

Our digital future

A perspective for
tax professionals

September 2018

Introduction

The next five years will be a period of significant technological advancement for professional services including the tax arena. It is hard to predict precisely what new developments will emerge but we can look to current and recent trends to guide our predictions for the future digital landscape and the ways in which it will impact the profession.

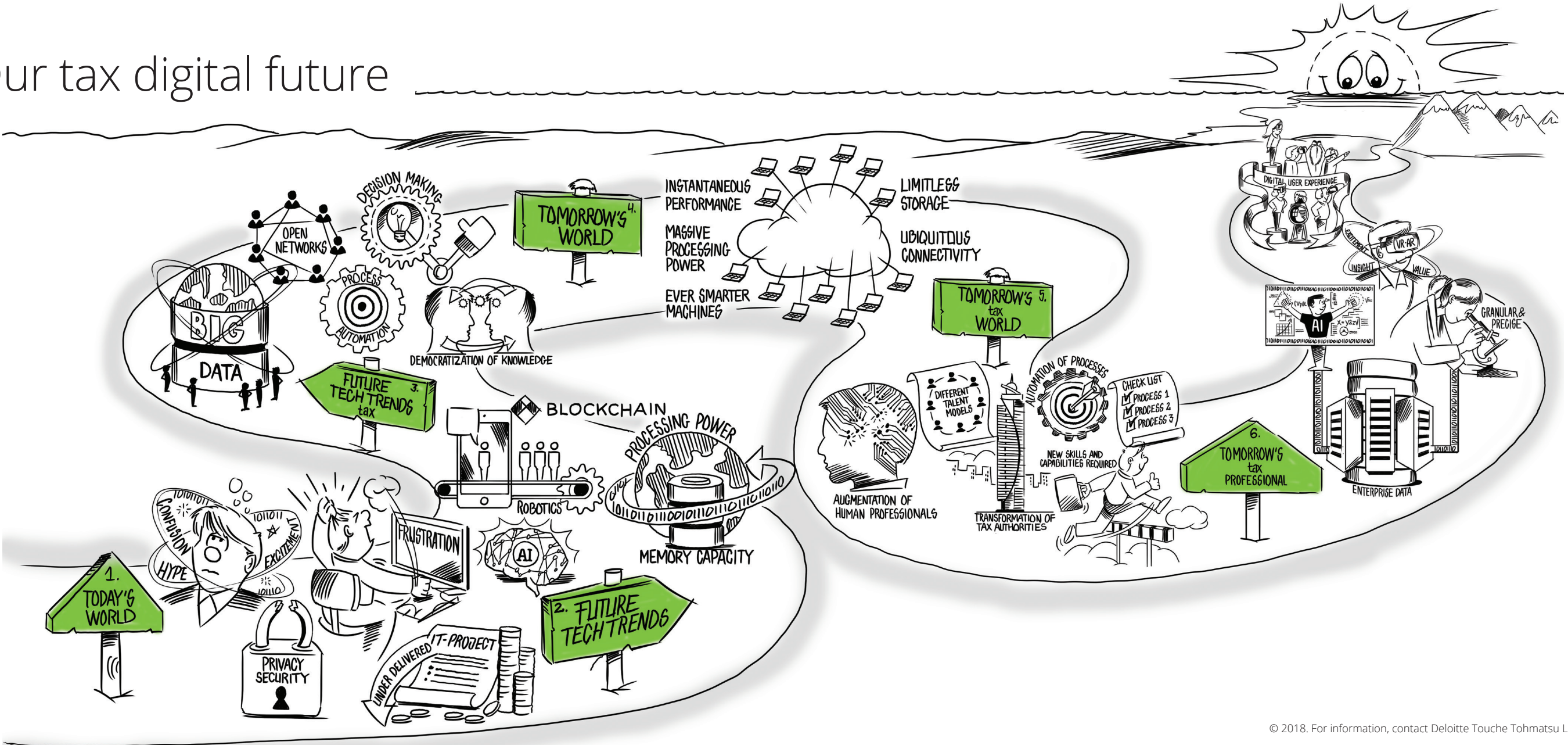
In this way, we have developed our view of the tax digital future. Specifically, we have identified the defining technology changes we expect, the effect we believe they will have in the tax arena, the impact that will have on businesses and the way it will shape the future working environment a tax professional can expect.

Overall, we anticipate a professional environment almost overwhelmed by rapid change, with an increased demand on the time and energy of those practicing within it. But our view is that we can discern the future from the evidence around us now and appropriate plans can be laid to prepare for that future. However, with that being said, to be successful, plans must be set carefully and people and businesses must remain nimble, adjusting strategic actions as market developments unfold.

“When digital transformation is done right, it’s like a caterpillar turning into a butterfly, but when done wrong, all you have is a really fast caterpillar.”

George Westerman
Principal Research Scientist
with the MIT Sloan Initiative
on the Digital Economy

