Reinventing Tennis And Sport
With Data, Insights & Digital Experiences

Tennis Partnerships Overview

Tennis Partnerships: An Overview

Infosys is the Digital Innovation Partner for 3 major sporting organizations in tennis:
ATP Tour (Sep 2015-Present)
Australian Open (Sep 2018- Present)
Roland-Garros (Mar 2019- Present)

Impacted the tennis ecosystem with digital products and services for fans, players, coaches and media.

Bespoke platform for tennis called the 'Infosys Tennis Platform'. Scalable across-sports.

Highlights:
- **10mn** new unique fans impacted in 1st year of RG across new digital platforms built by Infosys
- **27%** rise to the stats section and **26%** to the live scores sections as a result of new innovations for ATPTour.com
- **1mn** downloads of the new AO mobile app developed by Infosys
- **20+** new innovations across big data analytics and digital experiences
- Over **200,000** fans who have physically experienced the immersive tennis
- **20 industry awards** to the tennis partnerships across business, marketing and technology
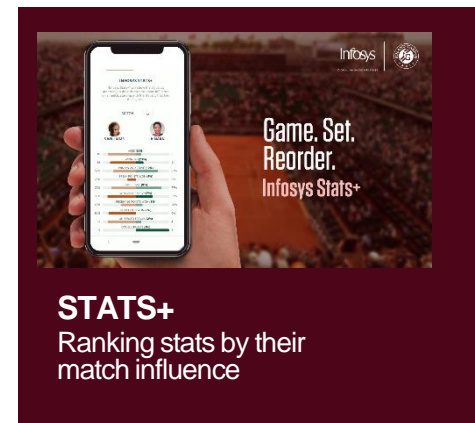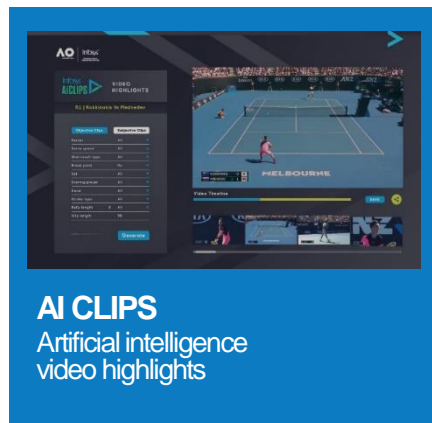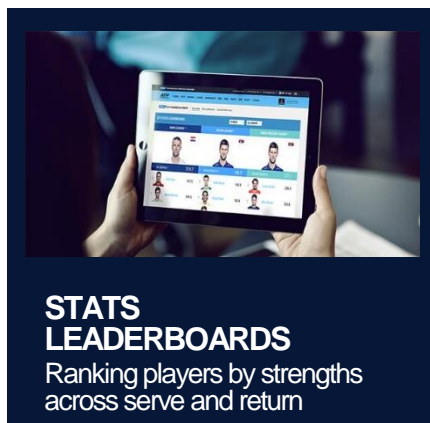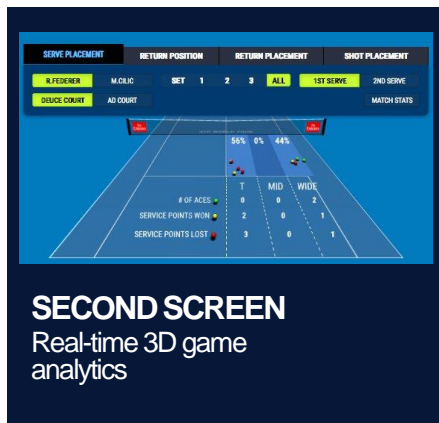
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Unifying Data & Insights Across Tournaments

MATCHBEATS
Streaming point-by-point match insights
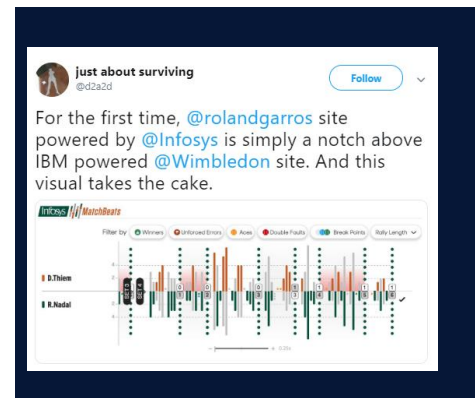
1mn+
fans downloaded the new AO app in 2020

26mn+
fans interacted with MatchBeats

27%
increase to ATP web stats

just about surviving
@d2a2d
Follow

For the first time, @rolandgarros site powered by @Infosys is simply a notch above IBM powered @Wimbledon site. And this visual takes the cake.

