sportradar

"z": 1.25

"y": 1.32

"x": 1.25

SPORTRADAR: TACKLING DATA FOR THE KNOWLEDGE ECONOMY

June 2022

CONTENTS

1 | INTRODUCTION

Letter from Carsten Koerl

Carsten Koerl, CEO of Sportradar, has founded and led two multibillion-dollar, publicly listed tech unicorns in his career. His second, Sportradar, launched on the Nasdaq stock exchange for almost $8 billion in September 2021. Here, he discusses the importance of data to businesses in the mid-21st Century.

In business today, with the pace of technological change being what it is, you have to stay curious. That means opening your eyes to every development out there, adapting yourself and your business, all the time.

Curiosity is key because technology is changing consumer demands in a way that impacts on all industries. Now, accelerating change more than ever, is artificial intelligence. It is the mega trend of our times.

Every single business is somehow influenced by the AI trend and learning how to harness it is business critical, for everyone. It is crystal clear that the more data you have, the more alpha you will generate. The one who has the most data has the most potential to generate alpha.

At Sportradar everything we do is aimed at maximising this AI opportunity. We have systems in place to analyse all the data at sports events all over the world, which we then apply across our verticals to expand our product offering. We have automated processes to collect granular data and we have network functions to get yet more information from it, generating targeted insights.

With computer vision we can harvest more data points than with a live human.

Super-fast, super-deep and contextualised data are the key ingredients to unlocking future commercial benefit. Whether that be for the punter looking for competitive advantage, the media company wanting to show in-depth analysis as to the reasons a team won, or for the fans themselves who want to understand not only the 'what' they have seen but also, more importantly, the 'why'.

Our vision is to use technology to understand sport on a much more detailed, player-related level. Indeed, in any business, the more data you have, the better you can understand your market. There are fantastic examples of this in online retail, and the opportunity to collect and analyse the data is an enormous benefit to businesses in that sector. And that opportunity is open to everyone, whatever industry they are in. This is very exciting but, at the same time, those that are slow to adapt may be overtaken by the curious, whose eyes are always open to new developments.

At Sportradar we are the global leaders for data-led applications in analytics, risk management and consumer engagement for sport, areas our AI activity is aimed at enhancing. This is why we have developed our new report, Tackling Data for the Knowledge Economy. Here we offer you our insights in how to develop, manage and utilise data for your business.

With three deep-dive case studies brought to you by our AI-programme leads, I hope you find this paper enjoyable and helpful in your planning around how to make the most of the data you hold, and the opportunities that exploiting it could open up for you.

Thank you for your curiosity!

Carsten Koerl,
Chief Executive Officer

INNOVATIVE & TECHNOLOGY DRIVEN

2001 FOUNDED

890,000+ MATCHES COVERED PER YEAR

92 DIFFERENT SPORTS

750,000+ MATCHES MONITORED TROUGH UFDS

1,700+ CUSTOMERS

33 OFFICES

20 COUNTRIES

2,950+ EMPLOYEES

2 | THE DATA PLAY

Data have never been more abundant or more useful. Now, the new technologies that have emerged to capture and manipulate those data are bringing fresh perspectives to all aspects of life.

Artificial intelligence, computer vision, deep learning – with its neural networks and cognitive and cloud computing – allow us to read, comprehend and act on the previously unseen messages within all our activity and interactions. With the enhanced processing power of today's semiconductors and the extension of wireless and 5G technologies, this will become possible at ever-increasing speeds, anywhere in the world.

The opportunity all this presents for any business, whether in its customer-service centres, its logistics and supply chains, its sales and marketing operations, its risk and security analysis, its R&D activities, even its HR/personnel management – literally anything it does – is boundless. It is not too dramatic to say that the ability to unlock the data all around us to deliver actionable insights could be what separates success from obsolescence in the mid-21st Century Knowledge Economy.

40K THOUSAND the estimated number of Google searches every second, according to internetlivestats.com

Google

THE DATA PLAY – BY THE NUMBRS

181 TRIL

The estimated number of gigabytes of data the world will produce in 2025, according to the International Data Corporation, a consultancey
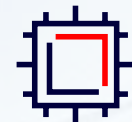
IDC

235.7 BIL

the estimated amount in gigabytes of global monthly internet traffic in 2021, according to Cisco

66%

the proportion of the global population using the internet by 2023, according to Cisco

4.8

the amount in zettabytes of internet traffic by 2025, according to Cisco

CISCO

91%

the proportion of retail brands using two or more social-media channels in 2019, according to Brandwatch

Brandwatch

6,000

the estimated number of tweets sent out on Twitter every second, according to internetlivestats.com

internet live stats

200 M

the number of businesses on Facebook, according to SocialPilot, an analytics firm. The current number of active monthly users of Facebook, according to SocialPilot is **2.91 Bil**

100 M

the number of photos uploaded to Instagram every day, according to SocialPilot

SOCIALPILOT

300 HOURS

300 hours – the amount of video uploaded to YouTube every minute, according to Brandwatch

1 BIL HOURS

the hours of YouTube video watched every day in 2020, more than Netflix and Facebook video combined, according to Brandwatch

Brandwatch

3%

the data and AI-driven reduction in global CO2 emissions from the industrial and commercial sectors by 2024, according to the IDC

IDC

3 | DATA COMING TO LIFE

Artificial intelligence is improving on decision-making in nearly every walk of life, as Andrej Bratko, Sportradar's Head of Technology for business intelligence and artificial intelligence, explains

Andrej Bratko,
Head of Technology
for BI & AI

It was his own experience of life as a junior officer in the Israel Defense Forces that led the Nobel prize winning economist Daniel Kahneman to conclude how human judgement is generally pretty unreliable. He found the results of interviews being given to judge the aptitude of officer cadets and their suitability for leadership bore scant correlation with their true potential.

Neither is this tale the sole preserve of army human-resources departments. Michael Lewis's celebrated book Moneyball exposed the flaws in scouting networks for baseball. (Without wishing to issue any spoilers, it turns out "good face, good jaw" is not a dependable indicator of future home runs hit.)

As Billy Beane, the general manager of the Oakland A's who is the central character of the book – and played by Brad Pitt in its six-time Oscar-nominated movie – recognises, the secret to making accurate predictions is not intuition, but information. Data. In baseball in 2002, the season of Moneyball, this was largely limited to what statistical parameters Beane's A's drew from the influential pamphlets of the father of "sabermetrics", Bill James.

Impact

Now, though, the application of predictive modelling has transformed what is possible through machine learning, cloud computing, deep data analysis, neural networks and other forms of artificial intelligence. These methods have been applied to everything from meteorology to materials science, through financial markets to pharmaceuticals and from travel to retail. In 2018 a McKinsey **study**[1]:

1.   https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-
      applications-and-value-of-deep-learning#part3

estimated the potential annual impact of all analytical techniques at between $9.5 trillion to $15.4 trillion.

Sportradar has certainly embraced the opportunity with open arms. Much more than a simple data gatherer, it uses AI across all its verticals. This delivers improvements in – among other activities – its modelling for betting-market odds, its sportsbook risk-management services, its responsible targeting of advertisements, its anticorruption services and its core data-gathering activities through AI-driven efficiency improvements and automation. And, yes, in its coaching-and-scouting support.