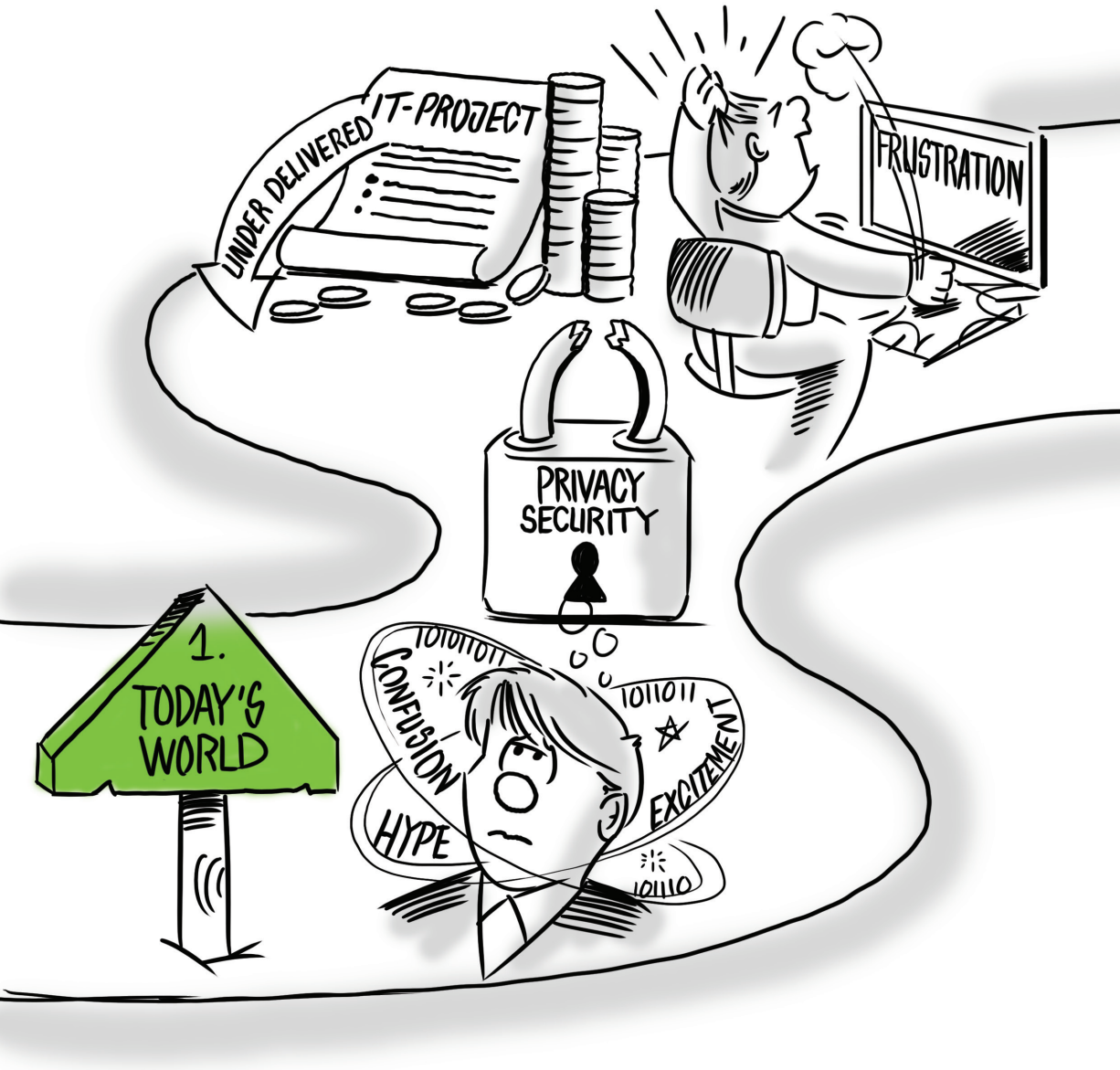
Our tax digital future



Today's world

Today's digital environment in the tax profession is characterized by a strange dichotomy. On one hand, we hear much talked about technology: The dramatic advances made and the huge opportunity IT presents. We are inundated with explanations of exponential growth and Moore's Law, of the impact of artificial intelligence and the disruption coming from technologies such as blockchain.

On the other hand, our personal experience of IT in the workplace can be a very different matter. New technologies are often confusing, the excitement feels like hype and the real benefits seem to lie in a remote future. Day-to-day technology can be difficult to use with frustrating levels of performance. As organizations, we are overwhelmed by issues of data privacy and security, and IT projects always seem to overrun, exceed budget and under deliver performance.

