Infosys®

SMASHING **DATA,**
ACING **INSIGHTS**

HOW INFOSYS NIA IS HELPING
ATP WORLD TOUR ™ CHANGE THE GAME

IT'S **TIME** TO **REINVENT** THE **TENNIS** EXPERIENCE

Two players. Millions of fans. Performances that are rich with aces, rallies and volleys, as much as they are with skill, grit and passion. With 62 tournaments across 31 countries in a year, the ATP World Tour brings breathtaking tennis action to tennis fans globally.

But in today's digital age, the way fans see the game is constantly evolving. The experience surrounding tennis is no longer centered on scores, stats and commentary on a television screen, or on-court action and applause. Now, it's all about adding new dimensions to the experience – whether it's seeing performance patterns emerge through data or sharing an insight in 140 characters.

From connected devices to cognitive systems, today's technology can amplify the tennis experience. That's why the ATP World Tour has partnered with Infosys – to bring data to life, discover insights that delight, and create digital experiences that thrill. To enable fans and players to see the game they love like never before. To help them see more and be more.

Great experiences for tennis fans is what ATP has always stood for, and we can now take this to even greater heights with our work together. Fans will soon have the opportunity to get completely immersed in the action, and feel the passion and intensity in every match, and more.
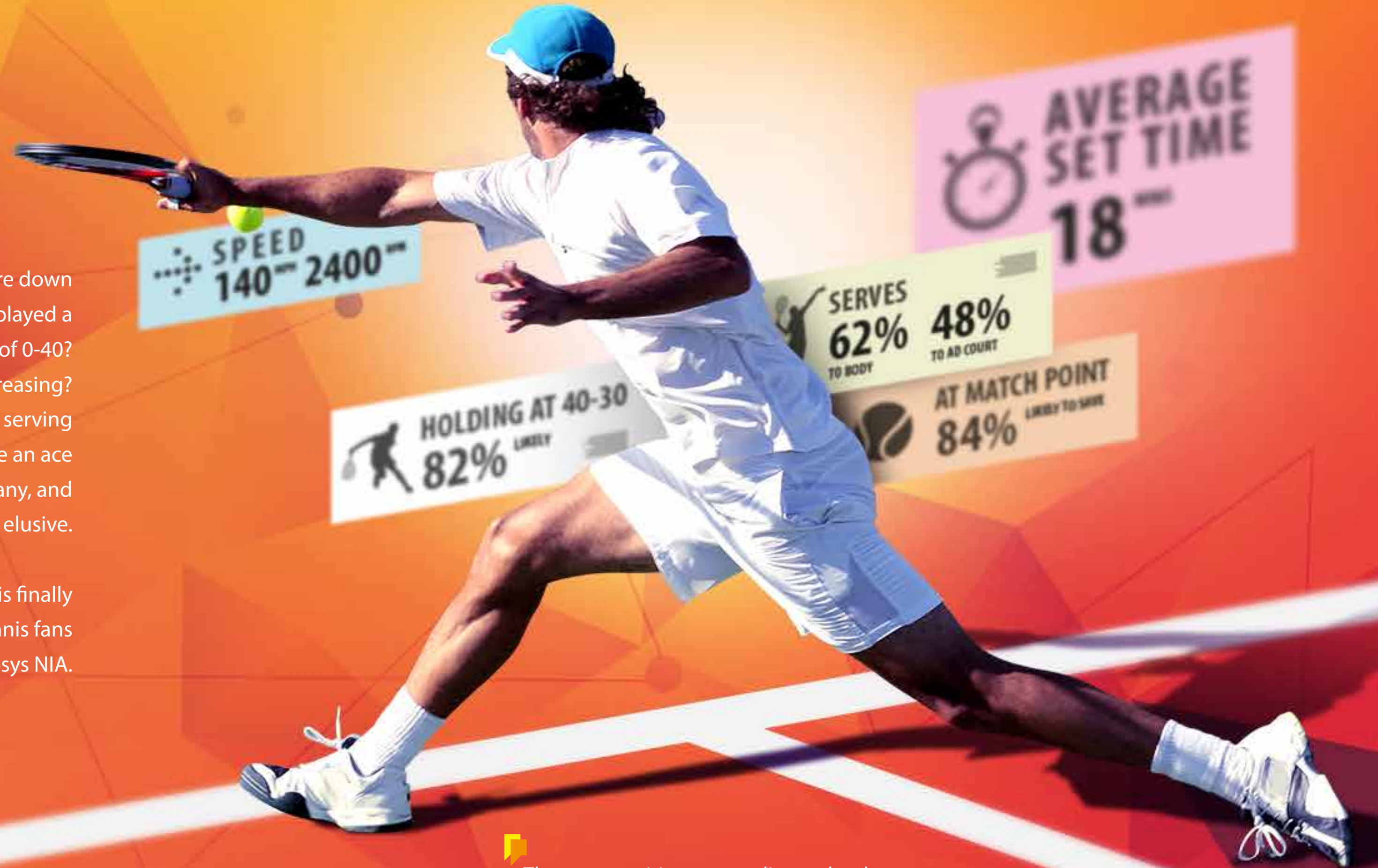
Vishal Sikka, CEO, Infosys