Andrej Bratko, Sportradar's Head of Technology for business intelligence and artificial intelligence, explains how his team derives its insights. He identifies an intimate understanding of the data, its context and its plasticity as being essential to any successful AI programme.

"Naturally it depends on the project," he says. "But if for example you look at the risk-management area and our managed-trading services, we know how for that we want to optimise turnover, profit margins, decrease validation delays, increase acceptance rates and so on. Our team of data scientists understand the product and the data really well, they live and breathe it. They have a very good idea of how to optimise it further.

"We always approach a problem by looking for optimisations we can quantify – and measure resulting improvements. We are not necessarily looking for insights per se, but often we discover new insights as a by-product of our work."

Development

At the Wimbledon championships in 2020, Sportradar introduced computer vision to track tennis events [see Section 4 of this report for more on the development of computer vision]. It has routinely been doing this ever since. The data generated have, for example, been fed into machine-learning models with the aim of improving betting odds.

Making these AI-led enhancements to predictive-modelling capabilities is not the sole preserve of a sports-, media- and gambling-services firm. Indeed, it is not even restricted to technology companies. The beauty of deep-data mining is such that, if the dataset is good enough and the AI is programmed effectively, then valuable creative insights will likely emerge organically, even without searching for them.

"We find a lot of interesting things," says Bratko. "For instance in tennis, the player that stands closer to the net tends to be the dominating player with more points won. You can also measure the average left/right axis distance run – there's a negative correlation to winning points here."

Live Match Tracker Product
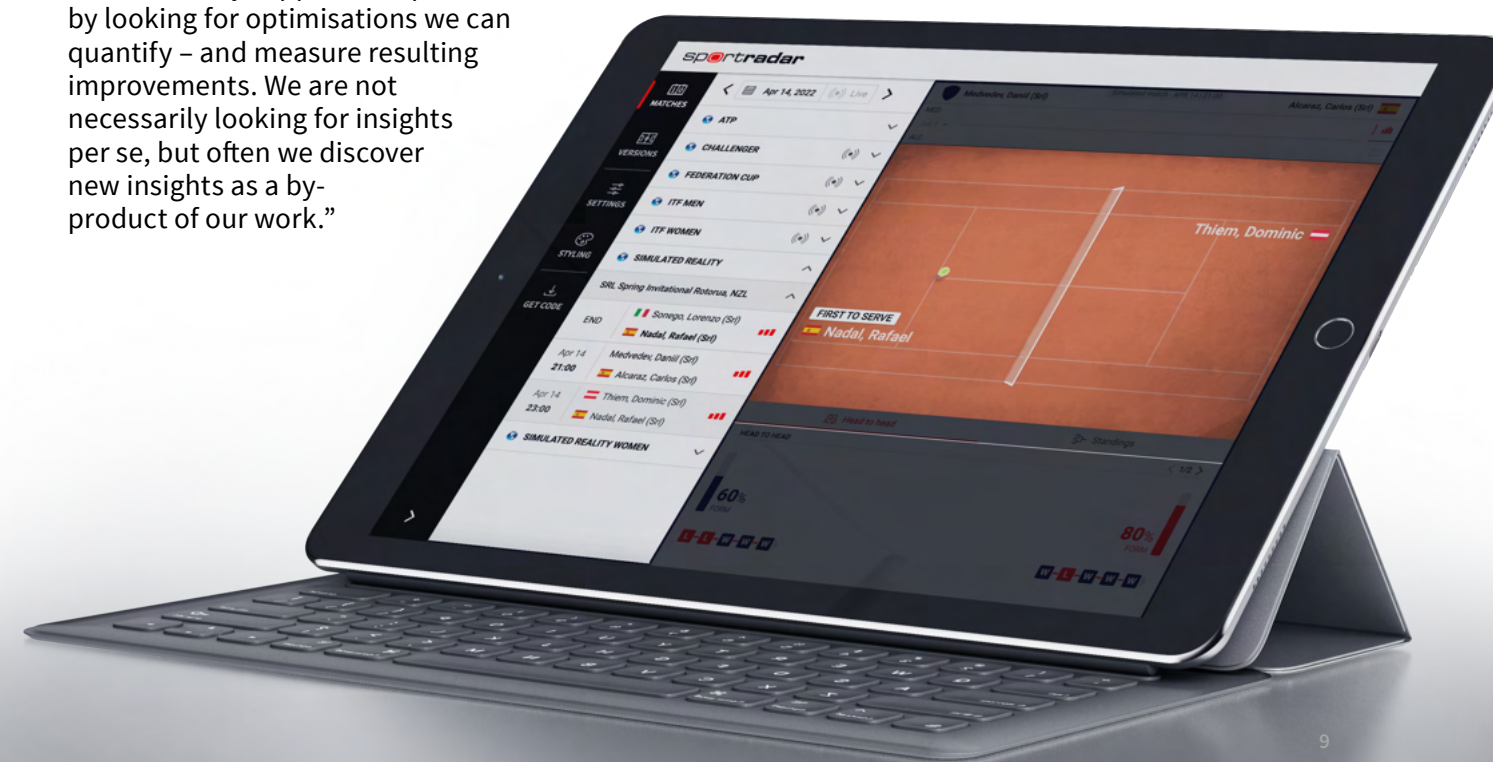
"We find a lot of interesting things," says Bratko. **"For instance, the player that tends to stand closer to the net tends to be the dominating player with more points won. You can also measure the average left/right axis distance run – there's a negative correlation to winning points here."**

"Rally lengths – the players that have shorter rallies on their service tend to win more games. The point is that through the development and subsequent analysis of predictive models, we have ended up with a bunch of meaningful, interpretable statistics we can derive from the tracking data and quantitatively measure the correlation between them and winning the game.

"We can analyse how they are linked to who wins in different match situations. To aid interpretability, we look for informative statistics that are also uncorrelated to each other. This is how we as data scientists are able to look at it.

"This is not just about tennis either. We are using machine learning to detect vulnerabilities in our betting odds and suggest possible improvements to our odds models across different sports. One we found in American football was that in the first quarter, if a team is calling a lot of timeouts you should bet against them.

"We asked an expert why this was. They pointed out that American football is a very strategic game and if they're calling lots of timeouts then they've got their strategy wrong. The AI picked that up as a significant signal. Sometimes we stumble upon these interesting, marketable insights."

Powerful

It is tempting to think of the ways in which the application of AI can produce similar insights from data in other industries. If it is possible to model what are the optimal moves to play on a chessboard, as IBM's Deep Blue computer did more than 20 years ago, then it is equally possible for powerful computers to calculate the best sequence of traffic lights to improve traffic flow, or the most appropriate ingredients in a bowl of food for a particular age and breed of dog.

Whatever the goal, the approach for each undertaking is similar. Bratko offers his strategies for any business undertaking an AI development programme for the first time, with three central recommendations.

"The first thing to remember is that data are the fuel for machine learning and AI," he says. "These days every company will need a big-data platform. That is a must have. It makes them go much faster than having a data scientist who gets a one-off export of the data.

"Modelling is an iterative and creative process and you want your data scientists to be able to freely explore and experiment with the use of any available data. A lot of the time the value in AI comes from combining data from different sources. This becomes very difficult without some form of a data lake in place."