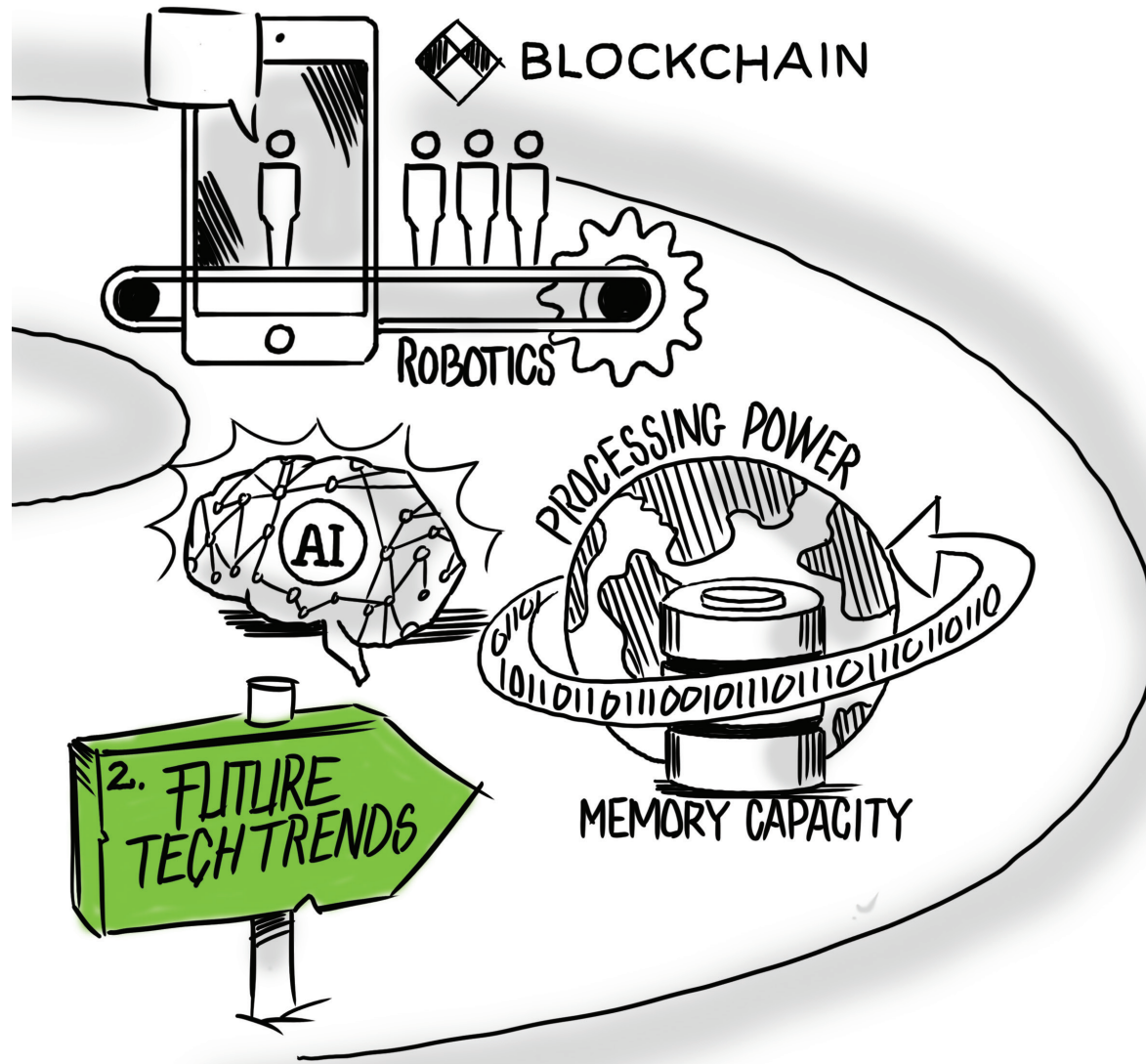


Future trends in technology

However, despite this current experience, at Deloitte we believe that technology developments in the future will be dramatic and satisfaction levels will improve equally dramatically. The impact of technology on our personal lives (the internet of things, apps and social media) leads us to believe similar advances will be reflected in our professional environment.

In particular, we expect significant increases in:

- Processing power
- Memory capacity
- Connectivity
- Artificial intelligence (AI)
- Robotics
- Blockchain technologies

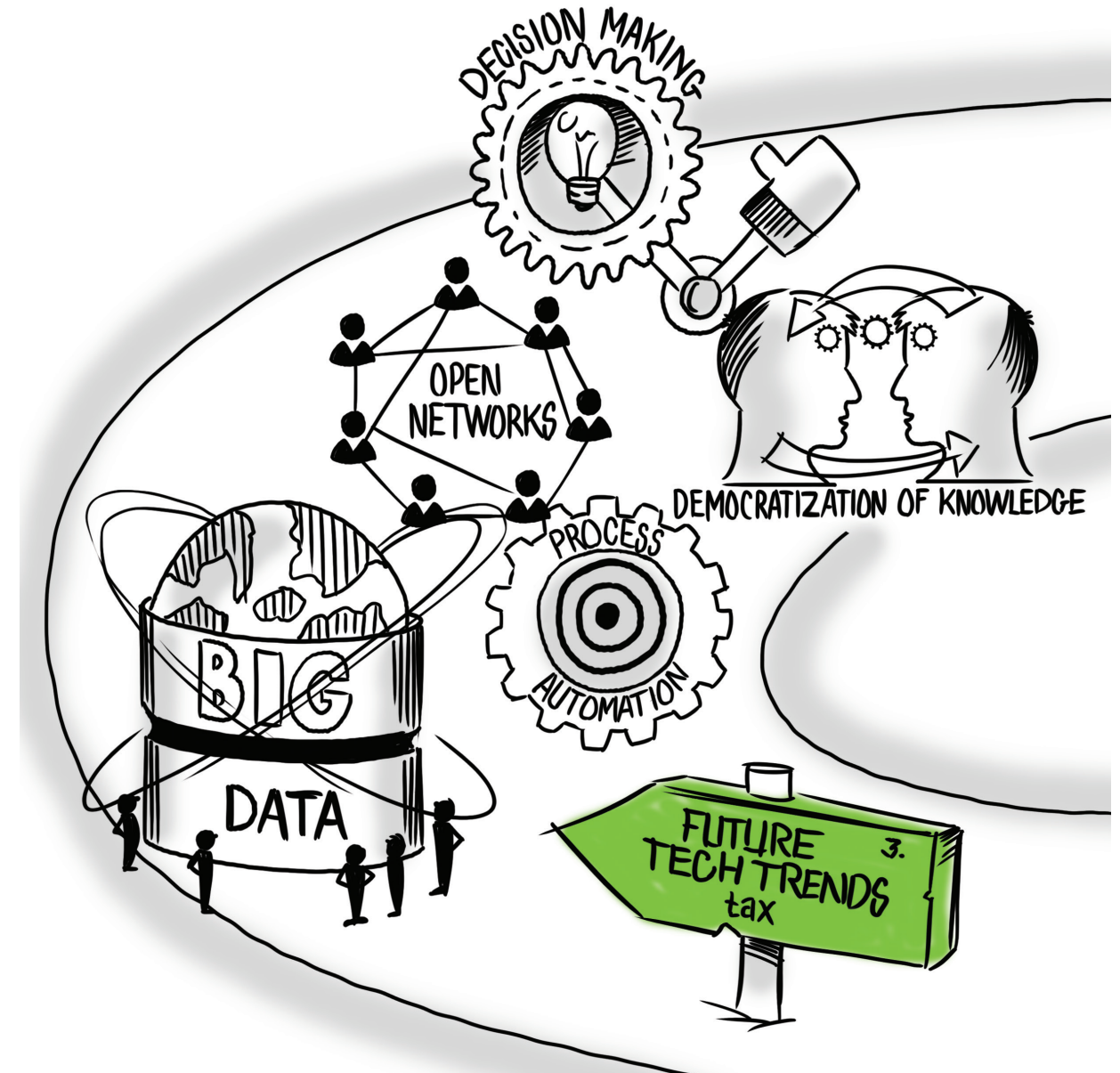


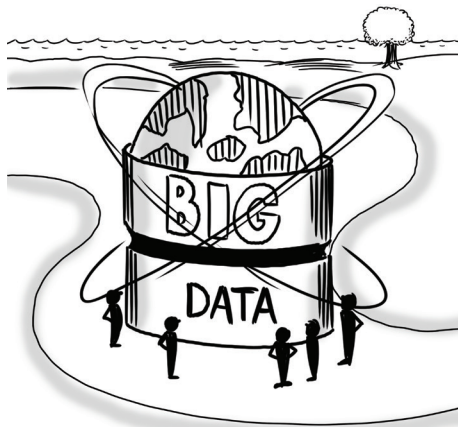
The trends defining tax

Of the general trends outlined earlier, we believe there are five main areas of technological advancement that will materially affect the tax profession in the future:

