

ARTIFICIAL INTELLIGENCE TOMORROW

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# WHAT TO EXPECT FROM AI IN THE NEAR FUTURE

Discover what AI can do for  
you and your business.

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**stradigi** AI

## Introduction

AI is gaining momentum, fast. With incredible advancements in technology taking place by the second, it's clear that the role AI will play in our immediate future will transform the way we live, work, and play.

We've only just scratched the surface when it comes to what AI can actually do for us personally, professionally, and even for good. From medical breakthroughs, to a greener transport network, to regulating our energy consumption, AI's disruption across almost every vertical of society isn't showing any signs of slowing down.

**WHAT'S IN STORE FOR THE NEXT FEW YEARS? HOW WILL AI CONTINUE TO INFLUENCE OUR DAY-TO-DAY LIVING? WHAT WE SEE IS NOTHING SHORT OF REVOLUTIONARY.**

AI FOR YOUR TOMORROW

01

## Looking After Your Mental Wellbeing

In the past few years, mental illness diagnoses have seen a dramatic increase. 1 in 5 North Americans currently live with a mental illness condition — that's over 48 million people, 56% of whom do not receive any treatment<sup>1</sup>. Lack of access to a diagnosis and treatment may account for a large proportion of this number, but there also still exists a stigma surrounding mental illnesses, particularly in men, which is preventing more and more people from seeking help.

Researchers at The University of Southern California are working on a “virtual therapist” technology right now. The “therapist” can mimic the actions of a doctor in a highly personalized, human way, from anywhere. This type of technology has the potential to de-stigmatize mental health care, therefore increasing accessibility to those who feel too ashamed to seek help.

What does this mean for the future of personal wellbeing and mental health? Virtual therapists with advanced reactivity and lifelikeness could soon be available via your smartphone. It would mean having a mental health professional in your backpocket, keeping tabs on your day-to-day wellness. This is groundbreaking when we consider the substantial amount of people who, at present, do not receive any kind of treatment for their condition, and could be completely lifechanging for those struggling on their own.

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<sup>1</sup>. [mentalhealthamerica.net/issues/state-mental-health-america-2018](https://www.mentalhealthamerica.net/issues/state-mental-health-america-2018)



## Communicating Without Borders

Cities are becoming more continental, people are travelling more than ever, and cultures and languages are beginning to mix. Once restricted by travel limitations and language barriers, the movement of people all over the globe in the 21st century has seen a surge in the translation industry. Nowadays, all you need to converse in a foreign country is a smart device — no more travelling with your pocket dictionary.

There are a plethora of translation apps on the market which have come a long way since their inception as Machine Translators, capable of word for word translation only. With developments in Natural Language Processing (NLP) and Deep Learning, AI translators can perform semantic analysis and contextualize words and meaning in a matter of seconds to produce a high-quality translation that could pass for the work of a human translator. What's even more incredible, is that in the not so distant future, we won't even need translation apps at all — language will be streamed from one into another instantaneously, without ever having to reach for your phone.

Several innovative companies are paving the way with real-time AI translation devices as we speak. With an aim to eliminate language barriers through technology, new earbuds capable of translating up to 15 different languages in real-time are hitting the shelves in some parts of the world. While current models are typically controlled from a mobile app where the languages are pre-selected before translation happens, in the coming years with further advancements in AI, wearable translation devices that can detect and translate any language in a fraction of a second will be on the market. The more mainstream these translation devices become, the more accessible they will be in the future for all.

**THE FUTURE OF COMMUNICATION? INTELLIGENT, INSTANT, AND INTERNATIONAL. LANGUAGE BARRIERS WILL BE A THING OF THE PAST.**

/ YOUR NEXT PARTNER?  
ARTIFICIAL INTELLIGENCE



AI's popularity for business owners is on the upswing. Early adopters are harvesting the returns on their savvy investment, while the mass majority are realizing that they need to act fast; technology waits for no one. But what could your business look like in the next decade if you take the plunge today into an AI-enhanced business model?