Magical

Bratko's second recommendation involves managing the expectations of those who might commission the AI work programme. Because, although the results can often be magical, AI is not magic. The outcome of any data-modelling endeavour is only ever as strong as the data that feeds it, and as clear as the targets set.

"It's really important to educate the product managers or product owners about what can and what can't be done with AI," he says. "What we see is that everyone wants to use AI. It's almost politically incorrect if you don't!

"But for a lot of product owners, they would benefit from knowing or having some training in machine learning to know what are the use cases where there is enough data, where there is a measurable goal you can directly optimise for with AI. A lot of the time though, people will set vague goals – something like 'user engagement' or 'AI-powered visualisations'. That's a hard goal to work with, something as high level as that."

Complements

The third is to effect a constant process of appraisal of the outputs and of their potential impact on processes and products. But this can also have its drawbacks. Headlines about automation putting people out of work have been widespread and might impact adoption of AI technologies in business. The evidence that AI really is destroying jobs is, though, thin.

Yale University's Daisuke Adachi recently studied the impacts of robotics in Japanese manufacturing for 40 years from 1978 and discovered that increasing robotics capacity by one unit for every 1,000 workers in fact raised the firm's employment by fully 2.2%. "Robots and labour are gross complements," Adachi wrote.

Other studies have made similar findings and Bratko urges courage. "Lots of companies do AI that never really leaves the lab," he says. "You hire a team of data scientists who build a model but it doesn't make its way into a product in the end. It's important to do that as quickly as possible. Also: measure. It's really good to have that feedback loop as quickly as possible and to iterate and improve over time.

"A lot of people are scared of letting it run. You need to find ways of getting it into production gradually. In delicate situations, we deploy the AI as a decision-support system first. As confidence builds up we let it make non-critical decisions autonomously. Then you increase the level of automation as confidence grows. "AI is an assistant to help people be better at their job. Automation of repetitive, time-consuming tasks with AI lets people focus more on higher-level decision-making and creative work instead. Done properly, AI can grow the business much faster and that still means growing the team. In our experience it hasn't led to job losses. No one has lost their job."
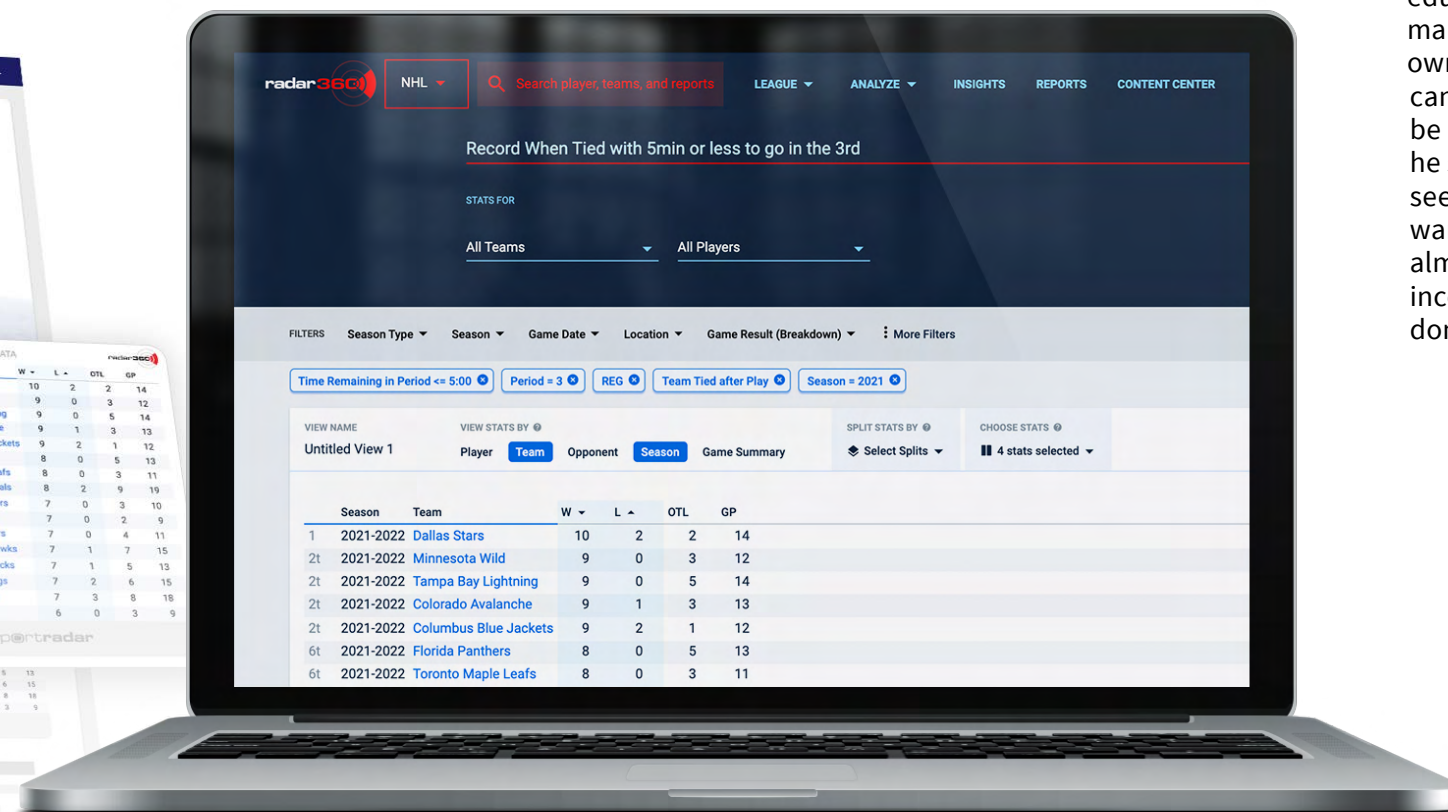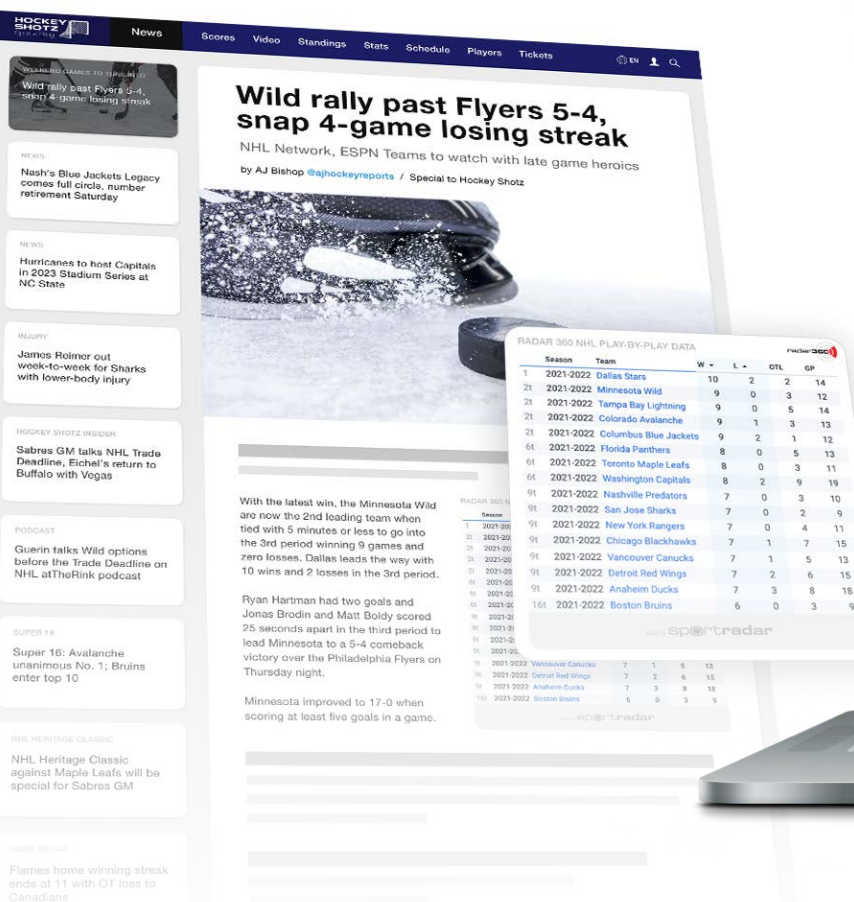
Radar360 Insights Product using Machine Learning