1. **Data** – big data sets, massively improved performance and memory capacity at scale
2. **Process automation** – robotic process automation and integration of financial and other systems
3. **Decision making** – AI augmenting compliance and consulting capabilities
4. **Democratization of knowledge** – publically available and easily accessible knowledge and information: A “Google for tax rules”
5. **Open networks** – talent sourcing, crowd problem-solving and sharing ecosystems

In our view, these trends will define the way tax authorities and regulators transform and the way businesses will have to respond. These trends are also opportunities for businesses and should form the foundations of any digital tax strategy and associated transformation.





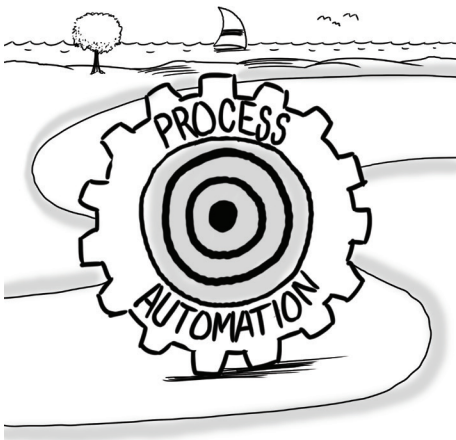
1. Data

The phenomenon of “big data” is having a dramatic impact on the way that tax work is undertaken. The processing power and capacity of machines mean that performance and data volumes are no longer limitations to the amount of data that can be analyzed.

The granularity of data that can be used; the way transactions are recorded and then accessed; real-time reporting and unlimited time periods for data retention and storage will transform the application of tax rules regulation. Instead of data sampling, estimating and extrapolating, professionals will be working with precise and complete data sets. Within five years, businesses will be at a point where the details of all transactions can be quickly and easily investigated and classified for tax purposes.

In addition, the way transactions are effected will change. There is much said today of blockchain technologies. In our view, widespread use of this technology will take more than five years. However, we can expect that blockchain will emerge in certain localized areas where there is a requirement for a high degree of trust and public reliance

(for example, in public registries of land titles or for secure transactions in some specific financial markets). Nevertheless, blockchain aside, in five years we believe we will see much more digital impact on transactions and dealings between taxpayers and tax authorities and judicial bodies.



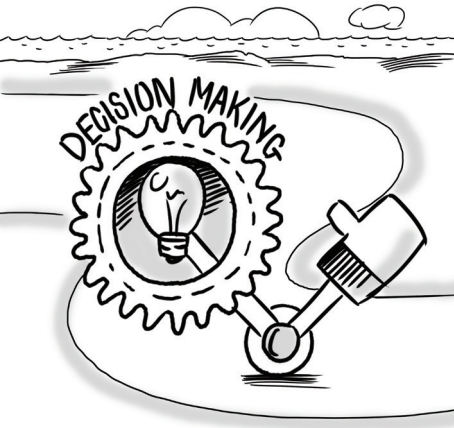
2. Process automation

In the past, data collection has often been an ad hoc and rather laborious process. This has required analysis and rework of the data to classify it for tax purposes. To improve that data landscape, businesses have worked to structure their data and record it in their financial and other systems and more recently, have adopted technologies such as robotic process automation to streamline the collection processes.

In the future, we believe this will change dramatically. Increasingly, the classification of transactions will be automated using, for example, machine learning applications which perform text-based search and apply preset rules, learning from previous analysis to predict the appropriate tax treatment.

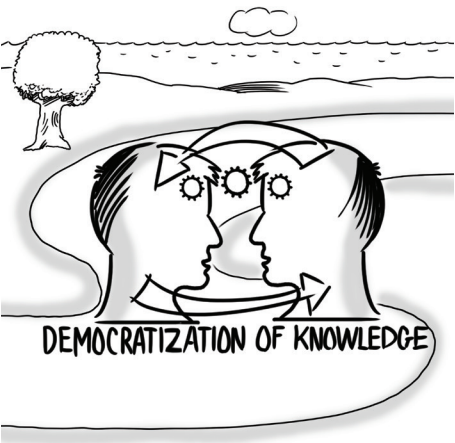
AI will do the job without needing to rely on upfront recording in structured accounting ledgers or after-the-event manual review and allocation in spreadsheets.

Combined with the increase in the extent of data to work with, these cognitive technologies will produce a much higher degree of accurate tax classification for all transactions and business events taxpayers undertake.



3. Decision making

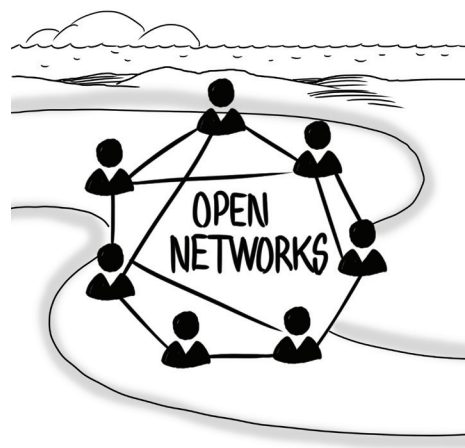
AI will have a similarly dramatic impact on the application of tax judgement. These same cognitive technologies improving data classification will enhance the professional's capabilities: machine learning, pattern matching, fuzzy logic and natural language processing will allow complex tax analysis to be undertaken by technology. These developments pose a significant opportunity to reduce time and effort, improve quality and accuracy and ultimately to raise the bar of what can be achieved.