WELCOME TO THE ERA OF INSIGHT

While x-factors and intangibles make sport all the more exciting, fans of tennis have always had questions they'd love to get answered in real-time. The agony and ecstasy of a sporting moment are a combination of three ingredients – action, statistics and insight.

Action has never been in question – tennis has given fans a legendary crop of players and rivals, era after era. Adding delight to the action is statistics, which adds a quantifiable dimension to performance. But the missing piece in the puzzle is insight in the moment. Fans want to know the why and how of what has happened and what can.

Is their favorite player likely to serve more down the ad court or deuce court? Has he displayed a propensity to hold or fold at the score of 0-40? Is his speed of serve increasing or decreasing? Can he perform under pressure and avoid serving a double fault at break point? Will he serve an ace at match point? The questions are many, and the answers have been elusive.

Not anymore. Insight in the moment is finally within reach, and already a reality for tennis fans with the Infosys NIA.

SPEED 140 ᴍᴘʜ 2400 ʀᴘᴍ

AVERAGE SET TIME 18 ᴍɪɴ

SERVES 62% TO BODY 48% TO AD COURT

AT MATCH POINT 84% LIKELY TO SAVE

HOLDING AT 40-30 82% LIKELY

The opportunities surrounding technology, statistics and data in men's professional tennis are vast. We look forward to developing a number of exciting initiatives as part of the partnership.

Chris Kermode, ATP Executive Chairman & President

DATA ON CLOUD
12 MILLION DATA POINTS
240,000 RECORDS
2 MILLION ROWS

LOAD BALL TRACKING DATA 2010 - 14
5 BARCLAYS ATP WORLD TOUR FINALS TOURNAMENTS

LOAD UMPIRE DATA 2015
61 TOURNAMENTS

PROCESSING
2 WEEKS
8 CORE CPU
16 GB RAM

SAY **HELLO** TO THE **OPEN-SOURCE** BEAST

Anyone in the business of technology will tell you that the journey to insight has historically been long, arduous and expensive.

Traditional business intelligence (BI) tools can process only a fractional amount of data in a limited number of formats by applying a laborious ETL (extract-transform-load) methodology to its data warehouse to deliver a report. Arriving at an insight can take hours or even days. Just connecting to various data sources can take up to a few weeks. And hardware? You're looking at a server room's worth of it if you go the traditional way. To make things worse, the success of many tools often depends on having a row of data scientists write code in varied software languages and query systems, which only increases the time to insight.

For its marquee tournament alone — the Barclays ATP World Tour Finals — the ATP wanted Infosys to sieve through umpire data across all tournaments over the last 12 months and 5 years of ball-tracking data from previous Barclays ATP World Tour Finals. All this data needed to be processed in real-time to generate insights during a match, along with pre-match and post-match analysis — with very small windows of relevance for each insight.

With 12 million data points on player performance (240,000 records), using a traditional BI tool or big data solution was not an option for ATP. The answer was the Infosys NIA – a lightweight, open-source beast built to scale to any magnitude of data, of any kind, from anywhere.

INSIGHT IN
60 SECONDS

The 2015 Barclays ATP World Tour Finals was set to be eight days of non-stop tennis action, with the top 8 players in the world battling it out for pride and glory.

But this tournament would be unlike the ones before – in addition to powering real-time scores and statistics on the ATP website, Infosys had exciting experiences in store for players and fans. Infosys-ATP Trends and Insights would provide never-before, instant analysis of tennis action as it unfolded.

At the heart of insight is the Infosys NIA. Hosted on the cloud, Infosys NIA can extract voluminous and variegated data rapidly from a vast data lake, transform it on the fly,

and provide insights almost instantaneously through unbroken seamless interaction among various systems. The best part? For ATP's needs, Infosys NIA would only need 2 nodes of 8 Core CPU and 16 GB RAM for hardware, with minimal effort for data scientists.