SECOND SCREEN
Real-time 3D game analytics

STATS LEADERBOARDS
Ranking players by strengths across serve and return

AI CLIPS
Artificial intelligence video highlights

STATS+
Ranking stats by their match influence
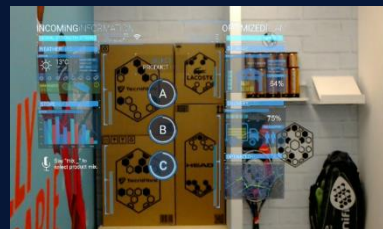
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Immersive Digital Experiences For Fans & Players

VIRTUAL REALITY
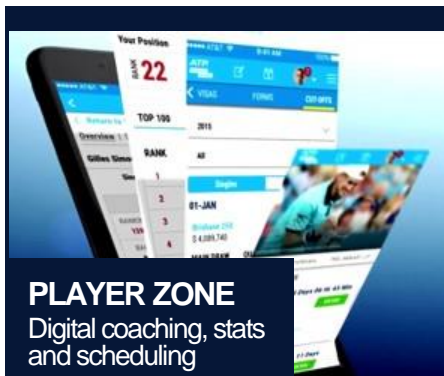Training, gameplay and merchandising

AUGMENTED REALITY
Holographic retail store layouts & shopping

200000+
fans have interacted with our world-first VR & AR tech across tournaments

15
global innovation & marketing awards won for our tennis partnerships
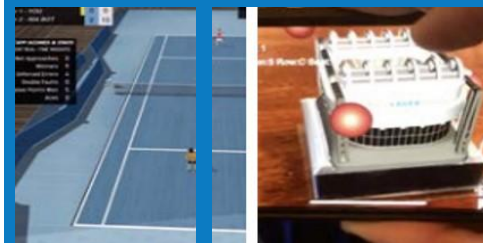
PLAYER ZONE
Digital coaching, stats and scheduling

DIGITAL TWINS
Teleporting with avatars using social VR

"We tried Infosys VR experience, and it felt like we were on the court-on the Rod Laver Arena" Millie Russell and Georgie Kerridge talk about their experience at our #VR #Fanzone #AusOpen #AusOpenWithInfosys

AR GAMEPLAY & 3D TICKETING
Blockchain for connected stadiums

An Overview of Tennis products, features and services
Data, Insights and Digital Experiences

- **MatchBeats -** Unique visualization that provides point-by-point match insights.
- **Slam Leaderboards -** Ranks players by strengths across serve and return etc.
- **Second-Screen/Courtvision -** Analytical tool that provides performance patterns on parameters such as serve locations, return positions, return placements, shot placements.
- **AI Clips –** AI video service for media teams to produce highlights in real-time by applying over 120 filters and 1000 possible combinations.
- **Stats+ -** Dynamic live game ranking of match statistics in descending order of their influence on the outcome of the match.
- **Social Heatmap -** Capturing the social pulse of Roland-Garros across the globe in real-time.
- **StatsLounge-** Designed for athletes and coaches to study, strategize and analyze their gameplay
- **Other Capabilities-** Mixed Reality (AR,VR), Chatbots and Alexa Integrations, etc.

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The ATPTour Partnership: 2016-Present

Infosys joined hands with ATPTour in September 2015 for a marketing & technology partnership.

Objective | *Re-imagine the game of tennis by impacting the stakeholders of ATPTour*

Technology Platform | Infosys Tennis Platform

Data Analyzed | 240,000+ records and **12 Million+** Data Points Analyzed

Output |
a) Insights built for consumption by **millions of** Tennis fans (across the world)
b) Wide variety of Useful products developed for **Fans**, **Players**, **Coaches** and **Media**

Digital Products Bespoke for ATP|
a) **ATP Leaderboards (2016)** - Crunched 25+ years of Data, starting 1991
b) **ATP Infosys second screen (2017)** – Built insights by leveraging multiple **algorithms** from AI/ML to analyze data in **real time,** combined from **disparate** hardware and software systems
c) We also digitally empowered the players by revamping the '**Player Zone**' (2017) – one stop digital shop for all the ATP players

