Making comparisons or value judgments is not the function of this type of AI.

## PREDICTIVE CAPABILITIES

But the real benefit I am now beginning to see through this type of application is in its predictive value. We recently used deep learning technologies to “learn” from seven years of financial statements through six machine learning algorithms. This enabled us to survey enough data to better evaluate where restatement risks lie. The technologies make it possible to predict where future risks may occur and enable audit teams to revisit and refine their approach. They also present intriguing possibilities for the detection of fraud.

That predictive ability marks the next step in the evolution of AI, and allows auditors to carry out work like this more efficiently and with greater accuracy.

Comment



## INTERACTING WITH THE WORLD

I describe the second phase of AI's development as "interacting with the world." This is already beginning to take shape in consumer products such as Amazon's Alexa and Microsoft's Cortana. These rely on voice recognition and other tools, and through the clever use of AI, they can respond to user demands in an intuitive way.

This interaction phase is still at an early stage, with relatively unsophisticated applications, but the work going into this is likely to transform the ways in which AI can be used to improve corporate performance. The convergence of technologies such as drones and the internet of things will enable AI to interact better with the material world and power what's becoming known as the Fourth Industrial Revolution.

But the impact of AI won't just be felt in the type of work auditors do with companies. In practical terms, its growth and development may well change the way talent is recruited. Indeed, rather than AI replacing professionals – and accountants in particular – I am sure that it will in fact demand different and new profiles.

We may need differently skilled people who are able to work across a wider range of disciplines. This next generation will need to understand accounting, the relevant industry, and AI, blockchain and machine learning – as well as grasping how all these disruptive elements work together in a faster-paced, more complex world – to continue to deliver an added-value, high-quality audit.



### PROFILE

Jeanne Boillet is the EY Global Assurance Innovation Leader and a member of the Global Assurance Executive Committee, and is based in Paris. As an innovation leader, she is focusing on managing disruption and fostering innovation across the Assurance service line and with clients. She has 25 years of experience at EY in serving global priority accounts, particularly in the Media and Consumer Products & Retail sectors. She was previously the Region Assurance Deputy Managing Partner for the EY Algeria, France, Luxembourg, Monaco, Morocco and Tunisia (FraMaLux) Region, and a member of the EY FraMaLux executive board.

These technologies, if applied thoughtfully and effectively, will improve quality, reduce risk and enhance confidence. In fact, the biggest challenge for both companies and their auditors and advisors goes beyond the technology: it's about change management and the potential confusion over how AI is applied. But we should all be reassured; AI can do a lot, but there's also a lot it cannot do, and we cannot rely on it to deliver skepticism and judgment.

The future isn't here yet, but AI brings it closer. ■

June 2017

EY | Assurance | Tax | Transactions | Advisory

### **About EY**

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit [ey.com](http://ey.com).

### **About Reporting**

*Reporting*, EY Assurance's insights hub, brings together insights and ideas that will interest, inform and inspire business leaders. It's about more than the numbers, examining reporting in its broadest sense.

Our content is available [online](#), [in print](#) and [as an app](#), and is tailored for board members, audit committee chairs and finance directors of global companies. For more information, visit [ey.com/reporting](http://ey.com/reporting).

© 2017 EYGM Limited.  
All Rights Reserved.  
EYG no. 03422-172GBL  
ED 0718

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax or other professional advice. Please refer to your advisors for specific advice.

The views of third parties set out in this publication are not necessarily the views of the global EY organization or its member firms. Moreover, they should be seen in the context of the time they were made.

**[ey.com](http://ey.com)**