## AI for Advertising — The Fasttrack to Personalized Marketing

As of 2018, 43% of marketers had already adopted AI into their campaign strategies.<sup>2</sup> Capable of targeting customers with a new degree of personalization and generating curated digital content, AI is proving to be worth its weight in gold when it comes to how businesses are reaching and interacting with their consumers thanks to the enormous amounts of data that is currently being collected and analyzed.

AI advertising of tomorrow will capitalize on this data even further. The next era of smart segmentation currently catching the attention of forward thinking marketers is called Micro-Segmentation, where traditional customer segmentation is taken to a new level of scrutiny. Each micro consumer segment such as geographic, demographic, psychographic, and behavioural is typically made up of a very small number of subjects, granting marketers greater insight to their precise spending behaviour.

But digital analytics that have been traditionally used to process data are not equipped with the capabilities required to layer hundreds and thousands of data points necessary for micro-segmentation. That's where AI comes in — collecting this data and feeding it to AI-powered prediction systems that can map future behaviours means even the least data centric marketers can deliver more targeted, personalized marketing campaigns.

Gartner predicts that organizations that excel in personalization will soon outsell companies that don't by 20%.<sup>3</sup> If you want to prepare for the future of personalized digital experiences with your customers, it's time to give your advertising an AI overhaul.

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<sup>2</sup>. [forbes.com/sites/louiscolombus/2018/05/14/77-of-marketing-execs-see-ai-adoption-growing-this-year/#8c9d3df7ef81](https://forbes.com/sites/louiscolombus/2018/05/14/77-of-marketing-execs-see-ai-adoption-growing-this-year/#8c9d3df7ef81)

<sup>3</sup>. [blogs.gartner.com/martin-kihn/building-segments-for-digital-marketing/](https://blogs.gartner.com/martin-kihn/building-segments-for-digital-marketing/)

## Simplified, Smart Business Decisions

When it comes to making decisions, humans can rarely be completely objective. The way we process rational and logic is subjective — there's no one size fits all. This also applies to decisions taken in the workplace; humans are not always the best judges at assessing risk. And in such a competitive landscape, knowing when to take risks and when not to is the crux of any successful business venture.

Today most companies perform their business forecasting manually. This can be incredibly time consuming as well as lead to mixed interpretations of the same data — manual forecasting generally varies between 50-80% accuracy,<sup>4</sup> and if you're consistently hitting 50%, you're in trouble.

But imagine a future where all of the strategic decisions that really mattered for your business were taken under the guidance of concrete metrics and accurate forecasting? That's what AI is currently bringing to the table and what will almost certainly be the norm for businesses in the coming years.

Algorithms are currently being trained to automate the forecasting process, decode relevant data from internal and external sources, and to continue autonomous learning by analyzing the variance between previous projections and actual numbers. Until recently, this was tested only in controlled labs, but with advancements in AI taking place at such an incredible rate, forecasting systems — also known as Prediction Systems — are now being deployed on a large scale. For the businesses of tomorrow, AI forecasting will be a staple and vital component.

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<sup>4</sup>. [genpact.com/insight/point-of-view/the-right-ai-can-hone-revenue-forecasting-for-better-business-decision](https://genpact.com/insight/point-of-view/the-right-ai-can-hone-revenue-forecasting-for-better-business-decision)



/ AI FOR A BETTER TOMORROW

03

**THE WORLD OF TOMORROW DRIVEN BY INCREDIBLE FEATS OF AI ENGINEERING IS SOMETHING TO GET EXCITED ABOUT. IN FACT, IF THINGS CONTINUE TO PROGRESS AT SUCH A RAPID PACE, THE NEXT FEW YEARS COULD PROVE REVOLUTIONARY.**

## Paving The Way For A Sustainable Future

According to a report by the UN Food and Agricultural Organisation (FAO), the global population is expected to reach 8.6 billion in 2030 — that's an extra 1.3 billion mouths to feed in just 10 years. What's more, the UN predicts that food production must increase by 50% by 2025 in order to provide for the increasing population.<sup>5</sup> With the current state of the world's depleting resources, the agricultural industry is undergoing a period of enormous change driven by technological advances to ensure the future of farming is sustainable, before it's too late.