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Data & Analytics| MatchBeats (Jan 2019)

Overview: This is a unique live score visualization that helps fans to follow a match's progress in-detail. The product has been designed to be intuitive, interactive and fun for the fan. It shows them the point-by-point progress, allowing them to filter the match by aces, winners, break-points and follow the rallies and see them in context
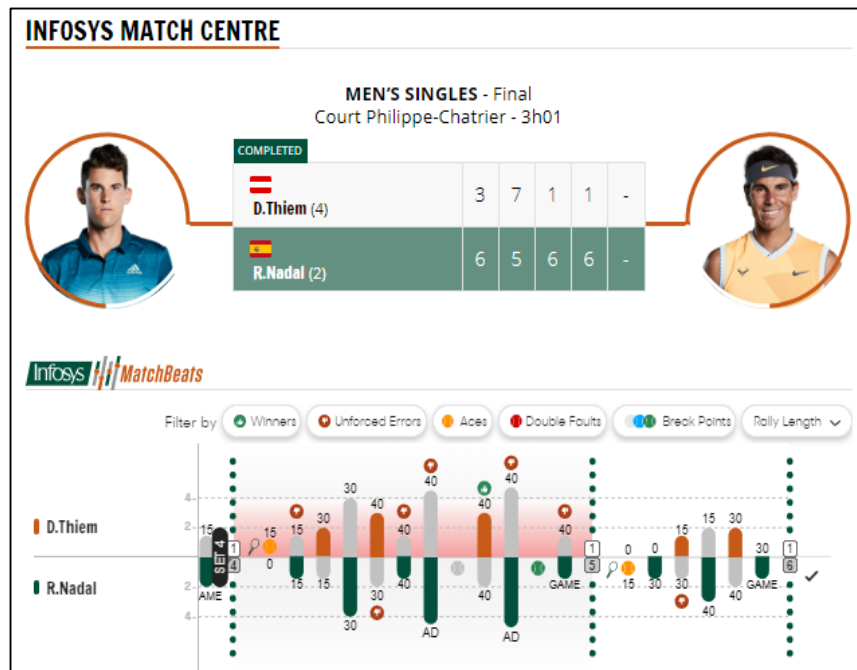
[Watch Video](#)
[View Feature](#)

Technical details :
Input data – Chair-umpire data
Front End : React.js
Back End : spring boot microservices, Spark streaming, kafka, Zookeeper, PostgreSQL

INFOSYS MATCH CENTRE

MEN'S SINGLES - Final
Court Philippe-Chatrier - 3h01

COMPLETED

D.Thiem (4)	3	7	1	1	-
R.Nadal (2)	6	5	6	6	-

Infosys MatchBeats

Filter by: Winners, Unforced Errors, Aces, Double Faults, Break Points, Rally Length

D.Thiem
R.Nadal

Data & Analytics| Slam Leaderboards (May 2019)

Overview: An interesting way to find out which player is dominating a tournament on the stats front. The product ranks players based on the points earned across stats such as aces, first serve, second serve, net points, break points, receiving points and winners; stats which have a huge bearing on the outcome of a particular match
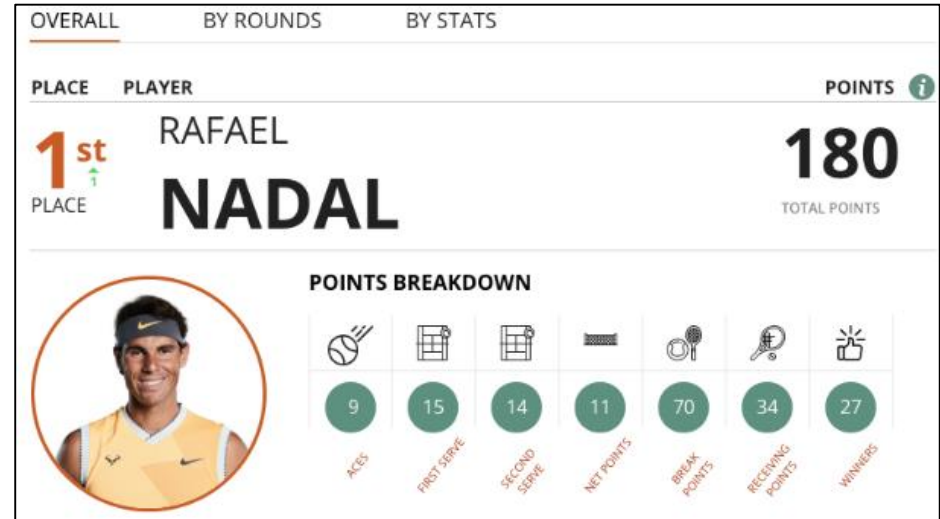
View Feature