4. Democratization of knowledge

Some 15 years ago, an in-house US tax team might have approached an adviser and asked what the tax rate was in, say, Belgium. The adviser would have looked it up and maybe checked with their local contacts in Belgium and then written back with the answer—for which they would have charged a time-based fee. Today this seems very unlikely. Unless there were some serious complications, the in-house tax team would have direct access to this information through a variety of online sources. This trend will continue and over the next five years, practitioners will get ever more sophisticated access to information and knowledge of the tax rules and regulations to which they are subject.

In addition, increasing transparency and access to information and knowledge will have implications for global tax policy and will change the interaction between authorities and taxpayers.



5. Open networks

Online work platforms have grown significantly in a number of areas of the economy. Labor platforms such as Guru.com with some 1.5 million people, Upwork.com and Mechanical Turk (mturk.com) are creating widespread networks of freelancers available for task based work. Tax teams are no longer entirely based on traditional or full-time employees. However, crowdsourcing or open talent models in the tax market seem further off when compared to the use in IT, graphic design and finance.

We believe this position will change over the next three-five years as three distinct developments in tax converge. New skills will need to be accessed around data, analytics and technology; the breaking down of tax processes into individual tasks through automation and standardization will highlight specific work routines that could be allocated to new workers not needing deep tax skills; and the evolution of the sharing and social economy will better connect potential supply and demand and open new resource pools keen to work in different, remote and virtual ways and within different reward models.

“Change is the law of life and those who look only to the past or present are certain to miss the future.”

John F Kennedy

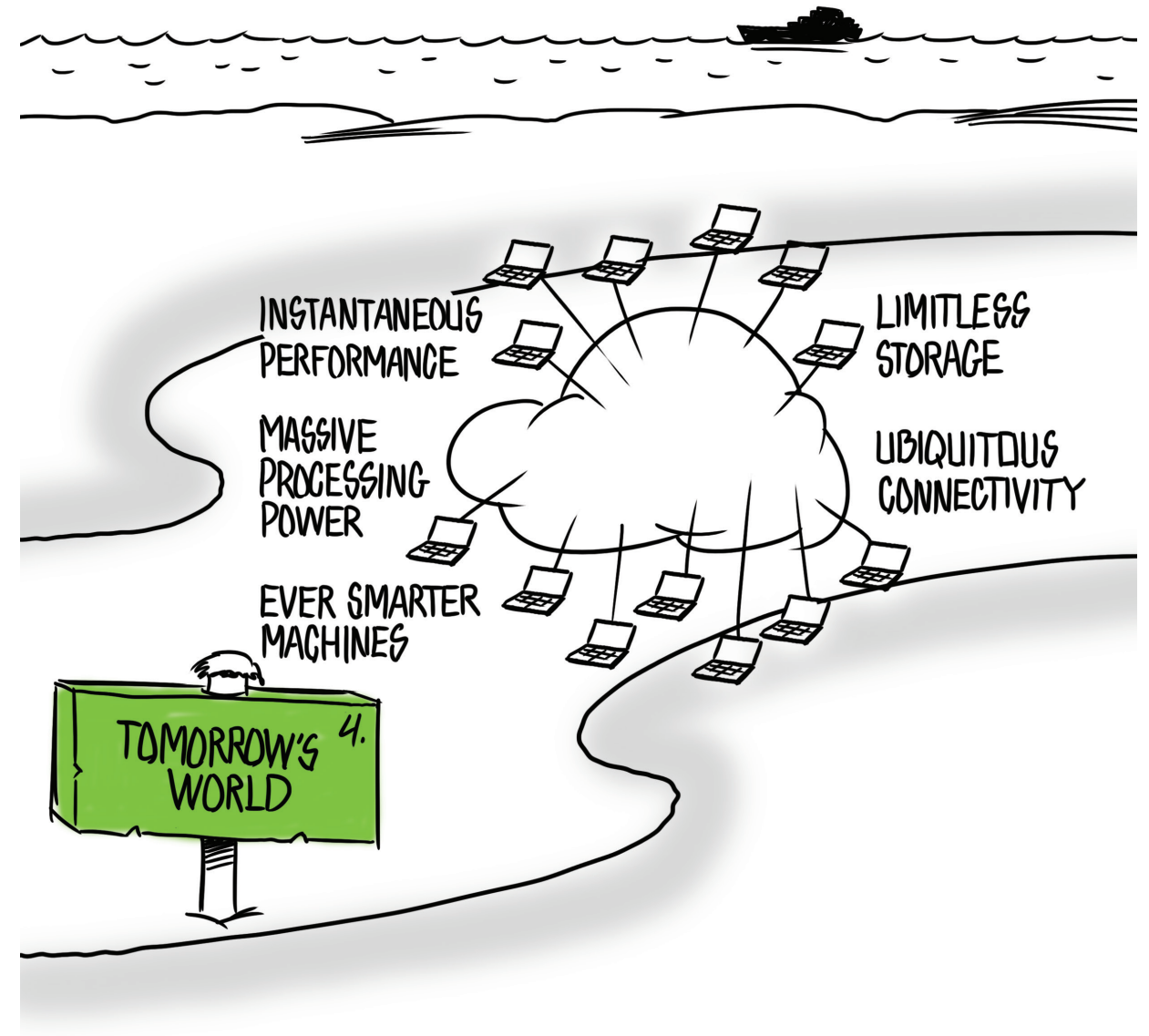
Tomorrow's world

These technology trends will have a major impact on our world with transformational change affecting both professional and personal lives. Admittedly, there are barriers and impediments that will slow progress such as concerns about privacy of data and security of systems, combined with the natural reticence and reluctance for people to adopt the material change involved. However, we believe that the competing objectives of transparency and confidentiality will settle and we will see the appropriate protection of data and regulatory restrictions on the use, storage and transfer of data suitable to meet the public interest in transparency and accountability. Meanwhile the future digital environment will advance and we expect:

- Significant improvement in the performance of technology leading to higher degrees of satisfaction and value
- Widespread access through mobile technologies offering potentially ubiquitous connectivity

- Memory capacity that will cease to be a limiting factor and will ultimately offer limitless storage for the vast data sets in use in a digital world
- Increases in machine performance and programming approaches which will offer massive processing power to be applied to the increasing availability of data
- Machines that are smarter and ever more capable

There remains a debate about the pace at which these trends will develop and how quickly they will affect the tax professions but there is no doubt that the markets are already moving; preparing for and indeed expecting to see progress and adoption of these technologies and this change.