Infosys NIA would enable analysts to analyze historical data around player performance to predict player behavior, their shot selection, and finally a probabilistic outcome of the match itself – often going from data to insight in under a minute.

ACES
34 EXPECTED

RETURN PREDICTIONS
52% TO DEUCE COURT
34% CHANCE TO BREAK

FATIGUE INDEX
94 SEC RALLY
28 MIN SET TIME

00:56

DOUBLE FAULTS
3 ANTICIPATED

THE **ANATOMY** OF **ANALYTICS**

Using Infosys NIA, analysts were able to break down generation of complex tennis insights into three simple steps:

Data ingestion: The Data Source module of Infosys NIA, with in-built data connectors, enabled historical data to be rapidly loaded into Infosys NIA with just a few clicks.

Data analysis and insight generation: With the data loaded, Infosys NIA provided the capability to process over 2 million rows and 175 columns of tennis data in near-real-time. The Data Science module of Infosys NIA contains a simple graphical user interface-based Data Explorer,

which enabled analysts to seek specific answers regarding player performance by simply filtering data or correlating two or more data parameters.

Insight publishing: The match insights generated were enriched with visualization and published on an exclusive portal built for players, coaches and the media available at The O2 Arena. Contextual insights were shared live on ATPWorldTour.com during key moments of a match.

# THE **ECSTASY** OF **EXPERIENCE**

From courtside to television, from web to social media, Infosys transformed the ATP World Tour experience for everyone in the world of tennis. We delivered in-depth player performance analysis, probability-led foresight, and data-driven match summaries to media and game commentators.

Insights in the moment were finally available for fans to consume in real-time on ATPWorldTour.com and through social media — making each ace more thrilling, each rally more exciting, and each match point more nail-biting. They had access to everything they wanted to know — about serving patterns, direction and placement, speed and spin of shots, holding and breaking statistics at every score, average player time to win a set, propensity to double fault, likelihood of streaks, possible outcomes at break point, and much more.

For the first time in an ATP World Tour tournament, fans had analysis that delighted as much as the action on screen.

For players, Infosys NIA is a game-changer that helps them see more of what winning performances are made of. Armed with analytics, they can now optimize their preparation strategy, alter their game plans, and take their game to a new level.

What's next is even more exciting. With supervised learning and automation, Infosys NIA is being trained to learn all about tennis and deliver insights on its own at different points during a live match. The open-source beast will soon be a machine with a mind that tennis lovers can interact with.
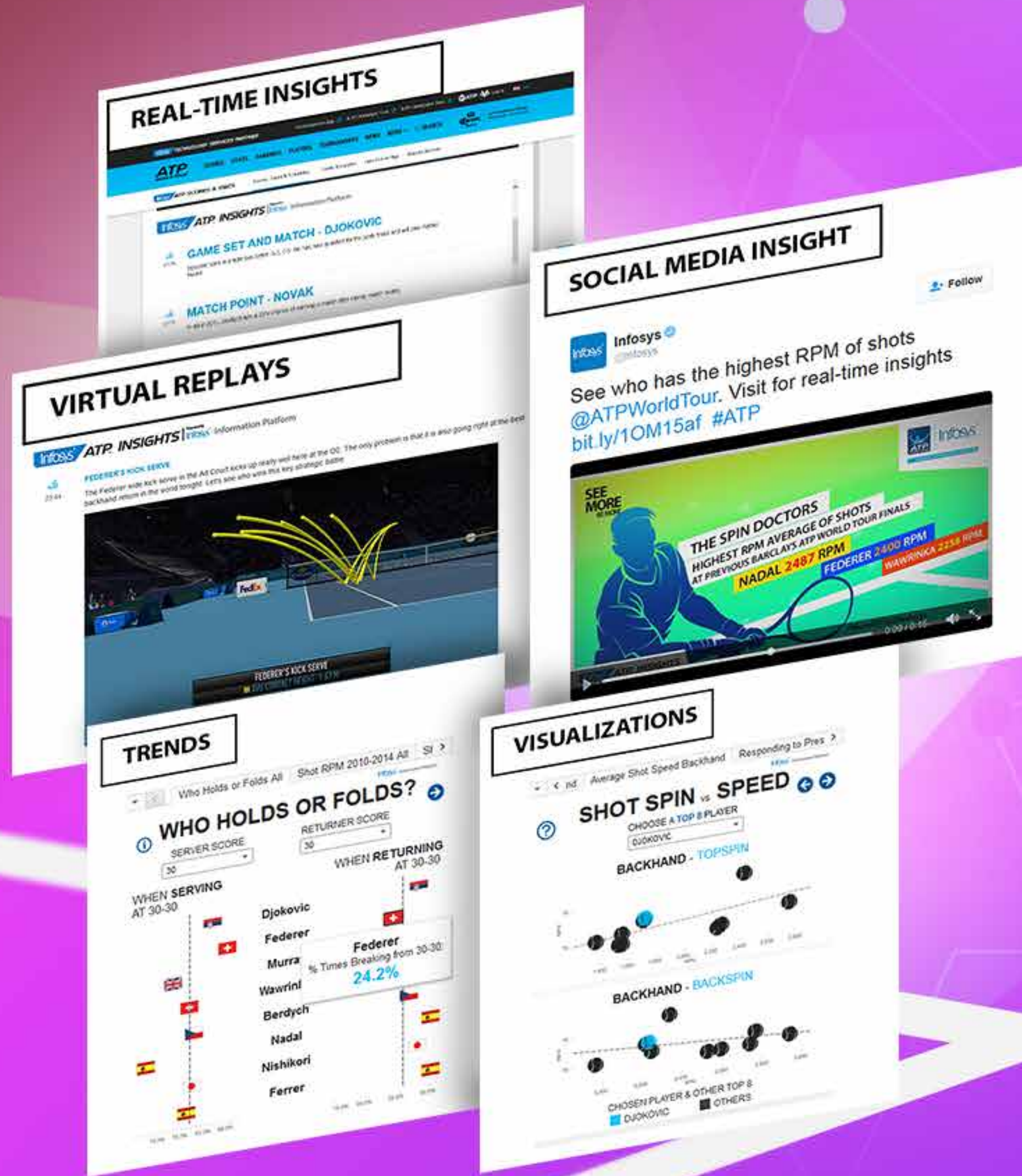
SEE MORE.
BE MORE.