Technical details :
Input data – Chair-umpire data
Front End : React.js
Back End : spring boot microservices, Spark streaming, kafka, Zookeeper, PostgreSQL

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Data & Analytics| Second Screen (Nov 2017)

Overview: This product creates live commentary and insights on parameters such as serve locations, return positions, return placements, shot placements, fatigue indexes and numerous other parameters with a latency of few seconds after a point is played out. This screen is 100% automated and operates on principles of machine learning, marrying together disparate sets of data originating from different H/W & S/W devices
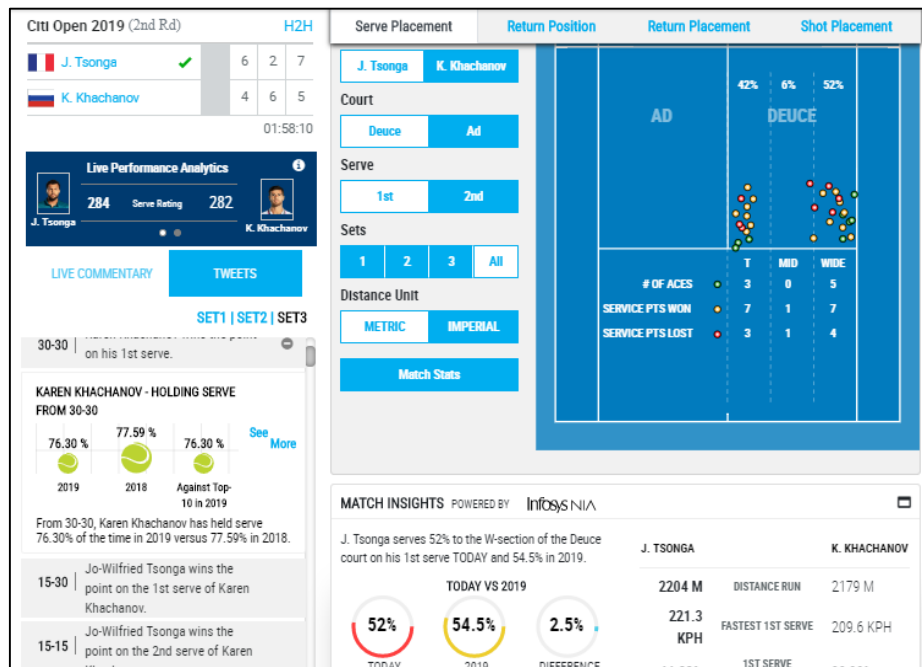**View Feature**

Technical details :
Input data – Chair-umpire data, HawkEye
Front End : angular.js, three.js
Back End : spring boot microservices, Spark streaming, kafka, Zookeeper, PostgreSQL

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Data & Analytics| AI Clips(Jan 2019)

Overview: This AI tool enables the media content team to quickly compile a narrative as soon as a match is over and share them on social platforms such as Twitter, Facebook and Instagram for quick consumption. With120 filters and 1000 possible combinations, the media team can create insightful highlights such as 'Rafa's forehand fury' and 'One-Two punch by Federer', which is easily consumed & understood by fans on social platforms.
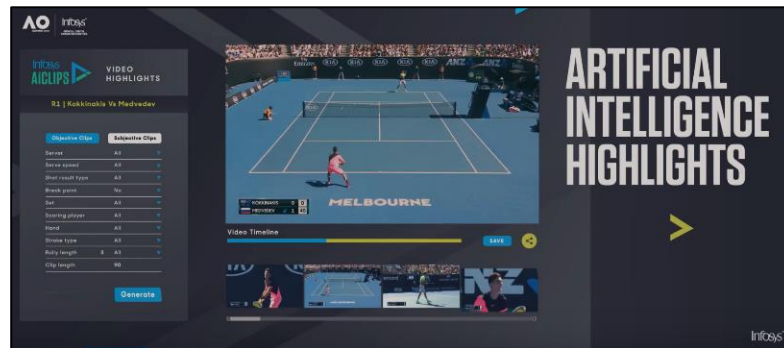
Watch Video