Tomorrow's tax world

The combined effect of these wider technology developments will bring about a sea change in the way tax authorities and other regulators meet their objectives and manage their responsibilities. Revenue authorities already require large volumes of data to be filed. They have defined the structure and format in which data needs to be maintained and provided through, for example, filing schemas and standard audit files like SAF-T. In some territories tax authorities already require full accounts payable (AP) and receivable (AR) ledgers (with invoice level detail) and subsequent periodic trial balance financial ledgers to be submitted. This currently includes Brazil, Poland, France and Spain (where AP and AR ledger details are required to be provided within four days of the invoice issuance).

Within five years, we believe most tax authorities will be requiring fuller data sets to be filed or made available and in real-time, or close to it. Indeed they are likely to move beyond this. Rather than require the data to be filed and managing the transfer and storage of large volumes of data, they may simply mandate the algorithmic routines that they require to be run across data sets and then review the results. This will save the effort of data transfer and rely on taxpayers to maintain a digital record. This will also accelerate the time at which revenue authorities can review and investigate a client's information.

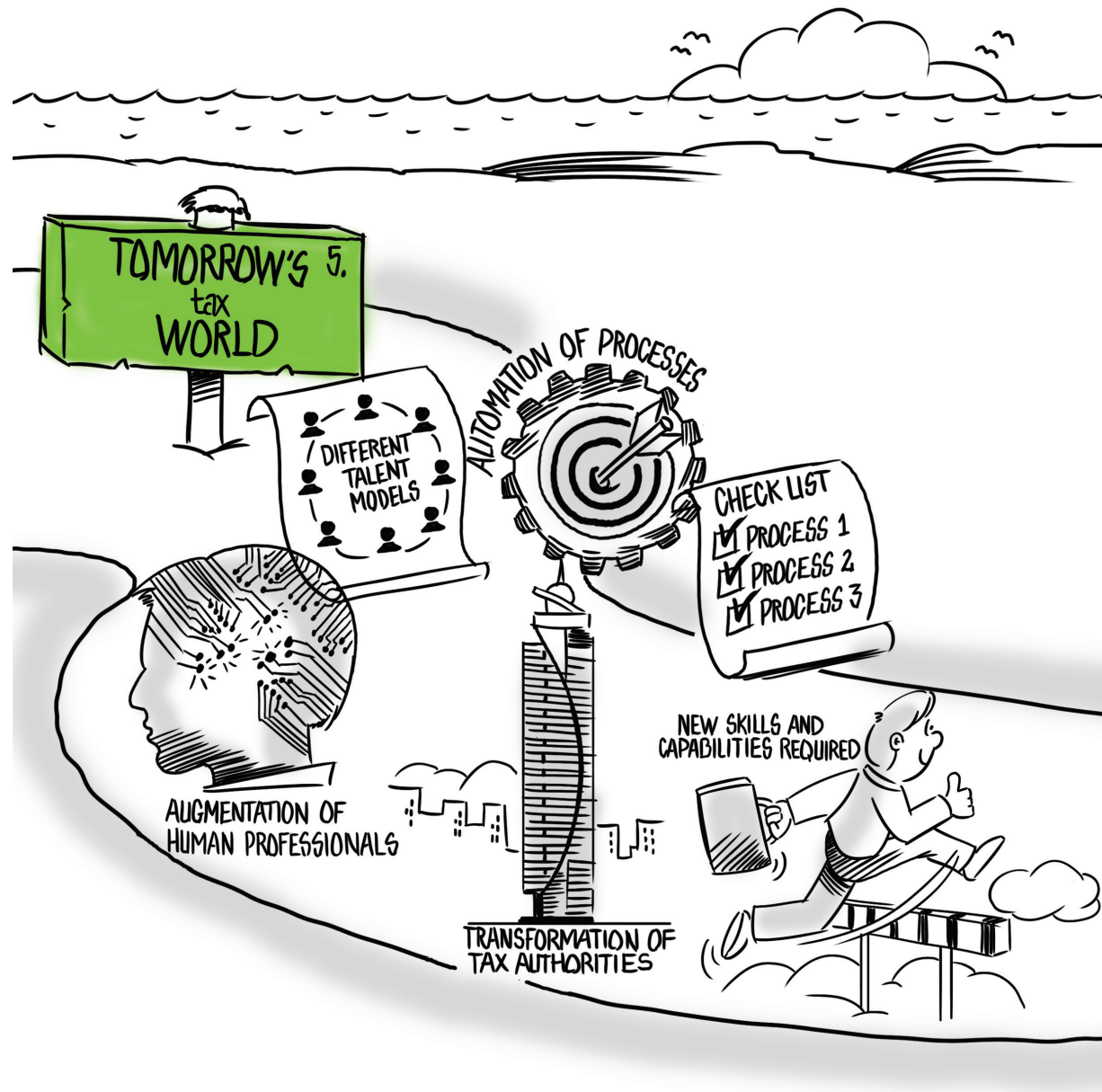
With these dramatic changes will come a significant impact on tax professionals' lives-how we work and what we do. The relationships and roles within our

organizations and with advisers will be different-expect to be doing more work earlier in the process as transactions are recorded or internal controls are put in place and then also in the later stages in areas of controversy and dispute resolution.

Consequently, the skills and capabilities required will be very different from today. We predict a blend of "automation and augmentation" impacting the workforce. Manual processes will be replaced by automation of data flows and the impact of robotic process automation. At the same time, professionals will be augmented by AI technologies embedded into the ways knowledge is accessed and experience used in order to apply it to business circumstances.