Valuable

On the contrary, during lockdown AI became a valuable revenue generator for Sportradar, helping preserve jobs in the pandemic. At its height, global lockdowns had ensured that in almost every territory around the world – with the peculiar exception of the Belarusian Premier League – top-level sport had shut down. This meant Sportradar's core activities also came to a sudden halt.

But from this crisis came opportunity, as Bratko explains. "We have immense amounts of data to hand, so we had the idea of simulating the remainder of the seasons using real-world properties of the teams," he says.

"We wanted to simulate full-length matches playing out the schedule of the Premier League in England and the other top-tier soccer competitions as they would have been without Covid. We did it at the same level of detail as we would cover the real games – including possession changes, travel of the ball, shots, throw-ins, etc. It was very intense – no one knew if it would work. We worked a couple of days on analysing historic data and figuring out how we were going to approach the simulation. After only 11 days we had a product.

"It worked, and today we are still running that product. We also developed it for tennis and cricket. These products are still broadly running and fully automated. So now we simulate real games a few hours before the match. A segment of players that are interested in the real game also bet on the simulated fixture both in the real and simulated matches, often with the same result bet."

Innovation

But for all the innovation that has already taken place, the age of AI is really only in its incipiency. Companies such as Meta (previously **Facebook**[2]) are investing vast sums in processing power to get ahead. Its AI Research SuperCluster aims to bring together 16,000 graphics processing units into connected racks, forming one of the most powerful AI machines in the world. But Meta is not alone in its ambitions.

"Next-level, metaverse type projects, Augmented Reality and Mixed Reality are things we are developing," adds Bratko. "Synchronising computer vision with data streams is really powerful to provide contextualised stats or other data overlays within the streams and on the screen. Adding interactivity makes it possible to place a rapid bet or press for an overlaid stat to make viewing on the mobile phone more immersive. It repurposes the second-screen concept into a single screen with an enhanced and interactive experience.

"AI has its limitations still. But getting it right is both about understanding your data and knowing your market. There's still an art to finding that sweet spot at the intersection of what's possible technically and what's interesting and valuable for the market."

Pull it off and the opportunity that presents itself for your business might come in the most unexpected of places. Because, as Moneyball and the Oakland A's demonstrated, sometimes you can win a baseball match without ever hitting a home run.

2. https://ai.facebook.com/blog/ai-rsc

A LOOK BACK AT 2021

REVENUE UP
39%
over prior year

ADJUSTED EBITDA[1,2] UP
33%
over prior year

DOLLAR-BASED NET RETENTION RATE[2]
125%

SUCCESSFUL
IPO
completed

GREW ENGINEERING TALENT BY
40%

US LICENSES AWARDED
23/52 [3]

LAUNCHED
UFDS
Universal Fraud Detection System

M&A
FRESH 8   SYNERGY SPORTS   InteractSport

AWARDS
EGR B2B AWARDS 2021   SBC AWARDS

ADDED MICHAEL JORDAN AS SPECIAL ADVISOR TO BOARD

MULTI-YEAR PARTNERSHIPS WITH

NBA   LNB LIGUE NATIONALE DE BASKET   ITF International Tennis Federation   NHL   UEFA   BUNDESLIGA   International Cricket Council

*1 Adjusted EBITDA represents consolidated earnings before interest, tax, depreciation and amortization adjusted for impairment of intangible assets and financial assets, loss from loss of control of subsidiary, foreign exchange gains/losses, other finance income/costs and amortization of sport rights; 2 Non-IFRS financial measure; see the Appendix of this presentation for further explanations and reconciliations of non-IFRS measures to IFRS measures; 3 The 52 jurisdictions and 23 licenses include Puerto Rico and Washington D.C. In addition to the 23 licenses, Sportradar has also been awarded 12 tribal licenses.
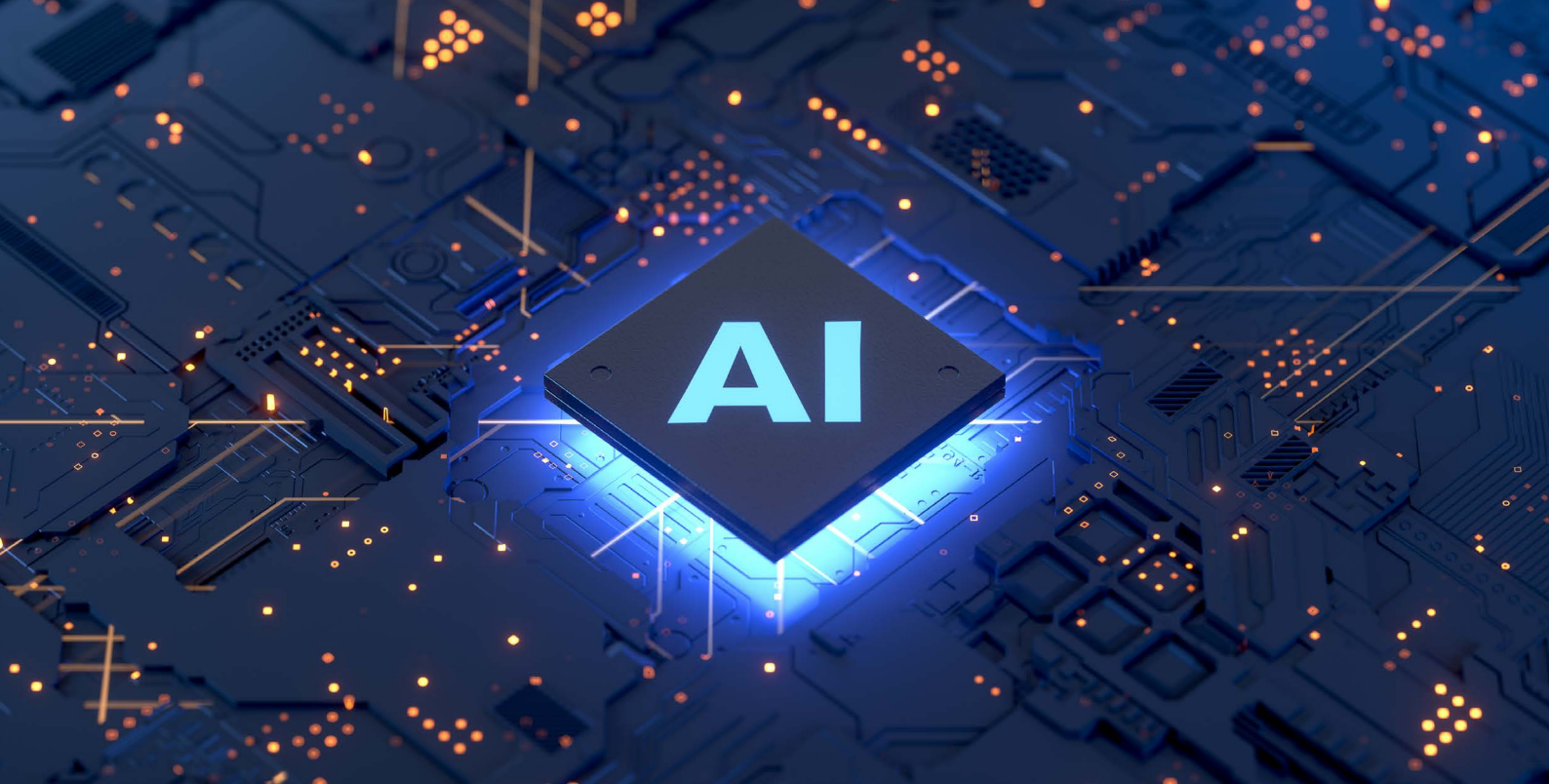
4 | THE ALL-SEEING EYE