Technical details :
Input data – live RTMP Video feed, Chair-umpire data, HawkEye
Front End : angular.js
Back End : spring boot microservices, SRS media server, WOWZA streaming server, AWS Media convert

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Data & Analytics| Stats+ (May 2019)

Overview: Stats+ displays the stats that played a crucial role in the outcome of a match. It ranks match-statistics according to their disproportionate influence on the match, starting with the stat that had the highest influence. Influence is measured as a combination of volume and context-cruciality. This informs fans and analysts about the stats that played a pivotal role in determining the outcome of a match and helps them closely discuss, debate and draw key insights.
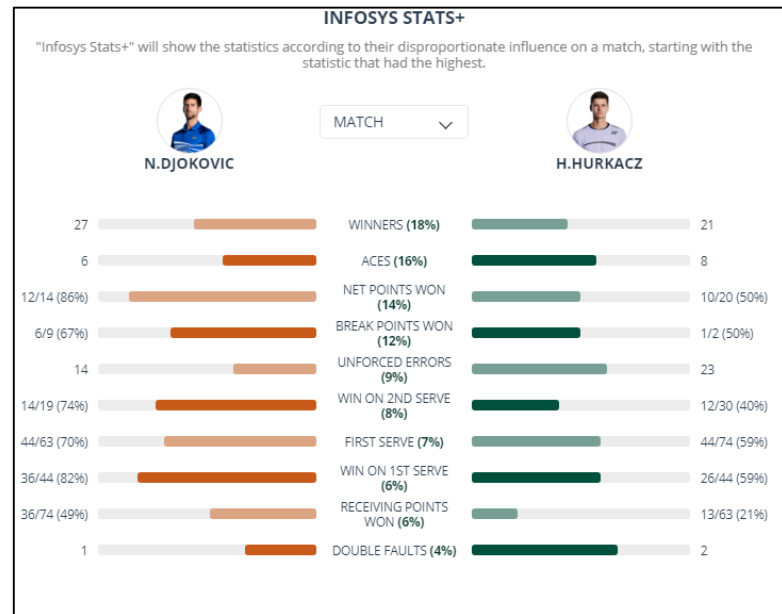
[View Feature](#)

Technical details :
Input data – Chair-umpire data
Front End : vue.js
Back End : spring boot microservices, Spark streaming, kafka, Zookeeper, PostgreSQL

INFOSYS STATS+

"Infosys Stats+" will show the statistics according to their disproportionate influence on a match, starting with the statistic that had the highest.

N.DJOKOVIC — MATCH — **H.HURKACZ**

| Djokovic	Statistic	Hurkacz
27	WINNERS (18%)	21
6	ACES (16%)	8
12/14 (86%)	NET POINTS WON (14%)	10/20 (50%)
6/9 (67%)	BREAK POINTS WON (12%)	1/2 (50%)
14	UNFORCED ERRORS (9%)	23
14/19 (74%)	WIN ON 2ND SERVE (8%)	12/30 (40%)
44/63 (70%)	FIRST SERVE (7%)	44/74 (59%)
36/44 (82%)	WIN ON 1ST SERVE (6%)	26/44 (59%)
36/74 (49%)	RECEIVING POINTS WON (6%)	13/63 (21%)
1	DOUBLE FAULTS (4%)	2

Data & Analytics| StatsLounge (May 2019)

Overview: A powerful tool that gives tennis athletes and coaches the ability to analyze how they performed, and explore their opponent's strengths and weaknesses

What we feed the A.I. is every possible data source - live feed, Hawkeye, statistician and chair umpire data..

Artificial intelligence video highlights: The Workbench uses over 1,000 combinations to generate clips of crucial match moments.

Data-driven insights: The Statistical screen is a one-stop pitstop to see what worked and what needs focus, whether it's break points converted or receiving points won.