Agricultural robots are being tested and deployed in some areas to complete every manner of tasks from automation, to crop harvesting, to weed control. Early innovators in this space have been developing devices used to localize weed spraying on plants through leveraging computer vision, image recognition, and precision technology. The devices are able to accurately locate the presence of weeds on crops and use herbicide only on the infected areas, negating the need to blanket spray an entire field and risk destroying crops in the process.

The result for farmers? Reducing the amount of chemicals used on crops by up to 90%.<sup>6</sup> In the next few years, this technology is expected to be deployed across the globe, helping to reduce the 1 billion pounds of pesticides currently being used in the US alone.<sup>7</sup>

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5. [fao.org/state-of-food-security-nutrition/en/](https://www.fao.org/state-of-food-security-nutrition/en/)

6. [sustainableamerica.org/blog/3-ways-ai-is-working-to-improve-agriculture/](https://www.sustainableamerica.org/blog/3-ways-ai-is-working-to-improve-agriculture/)

7. [ncbi.nlm.nih.gov/pmc/articles/PMC2946087/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2946087/)

## Smart Energy

From smart devices, to smart cars, to smart homes, our relationship with energy is beginning to change as we realize the urgency of taking small steps towards a sustainable, greener future. Forward-thinking companies are testing out a new approach to how we use energy with the help of AI technology in order to reduce the energy consumption of tomorrow — and it's producing real results.

Self-programming thermostats are the latest AI-driven smart home devices to be deployed on a large scale. Using deep learning and predictive systems to monitor and adapt to user behaviour, once installed in your home the thermostat will autonomously record and learn your behaviour — when you usually come home, which rooms you're typically using and at what time, and will adjust your energy consumption in accordance with the data collected.

Capable of reducing home energy bills by 10-12%<sup>8</sup> on average, imagine what this could mean for the future of global energy consumption if all new homes were required to have energy efficient technology installed — we'd be making a substantial dent in the global energy crisis.

Perhaps even more impressive, the idea of complete energy autonomy isn't as far away as we might imagine. Picture this — using solar panels to power your home, using your home to power your electric vehicle, and using your EV as a backup generator for your smart home. Having complete control over the energy movement between your devices using one AI-powered hub is the future of individual energy management, and it's just around the corner.