Computer vision will increasingly be used to understand and interpret the world around us. In this interview with Luka Pataky, head of Sportradar's Computer Vision unit, we consider how best to go about developing automated visual systems for your business.

Luka Pataky,
Head of Sportradar's
Computer Vision Unit

The human visual system is extremely efficient. Not only do our eyes capture images, but they are also relayed to a brain that can instantly interpret the patterns those images present, at once both recognising and disregarding the objects and sequences in front of them. This is a phenomenally complex process, happening across multiple dimensions, that only the biological brain is truly capable of.

Now, though, we are beginning to train machines to do precisely this through computer vision and artificial intelligence. It is a combination that seeks to understand and automate the tasks the human visual nexus is capable of. In matters such as number-plate recognition or quality control in factory packaging, cameras have been deployed alongside computing power for over a decade. But now we are on the threshold of a world of self-driving cars and intelligent machines that can cook and clean for us, among myriad other applications.

This is increasingly becoming possible at scale, in large part because the cost both of central processing units (CPUs) and of graphics processing units (GPUs) has been driven down. At the same time, the computing power of these units has become significantly more powerful. Now, as it takes hold, the new computer-vision paradigm will create enormous efficiencies for us all.

Evolution

In the first half of this century, we will have developed a visual system that took billions of years of evolution to devise, which is no mean feat. "The cognitive abilities of humans are impressive," says Luka Pataky, head of computer vision at Sportradar. "We immediately know what is happening when we see it. But a computer must be told, and taught, how to interpret images.

"Even though a computer allows you to process multiple things at the same time, to process tens or even hundreds of images in a single second, imitating the cognitive abilities of the human brain is still a very difficult task. That's where another field of AI – cognitive computing – kicks in. It's not only to try and do things that our eyes can do, it's also about trying to do what brains do. And this is where machine learning and neural networks show their true potential."

In its simplest form, a neural network is a multi-layered system with multiple inputs and a single output, with a hidden layer in between that processes and interprets the connections between the inputs to deliver the desired output. This is much like the human brain, which processes and interprets the inputs of the senses to make sense of the surrounding environment. Success in mimicking the human brain through computer vision will ultimately deliver capabilities that exceed even the human visual system.

"Although we say we try to do what humans do, it is an extremely difficult task to mimic the human brain," Pataky adds. "But there are also tasks that, although in theory humans can do, you'd need hundreds of humans to do what a computer can do."

> **"Although we say we try to do what humans do, it is an extremely difficult task to mimic the human brain. But there are also tasks that, although in theory humans can do, you'd need hundreds of humans to do what a computer can do."**

"There is so much information in an image – even if you see it, can you process it all? You can extract so much information if you have the ability to process every pixel in the image for hundreds of images in a second. Computer vision has given us this ability to collect a lot more data, which brings more context. For example, if you look at non-tracking data and want to do really deep analysis, you can't."

Frameworks

It was in tennis that Sportradar began its extensive development of tracking models for sport. But although in some ways this was a simpler process than for many sports – involving as it does only two or four players on a relatively small playing surface – for the machines to understand how the images related to the game dynamic always required further instruction. No matter how good the initial dataset, it is always, as Pataky explains, an iterative process.

"It's not easy, definitely," he says. "You will require input data for everything you want to detect. It doesn't work like a brain. We humans can process a lot of things at once. For the computer, some things will require more examples, some things less. The beauty of this is that in reality you never know until you try. You might find yourself trying, improving your dataset, trying again, doing that many times over. But the outcome is sweet when it works."

Computer-vision frameworks must also always be taught in advance where the gaps in their knowledge lie. And that means that, just as much as they must be told what it is their camera eyes can see, allowances need to be made in the models for what cannot be seen, for those situations where the computer must infer from the circumstances what is going on.

"For instance, if there is a service fault in tennis, then based on logic, because there are two serves from the same side, the computer can tell that's happened," adds Pataky. "But you need to teach it to detect it – and this might be only one approach to solve the problem. A corner kick in football might be a relatively simple event to detect, requiring a smaller dataset. By contrast, detecting a pass might require more input data as well as some game logic."

Accuracy

For a business like Sportradar, whose services underpin multibillion-dollar betting markets, it is necessary to deliver near-perfect accuracy in the tracking data it produces with computer vision, and to do so in real time. But even if the computer-vision models your company develops are not perfect, it is certainly

Artificial Intelligence / Machine Learning

Based on our rich data lake, we leverage AI and machine learning capabilities to constantly drive innovation across a wide range of our business, products and services.

Computer Vision

We're automating data capture and analysis, creating a wide set of deep data points, with increased accuracy and speed. This enhanced data is the basis for our business' future facing products.

Tech Resilience

Investing in the latest public cloud infrastructure makes our data more scalable, durable and elastic, and cuts latency

Tech for Good

Our Universal Fraud Detection System (UFDS) monitors betting activity, using AI and ML capabilities to detect fraud

worth considering what applications they might have. This might involve using them to support or validate existing, manual techniques. It is also worth exploring the multiple alternative use cases they might have.

"For us, we have two production processes – data production and video production," explains Pataky. "Computer vision can support both. It can help automated data collection by making that process more efficient, and by gathering the high-frequency tracking data you can't otherwise collect. To prove this is the case, we have been testing our systems extensively over the past year.

"But it can also help automate video production. We have an automated video production product up and running for basketball and we are working to add more sports. This product creates significant efficiencies in the production process for sports streaming. The use of computer vision also delivers a great viewing experience to the fans. It is critical there."