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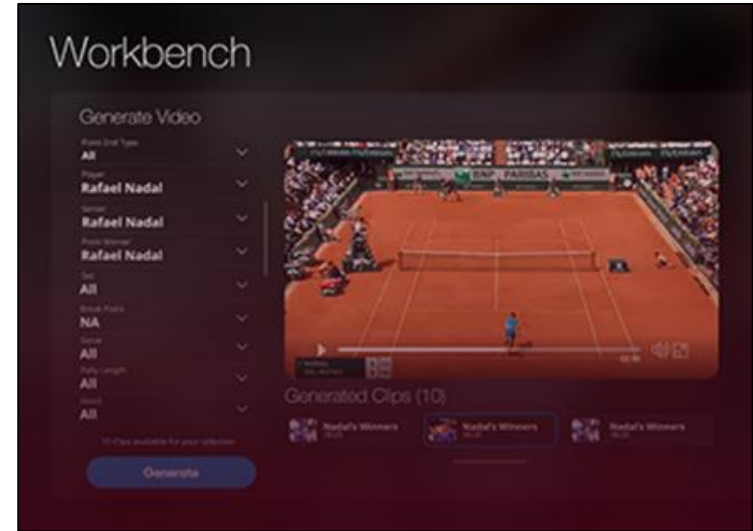
Data & Analytics| Social Heatmap (May 2019)

Overview: This feature is a unique way of highlighting the global reach of Roland-Garros among fans as it provides fans with a great opportunity to feature themselves on the official Roland-Garros website through their cool, witty and fun tweets.

Fans can also cheer for their favorite players and outrank fans of other players by engaging in a social twitter battle, thereby ensuring that their favorite player is the most trending player on the Infosys social leaderboard.
View Feature

Technical details :
**Input data** – Social Media, Live and Video
Front End : react.js
Back End : spring boot microservices, Spark streaming, ElasticSearch

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Digital Experiences| Sports Fan Apps

- Infosys has designed and developed state of the art tennis fan apps including the first ATPTour fan app and a re-imagined AO 2020 fan app.

- Build on the latest principles of design & UI/UX methodology, these apps provide customized experiences to fans across the world on the basis of their geolocation.

- Some of the unique features of these apps include:
  - Hyper-Personalization
  - What's On
  - Guided Tournament Navigations

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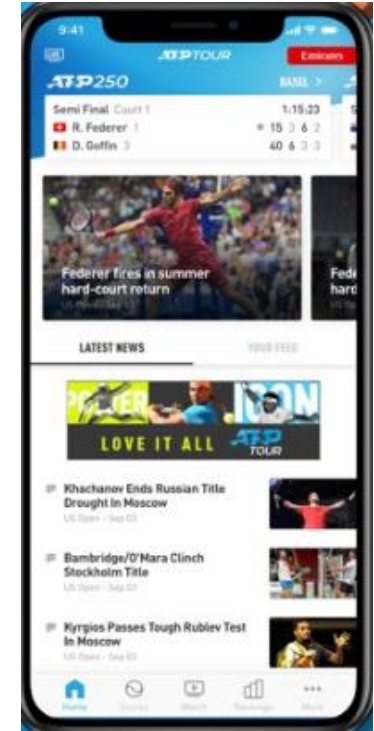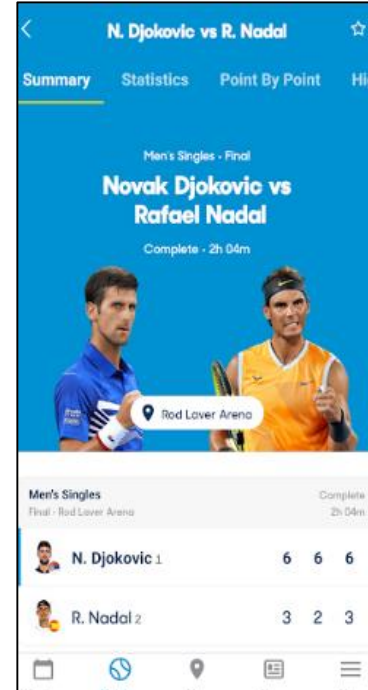
Digital Experiences| AR/VR (Nov 2016 onwards)

Infosys has built several AR and VR based solutions in tennis:

Analytical and sensor based technology provides fans with an immersive experience of playing, shopping and watching tennis in a virtual world.

Right from Social VR to 360 broadcasts, solutions that have elevated fan-engagement.

Watch Video

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Digital Experiences| 360 Live-VR Broadcast, a 5G Ready Solution

- **VR Broadcast -** To watch live and recorded tennis from on the court in virtual reality enriched with insights from the game.

- 360-degree camera feeds, 4K 60fps live stream and is a 5G ready solution.

- At Australian Open 2019, this was experienced by **25000+** fans.

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Digital Experiences| VR Moon Tennis and Music & Tennis

Moon Tennis: Game, set, moon. It's a court amid craters and you're the one making a giant leap. Grab your astrogear and smash a few winners in simulated space conditions. Your audience? Lunar rovers. Your view? The earth.