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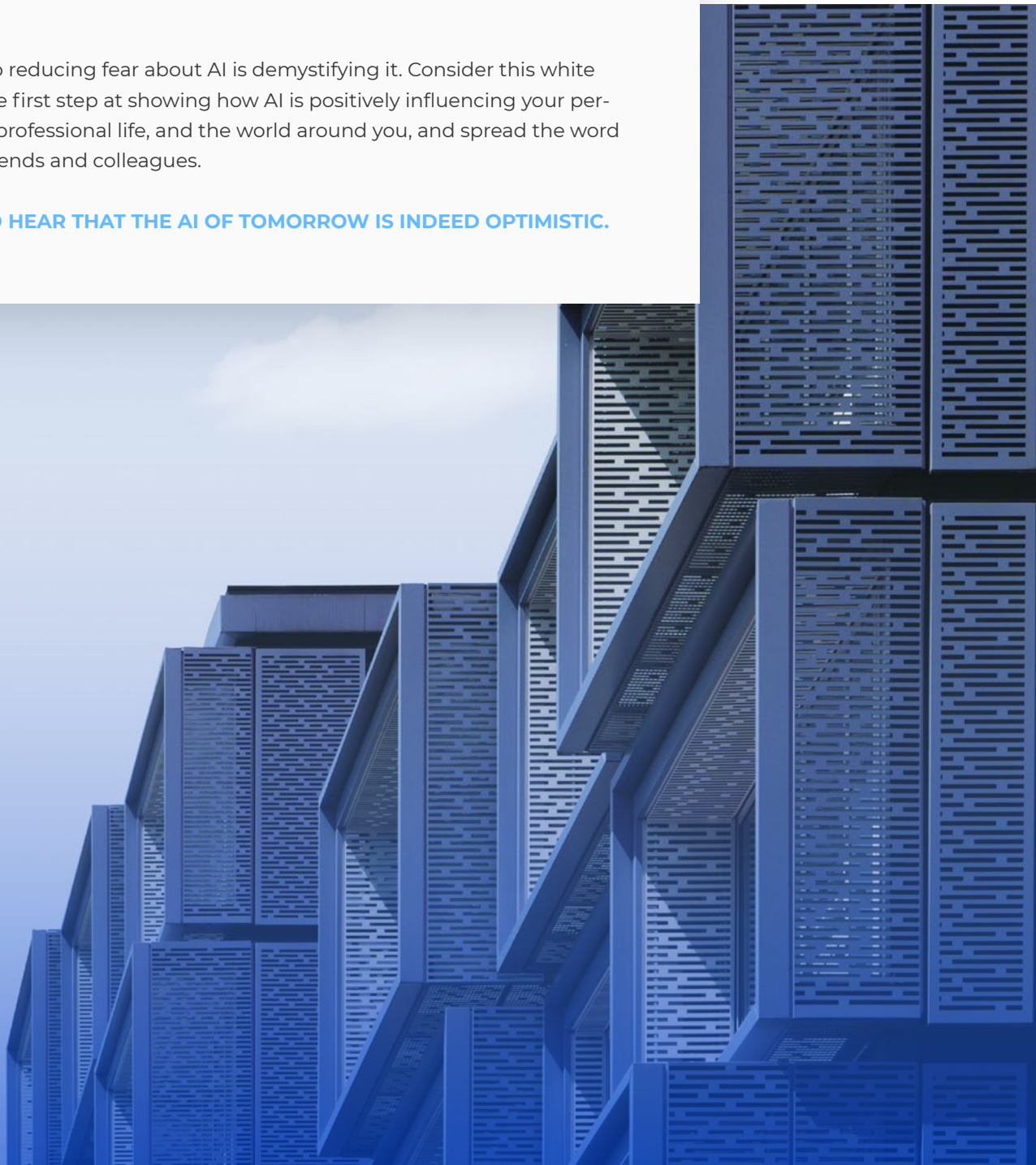
<sup>8</sup>. [nest.com/uk/thermostats/nest-learning-thermostat/overview/](https://nest.com/uk/thermostats/nest-learning-thermostat/overview/)

## Conclusion

We know that change can be scary. We also know that AI is impacting multiple facets of our lives, constantly. But when you look at the potential that AI has to create a “tomorrow” where healthcare is more accessible, the world is greener, and humans can spend less time working and more time living, the narrative that AI is taking over begins to shift. Instead, we see a brighter, safer, more equitable future.

The first step to reducing fear about AI is demystifying it. Consider this white paper series the first step at showing how AI is positively influencing your personal life, your professional life, and the world around you, and spread the word among your friends and colleagues.

**THEY NEED TO HEAR THAT THE AI OF TOMORROW IS INDEED OPTIMISTIC.**



## Our Solutions and Products

Stradigi AI is a leading artificial intelligence solutions provider, powered by one of Canada's largest applied research labs. Our team of seasoned research scientists excel at understanding and analyzing your business needs in order to develop, improve, combine, and implement the most advanced AI technologies that will have a positive impact on your business.

### THE STRADIGI AI PLATFORM

Our platform provides the flexibility and scalability of an evolving solution to meet your industry and organization specific needs. Our research, solutions and product teams work constantly to improve our algorithms to keep your business running on the cutting edge of technology.

### EXPERTISES

- ▶ Recommender Systems
- ▶ Prediction Systems
- ▶ Anomaly Detection
- ▶ Image and Video Understanding
- ▶ Natural Language Understanding
- ▶ Strategic Decision Making

### CORE BENEFITS

- ▶ Speed — deliver the benefits of AI in weeks
- ▶ Low-risk — project assessment and data analysis process to minimize risk
- ▶ State of the Art — advanced AI algorithms optimized by Automated Machine Learning
- ▶ Data Security — compliant with the latest security standards