Even so, given the resource to do so, working on delivering as close to 100% accuracy at up-to-the-second speeds can often be worthwhile and there are certain techniques towards achieving these aims. The first is about delivering a shortcut towards developing the data frameworks, using the kind of simulated "synthetic" data described in Section 2 of this report.

"For example, in some use cases, choosing synthetic data is definitely a way to close some of the gaps in dataset creation," says Pataky. "It's a way to quickly generate big datasets. So it can help, and the closer it is to reality, the more it can help you. It also depends

what accuracy levels you have to arrive at. For example, in some cases using synthetic data can get you to a 90% level of accuracy quite quickly. But closing that 10% gap is difficult."

Standardised

Very often, that requires careful, manual optimisation of the model. And this is where another technique comes in, aimed at limiting the kinks in the model deriving from precisely how the computer is taught. There is a risk that the methodologies or approaches used will introduce unintended consequences, leading to unreliable data inputs for the models. So for any team of annotators building a dataset needed for the development of the computer-vision model, a strictly standardised approach to the work is essential.

"The only thing with generating a synthetic dataset automatically is that as a software engineer you set the rules, so there can be bias in synthetic data," adds Pataky. "The bias comes in how you created the dataset. This is also true when you are creating datasets manually. If you have 10 annotators creating a dataset, it is critical that they all work with the same definitions.

"The only thing with generating a synthetic data set automatically is that as a software engineer you set the rules, so there can be bias in synthetic data"

"In some cases, you just can't do a synthetic dataset – and bias might then come from people understanding the same thing differently. So, for instance, when corner kicks have to be annotated everyone has to have the same definition. At what point are we detecting the corner? When it is given, when the ball is placed in the corner or when it's taken? Everyone has to do it in exactly the same way. The model won't work if it all runs from different definitions."

Finally, there is the question of latency. Television-quality image capture at real-time speeds runs between 25 and 30 frames per second (FPS), which is clearly too fast for a human to process. But in some use cases, it may still not be fast enough.

"We want to process every frame as it comes in," Pataky says. "You have to optimise the models and the hardware so we can process it that fast without a delay between when the image is received and when the output data comes out. Thirty FPS is plenty in player tracking but, for example, in table tennis the ball moves too fast even at 30FPS— you might miss the bounce at 30FPS.

"For a sport like that, you need a lot higher frequency of frames, using cameras that support that frequency. So this is where it is important, and it comes down to how precise you need the data to be. The good thing is you can always process more with parallelised models, so often someone will say they do it in real-time even though their models only process 5 frames per second.

"With parallelisation it can be done, although it comes at a bit of a higher cost. At the end of the day, you aim to optimise for both speed and cost of processing, and land where it makes most sense for your use case."

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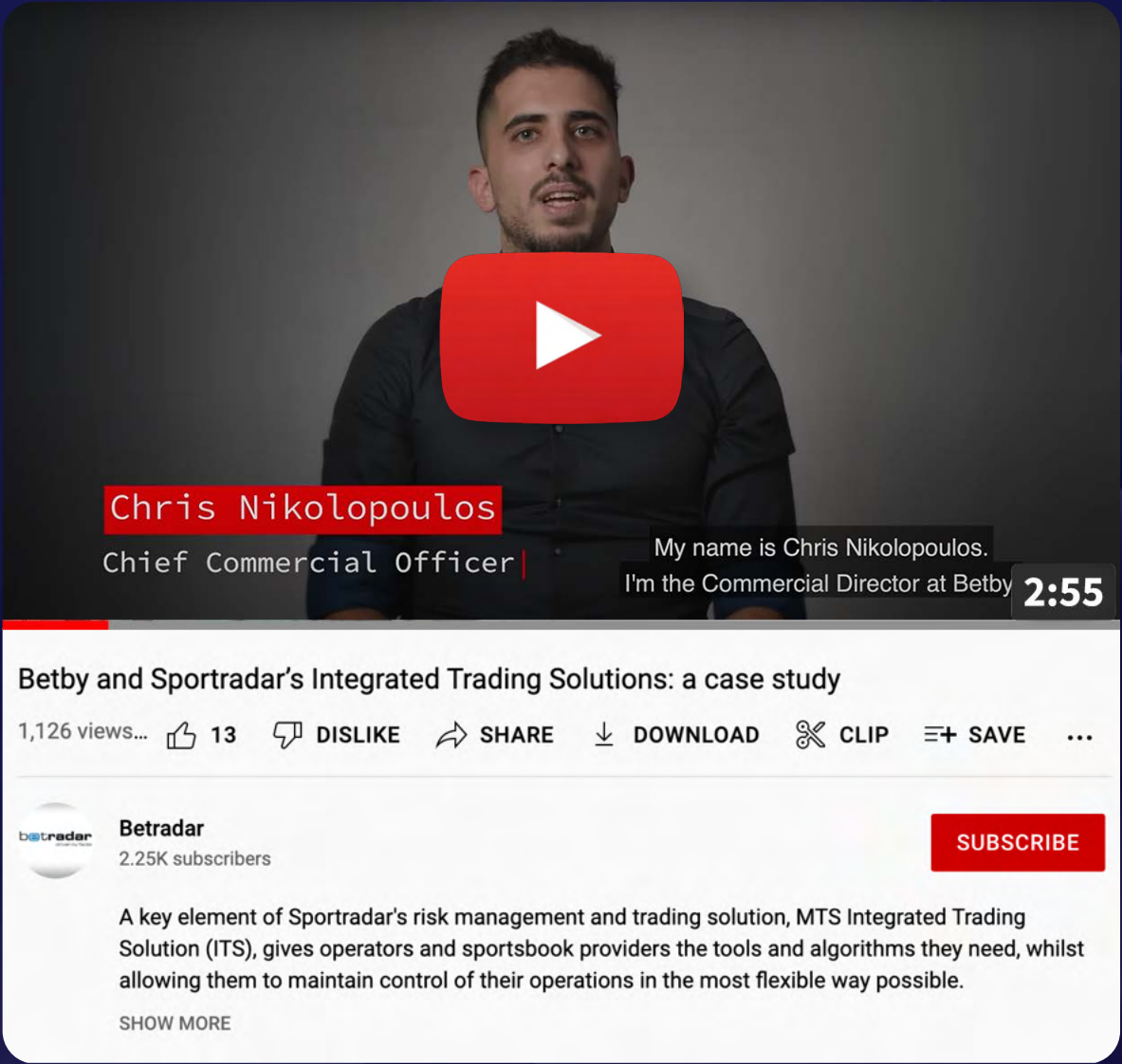
Quality

Ultimately, as with all artificial-intelligence applications, it is both the quality and the quantity of the data that underpin your model that matter most.

"With computer vision, data are often the bottleneck," says Pataky. "The first step is to know what you want to get to at the end, then specify and build your training dataset next. You can do it iteratively. It is likely you will not know exactly how big your dataset has to be to get to the outcome.

"Then you will need a different dataset for training the model to learn to detect something and a different dataset to validate your model and how well it is performing. As you continue to iteratively improve your models, you may be able to use the same validation set, but you might need to continue to expand the training dataset.