Moon Tennis

Music & Tennis: Get your winning groove on. Pick a track and keep up with the rhythm when the balls come flying in! Your mission is to return with fury and set the floor on fire.

Music & Tennis

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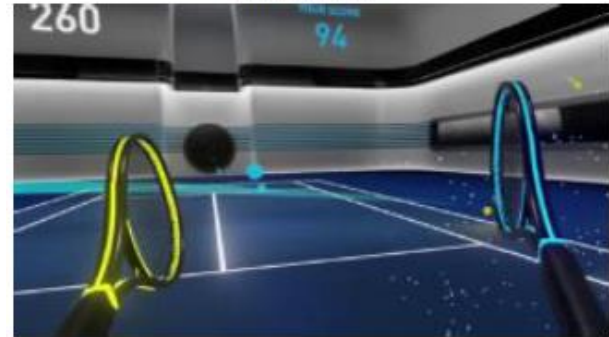
# Digital Experiences| Social VR, enter the Holographic Matrix

If VR gaming wasn't amazing enough for fans, they get to interact with virtual avatars of their friends in an immersive social world.

It takes two to tango: Through twin VR headsets, fans are transported into a virtually recreated environment where they can explore the space together.

Motion and emotion: Fans can talk to each other and interact with objects around them in this virtual world.

Built to thrill: The technology opens up fun possibilities. Want to throw and catch virtual objects like tennis balls? Get, headset, go.


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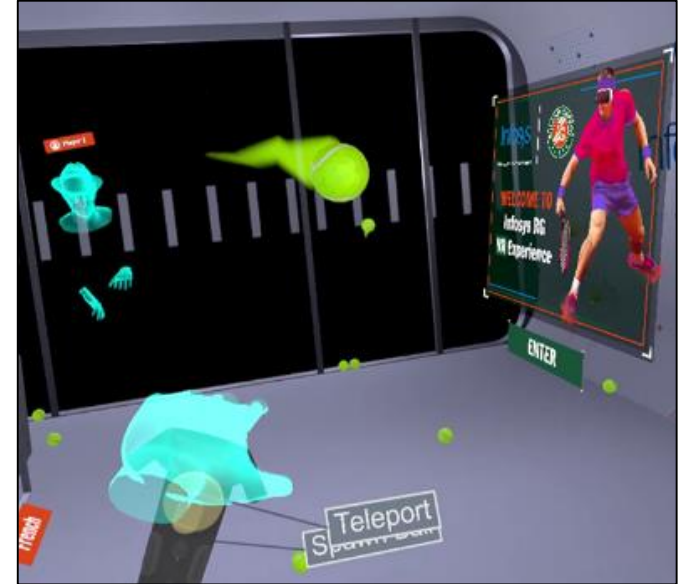
Digital Experiences| AR Multi-player Gaming and Digital Twinning

Transforming any surface into an augmented reality tennis court, this experience adds another dimension to playing with technology. With holographic surface display cast via mobile devices, fans can also switch up views by rotating the court.