At Deloitte, we believe this will cause a hard look at processes and resource models to get work done. Tax processes will be decomposed into individual tasks and allocated to new workers not always needing deep tax skills. The evolution of the sharing and social economy will open up talent networks, crowd sourcing models and the so called "gig" economy to the tax marketplace.

In addition, the skills needed will be different. On one hand, everyone will need increased technology skills. On the other, professionals will also have to know how to combine technology with the very human skills still essential in any relationship with the rest of a business: Empathy, creativity, emotion and morality.

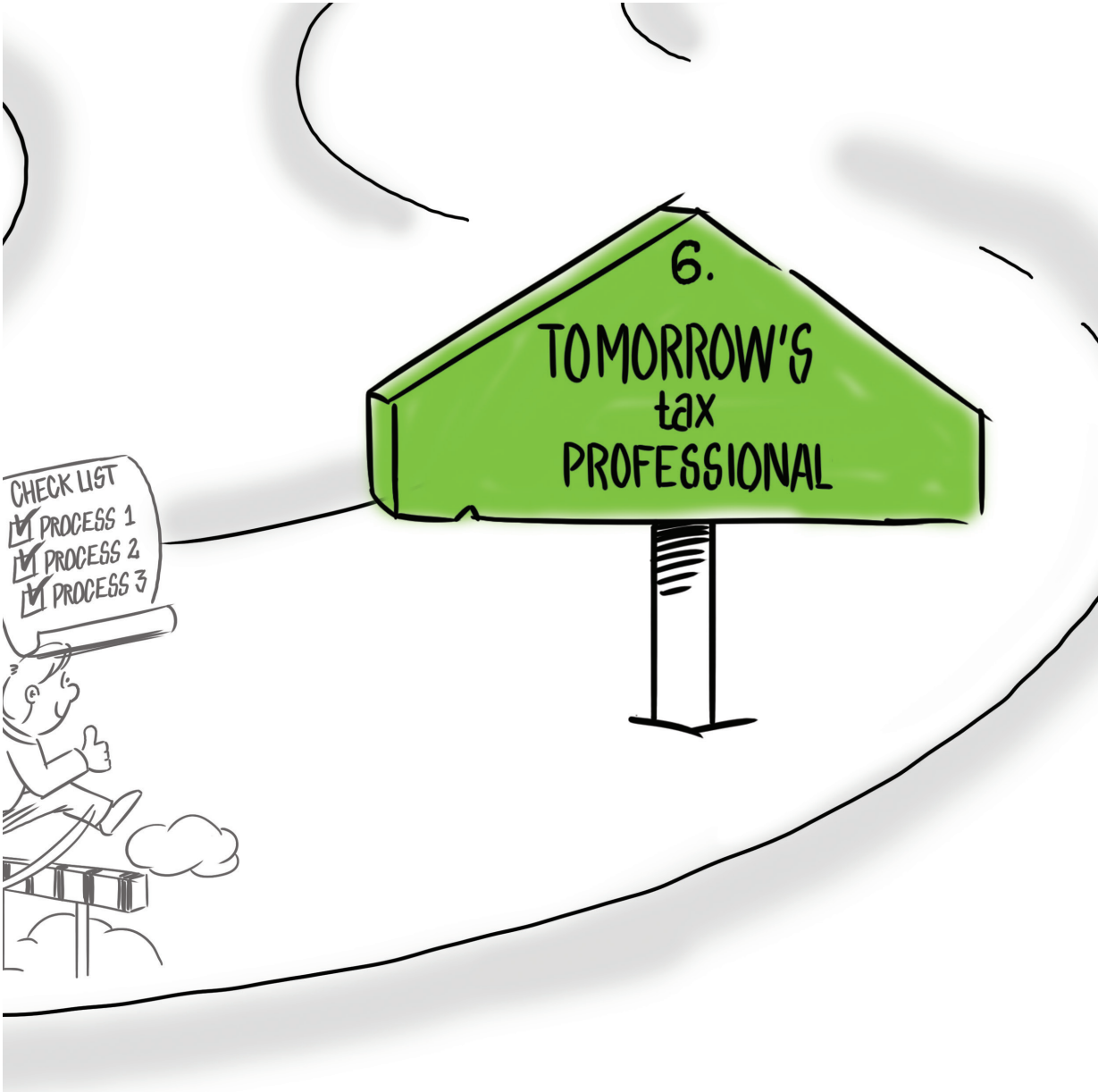


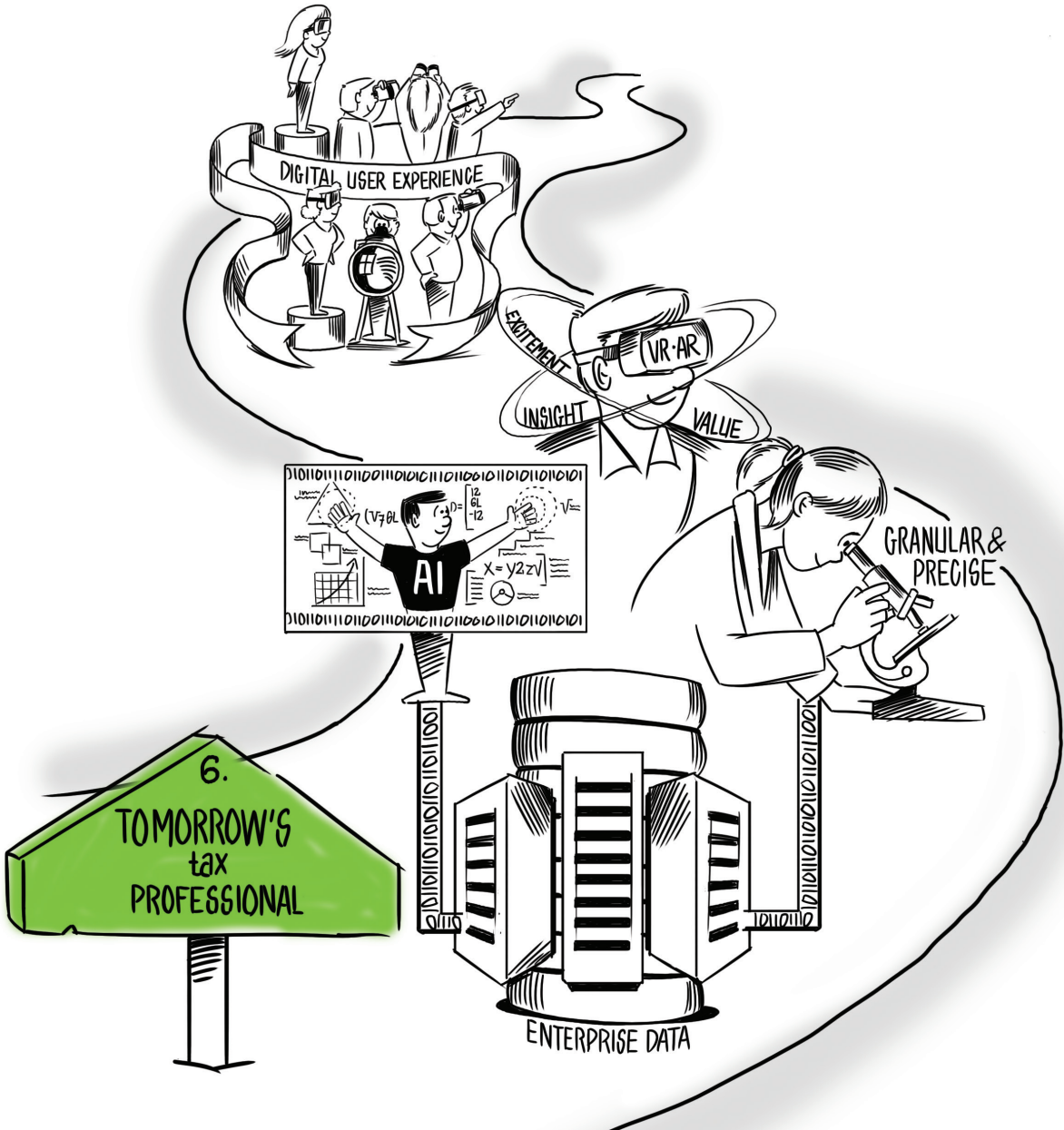
Tomorrow's tax professional

These developments pose a significant question: What will be the nature and volume of future work for professionals? When the impact of automation and augmentation increases, what will tomorrow's workforce do to replace the time currently spent on today's processes? Ultimately, what will be the right balance between human and machine?

While digital transformation will require major change and pose considerable challenges, we believe this future will also offer significant opportunity. It seems clear that revenue authorities will embrace technological change and use it to gain access to global data sets and thereby create more tax transparency. This will increase the demands on tax professionals coming from increased complexity, rapid change and heightened risk. However, by embracing the new technologies for handling and analyzing data, tax professionals will be able to improve compliance processes, enrich their tax analysis and provide greater understanding and value to their organizations.

When gauged across a five-year horizon, we believe that there will be more work to do in both managing the change and the consequence it provokes: The greater accuracy that the new technologies will offer and require for both tax processes. And the nature of that work will be different. The digital transformation will reduce time spent processing, improve analytical capabilities and create significant new opportunities for businesses to manage their tax obligations.





It's hard to be precise about what the tax digital future will be, but certain characteristics seem clear. As a society and as professionals:

1. We will be data-driven, leading to a more holistic approach at the enterprise level. We will manage that data better. We will harness its power to act faster, provide richer insights and create business value for the organizations we serve.
2. Big data will lead to greater granularity, precision and accuracy. We will work with integrated data sets including all aspects of the underlying transactions—both the structured and unstructured data elements. This will allow enhanced analysis at the transaction level of detail rather than relying on the sampling and estimation we may have been forced to use in the past.