"And finally, there's the million-dollar question: how to filter out the noise. I think you realise that as you go and test the performance of the systems. You need to introduce more into it at times to get to what you need less of. With our system we invested a lot of time in a good dataset. And the one who has those datasets will essentially win the race."

LIVE MONEYLINE
WHO WINS TONIGHT?

Houston
-120

Chicago
+140

SRbet

PLACE BET

Chris Nikolopoulos
Chief Commercial Officer|

My name is Chris Nikolopoulos.
I'm the Commercial Director at Betby

2:55

Betby and Sportradar's Integrated Trading Solutions: a case study

1,126 views…   👍 13   👎 DISLIKE   ↗ SHARE   ↓ DOWNLOAD   ✂ CLIP   ⧉+ SAVE   …

Betradar
2.25K subscribers

SUBSCRIBE

A key element of Sportradar's risk management and trading solution, MTS Integrated Trading Solution (ITS), gives operators and sportsbook providers the tools and algorithms they need, whilst allowing them to maintain control of their operations in the most flexible way possible.

SHOW MORE

We are focused on delivering innovation and quality solutions. Check out this case study example.

5 | THE MARKET

A new privacy paradigm changes the picture for brands and advertisers as they engage with consumers. Sportradar's Head of US Advertising, Mike Smith explores how ad-tech is responding to the challenge.

Mike Smith,
Head of Sportradar's
US Advertising

If information is the oil that makes the wheels of a market go round, what happens when a key source of it is taken away? In the modern, digital market, data have become that oil.

Every single interaction a person makes online generates information that is routinely visible to third parties. This has largely been achieved through cookies: files that track a device's browsing history. They have been transformative for marketers. Whereas in the past, with TV, print or billboard ads, a brand would shout into the wilderness, cookies have provided them with actionable insights about consumers and the efficacy of their campaigns.

Understandably, advertisers and brands have had their hands in the cookie jar for years, devouring the information provided. Now, though – at risk of labouring the pun – the cookie is crumbling.

The European Union is clamping down. Its GDPR directive aims to protect consumer privacy. The newer ePrivacy Regulation (EPR) says it "addresses browser fingerprinting in ways that are similar to cookies, creates more robust protections for metadata and takes into account new methods of communication, like WhatsApp."

Opportunity

It is not only governments that are moving against trackers. **Google**[3] has announced that it will phase out third-party cookies on its Chrome browser, a decision that will come into effect in 2023. **Apple's**[4] operating system will limit the time third-party cookies can be stored on iPhones and iPads to seven days, while offering users the opportunity to opt out altogether.

With the decline of the cookie, brands and advertisers face challenges in their gathering of crucial consumer data. But the advertising industry is working to deliver alternative means of reaching its consumers. Mike Smith, the US head of advertising at Sportradar, sees a new future for advertising.

"What will happen as the cookie disappears and iOS changes is that first-party data become more of the oil than other data," says Smith. "When third-party data are unavailable, first-party data are so important."

Target

As Smith explains, first-party data are collected first hand by a brand, such as what a supermarket might glean from its discount-card scheme. If the supermarket then sells the data to Pepsi, which uses them to target consumers, they become second-party data, this is because they have been acquired from their owner to use specifically, and at an individual level.

If the supermarket decides to sell the data to a company like Oracle, a large advertising-data provider, and it then passes them on to other firms, then they become another form of third-party data. "The problem with third party is it's only as good as how it's collected, how it's cleaned and how frequently it's updated," adds Smith.

Curation

In a cookie-limited world, then, it follows that the curation of those data becomes just as important as their collection. As with all artificial intelligence, the secret is in understanding what truly matters from the information being gathered.

"The key is to set a goal," says Smith. "There are hundreds of data points. Which do we care about? Not all necessarily have a positive correlation with other data points. A common metric of choice, a KPI, say – is clickthrough rate to drive traffic. Clickthrough rate is a ratio of clicks to impressions, 10 in 100,000 is a higher ratio than 11 in 1m. However, if the goal is to get people visit your website, you'd rather have 11 clicks than 10.

"If we want the most clicks – traffic – I'll optimise towards that. All the metrics are to build a broad picture. When you run a video ad – you aren't aiming for a clickthrough rate, you want people to watch it all the way through. The strength of programmatic advertising is to be able to optimise towards, and deliver to, a pre-set goal."

Interactions

Even absent the cookie, these metrics are available to media buyers, with ad-hosting websites providing crucial feedback. This is achieved through tools such as real-time bidding (RTB), the most common form of computer-driven, programmatic advertising, where ad interactions can be measured in real time. And we are moving into a paradigm where there are ever more places where those interactions can take place.

"The world is screens, and it's not just mobiles and TVs. It's at the gas pump, ski lifts, elevators, digital billboards by the road: screens are everywhere," says Smith. "There's an idea that you'll walk around, passing screens everywhere, and your phone will be like a key fob identifying you, so the ads you're being served with while filling your car at the gas station will be relevant to you."

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Advertising solutions are being developed to take advantage of this new paradigm, with tools for campaigns targeted towards key demographics producing measurable results. Of equal consideration though is compliance with developing privacy regulations. The key to that is the reach the advertiser has in acquiring

3.   https://blog.google/products/chrome/updated-timeline-privacy-sandbox-milestones/
4.   https://developer.apple.com/videos/play/wwdc2019/708/

data from alternative sources.

Ecosystem

Whereas cookies on one site have been able to follow the individual from one site to the next, always acquiring new data about their browsing habits and activities, sites will now be siloed, unable to continue tracking users. A big factor in making a success of the post-cookie world will be the relationships the advertiser has with the broad ecosystem of online platforms.

"Privacy is at the forefront, with the cookie disappearing," adds Smith. "Each individual website will be able to track your behaviour when you're on that site but not when you're moving from ESPN to the FT and then to PremierLeague.com. It will be about having a third party who can enmesh all that together."

This is precisely what Sportradar's ad:s division is designing programmatic-advertising solutions to do. Even without access to cookies, the end goal is to build an accurate picture of the profile of the target consumer. It can then serve them with tailored, interactive, real-time ads delivered on screen and in play during live sports events.

Ad:s is built upon first- and second-party data, the goal being to eliminate the dependence on the cookie in its sports-based ecosystem. Sports fans are everywhere, but finding the right data, and being able to identify correctly that a fan buying baseball tickets is the same fan who buys a hockey jersey is the key.

"With ad:s, Sportradar get data through our own means, our owned and operated technology," adds Smith. "We also have strategic partnerships where we can gather data from fantasy apps, sports websites, free-to-play games and leagues. We are building the biggest sports-specific-data and sports-fan-intent warehouse in the market."

"All of the data is being collected in a compliant manner. They have been shared by users who accept the terms and conditions associated with each app and website. Then it is all about how to build an identity graph and accurately target the consumer with messaging, so they enjoy their experience. This is how the marketer gets an experience that pays dividends."

Art

Programmatic advertising at its best will generate from the curated data of consumer insights an understanding both of the market and the optimal campaign to drive, although for now there is still an element of art to the science. This is, principally, because the targets are human beings. But modern methods of artificial intelligence ensure that science has an ever-bigger part to play.