And to make it more interesting, we have Notch-hardware integrated biomechanics and digital twinning in Augmented Reality.
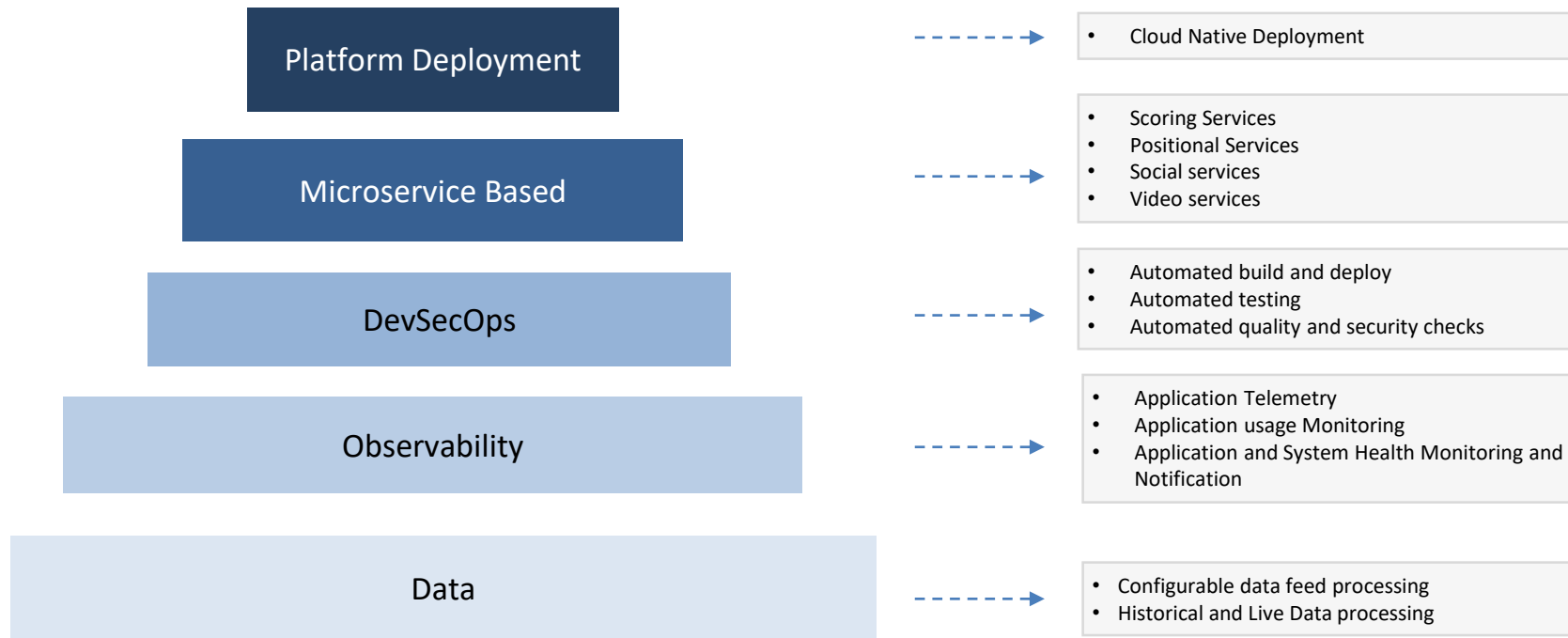

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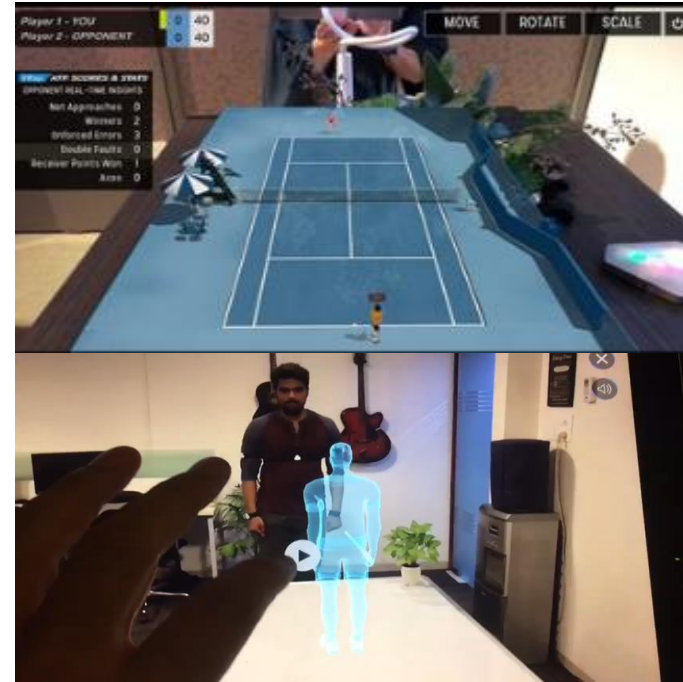
Digital Experiences| Alexa live match commentary

Alexa Integration: A first at any Grand Slam at Australian Open 2020, fans across the world were able to follow all the action from AO-2020 via Amazon's Alexa. They were be able to:

a) Listen to live commentary of matches, scores

b) Follow the podcasts from the tournament

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Architectural Features for Infosys Tennis Platform

Platform Deployment

- - - - →
- Cloud Native Deployment

Microservice Based

- - - - →
- Scoring Services
- Positional Services
- Social services
- Video services

DevSecOps

- - - - →
- Automated build and deploy
- Automated testing
- Automated quality and security checks

Observability

- - - - →
- Application Telemetry
- Application usage Monitoring
- Application and System Health Monitoring and Notification

Data

- - - - →
- Configurable data feed processing
- Historical and Live Data processing

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THANK YOU

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