In business, just like in tennis, to be more starts with the ability to see more. Infosys NIA is helping enterprises do just that. Like a **chocolate maker**, who was able to go from no capability in predicting stock-outs to having a comprehensive view by store, hour, day, and item — in just 3 weeks. Or a **freight railroad network major**, who has leveraged Infosys NIA to increase asset utilization by 45% and is on course to yield a potential US$200 million in revenue.

For an **ATM manufacturer**, Infosys NIA processes 4 million records across 8,500 ATMs in just 27 seconds. The resulting insights have powered actions that reduce downtime of ATMs by 10% and enable a 15% increase in transactions.

For a **pharmaceutical company**, Infosys NIA has been used to analyze 18 months of SAP PM and PLC data to predict major breakdowns well ahead of time (1 or more days vs. just hours) with 80% accuracy.

For a **telecom major**, Infosys NIA processes 16.5 million records, in just 5 seconds, and accurately predicts impending network faults a week in advance.

Whether it's trade data analysis or telematics, vehicle health or social sentiment, retail purchase patterns or clinical trial efficacy, Infosys NIA is built to help you see more.

TECHNOLOGISTS LIKE, ANALYSTS LOVE

Tournament after tournament, Infosys is able to deliver compelling insights for the ATP World Tour with rapid turnaround times. This is made possible by the sheer simplicity that Infosys NIA offers both technologists and analysts.

Technologists like the fact that Infosys NIA is highly scalable to any volume and variety of data without the need to make capital investments in compute power. This way, they can harness the power of all their data – structured and unstructured. Infosys NIA simplifies their effort greatly with very little coding required — in fact, when they are required to code, Infosys NIA offers a native SQL code window where they can

easily make edits. It addresses their security concerns with role-based access at a cell level. And with Infosys NIA, there's no vendor lock-in — it works in conjunction with other proprietary software and open-source tools.

For analysts, Infosys NIA is insight nirvana – the interface is extremely simple to use and they are rarely exposed to code. All they need to do is focus on the business problem at hand — it's as simple as dragging and dropping a data source, analyzing the data, picking from a variety of rich visualizations, and seeing patterns emerge. Accelerating the time from data to insights to actions, and most importantly, outcomes.

PREVIOUS SETS   SETS GAMES POINTS

4477 PLAYER-1 02 07 40
V
6666 PLAYER-2 02 08 30

CHALLENGES REMAINING

PLAYER-1 2
PLAYER-2 4

For more information, contact tennis_ATP@infosys.com

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