"With all data you're making an assumption," Smith explains. "You're setting up your campaign for success but there's no guarantee at the outset you'll get it right. If I'm selling baseball gloves, it's a risk to assume it's the father or the mother or the child who'll make the buying decision.

"So we set up the campaign to mitigate risk and limit waste. Once we serve the ads we look at the data and the machine-learning algorithm identifies the users that are bringing us success. It then finds other users with similar interests automatically. If it's the moms who buy the baseball gloves 75% of the time, then we go and find more moms."

Foundations

Even so, whatever the many benefits of technology and the inputs of deep data, the underlying foundations of advertising have not changed since the first-ever billboard campaign however many hundreds of years ago.

"Advertising is essentially two very, very basic parts to achieve one very basic goal," continues Smith. "First is that we put the ad in a location where it can reach consumers, and the second we hope to influence the future behaviour of the consumer. We know where it will go, what channels it will be served through.

"For the saying-something portion – we have a dynamic creative – essentially the advertising messaging. If you're a fan of Ipswich Town, you'll be served an ad that will hopefully serve the next Ipswich fixture and the odds on the game.

"If you engage with their fixture list, we will send you something about Ipswich because it makes you happy to find something engaging with you personally. Nothing would be worse for that fan than being served with ads for Norwich kits. The best way to make an ad not annoying is to make it something they do want to buy."

Even without the cookie, AI-led advertising technology like ad:s will provide the recipe for marketing success.
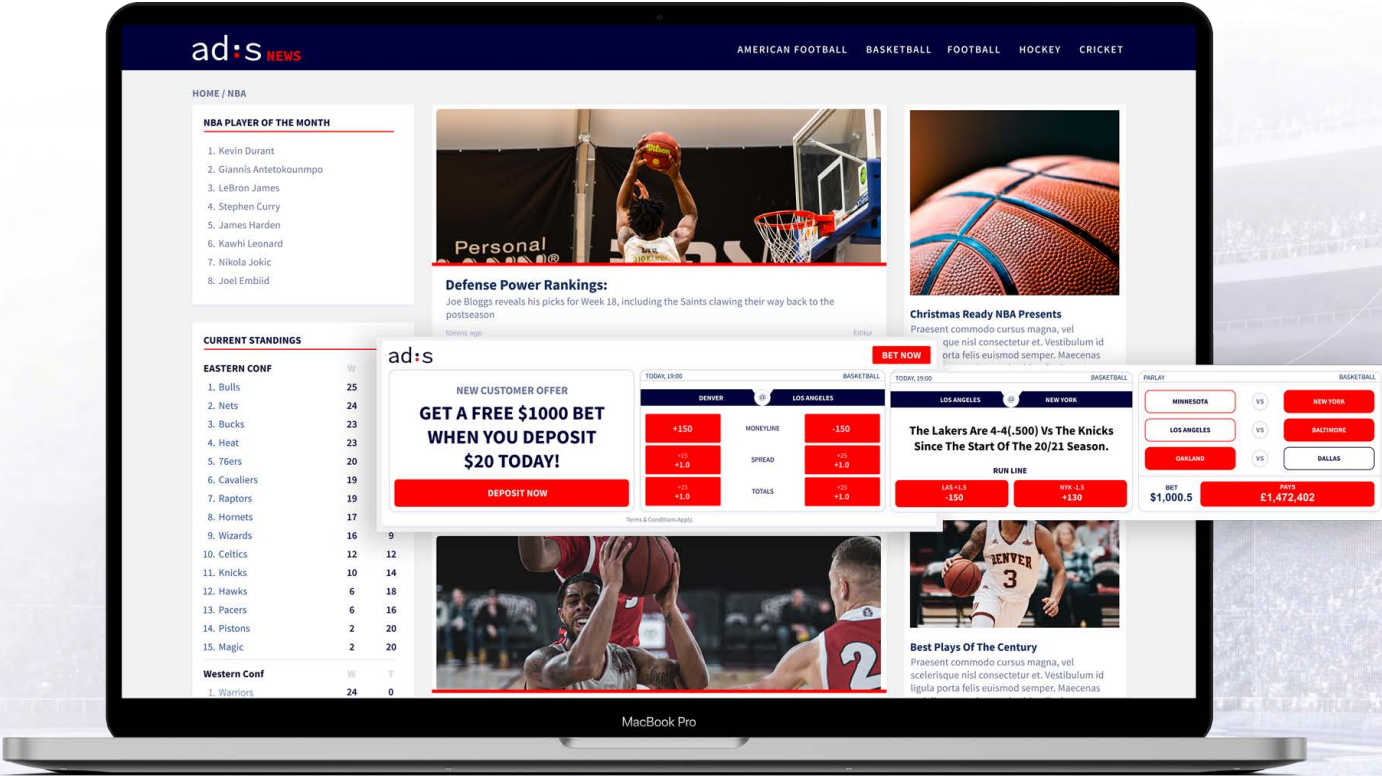
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Closing remarks from Carsten Koerl

Over the years, we've never lost sight of our vision about what data and insights could enable for the sports ecosystem, and I believe this is vital to our success. We are in a transformational time, and as we continue to look to the future, we see massive secular tailwinds driving Sportradar's growth:

The convergence of media, sports, and betting.
Betting operators and sports teams are becoming media companies who are becoming betting operators - creating a massive, integrated ecosystem that we are powering.

The thirst for more insights from data.
As more data become available, AI will power crucial insights for our customers around everything from how to attract and entertain bettors to driving efficiency and managing risk.

A focus on player-specific data.
Our market's needs are converging. The need to provide super-fast, super-deep and contextualised data is the key ingredient to unlocking value. Whether that be for the player looking for competitive advantage; the media company wanting to show in-depth analysis, or for the fans themselves who want to understand both the 'what' they have seen but more importantly the 'why', our technology enables these benefits.

A shift in the U.S. market from pre-match betting to more in-game betting.
This is how the majority of betting takes place outside the U.S. It is engaging and exciting to be able to act on our live odds as a game develops.

The need for all businesses in the sports ecosystem to be even more fan-centric.
The sports fan is at the centre of our massive ecosystem. Every business needs to reach and engage fans in a rapidly transforming landscape, and brands with the most data and insight will capture the most loyalty and revenue. The growth of our ad:s business reflects this trend in particular.

In closing, our successful 2021 and excitement for 2022 are tempered by the senseless loss of life we've seen recently in Ukraine. My thoughts are with those who have been impacted by the heartbreaking events, and our top priority has been to help ensure the safety of our employees and their families in the region. Through our emergency relief program, Player Assist, we have been able to extend financial and other forms of support to our extended Sportradar family who are directly impacted by this crisis. We stand in solidarity with all those who wish for peace and will continue to support the people hurt by these tragic events.

In 2021, our team grew both through acquisitions of companies that are well matched to ours and organically in existing and new markets. We also welcomed our teams back to our offices, reminding us of the value of a culture rooted in community and collaboration. Three thousand employees across the globe have been the pillar behind our achievements in 2021. I want to thank them for their tireless efforts to enable our strategic growth and drive our future success. I also want to express my gratitude to our customers, partners and shareholders who are key to our long-term growth. We look forward to a long and prosperous relationship.

Carsten Koerl,
Chief Executive Officer

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