3. Algorithms will increasingly be the way we apply our expertise, our knowledge and experience. And we will need to apply that expertise earlier in processes as real-time reporting takes hold and accelerates the times at which data is submitted.
4. Robots will take more of the strain. Robotic process automation technologies will evolve, become easier and cheaper to deploy, and as a result will become ubiquitous tools for professionals to use to streamline processes. In addition, they will become smarter, infused with AI, and therefore have greater impact.
5. The user experience will be more digital. We will consume information in a more personalized way through video and other mixed reality media. At the moment, work in systems such as email involves interacting through a keyboard. In the future, we can expect much more use of natural language processing, talking to virtual agents and connecting through online forums.

In summary

Deloitte believes that the tax professional will continue to be deluged with a significant pace of change and associated risk as we continue into the digital future. It is hard to be confident of what precisely that future holds but we believe you can discern today the defining digital trends, anticipate the impact that they will have and set plans accordingly.

That said, we also know that in five years' time, we will be working with technologies that have yet to be invented, which means we must continue to monitor developments and remain agile-to experiment and adopt new technologies.

And in that regard, it is perhaps worth keeping Abraham Lincoln's advice in mind: **'The best way to predict your future is to create it.'**



“We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don't let yourself be lulled into inaction.”

Bill Gates
Microsoft



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, ("DTTL"), its network of member firms, and their related entities. DTTL (also referred to as "Deloitte Global") and each of its member firms are legally separate and independent entities. DTTL does not provide services to clients. Please see www.deloitte.com/about to learn more.

Deloitte is a leading global provider of audit and assurance, consulting, financial advisory, risk advisory, tax and related services. Our network of member firms in more than 150 countries and territories serves four out of five Fortune Global 500® companies. Learn how Deloitte's approximately 264,000 people make an impact that matters at www.deloitte.com.

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively, the "Deloitte network") is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No entity in the Deloitte network shall be responsible for any loss whatsoever sustained by any person who relies on this communication.

© 2018. For information, contact Deloitte Touche Tohmatsu Limited.