





# Ahead of the game

Learn how professional sports teams  
win fans and games with analytics

From player evaluation and game strategies to fan experience and variable ticketing, analytics is making a big impact in sports.

Sports fans have always been vocal. And athletes have always been competitive. With sports analytics you have more ways to capture fan voices and measure athlete competitiveness.

This e-book documents how five professional sports teams are winning over fans and winning international competitions with analytics.

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## Boston Bruins aim for home ice advantage with analytics

Bruins use SAS® Analytics to  
improve fan experience at TD Garden



The ice at TD Garden, home of the Boston Bruins, is about to get cooler. The Boston Bruins organization – one of the original six teams of the National Hockey League – and TD Garden have signed SAS to better understand and serve the hundreds of thousands of fans who stream into the arena each year.

To take the fan experience to the next level, TD Garden's business operations will use SAS Data Quality and SAS Marketing Automation to help streamline data collection and provide a centralized analytics platform. These tools provide a comprehensive look at data from various fan touch points and will assist TD Garden and the Boston Bruins in shaping and delivering relevant content for fans both inside and outside the arena.



## Want to win and retain the best customers?

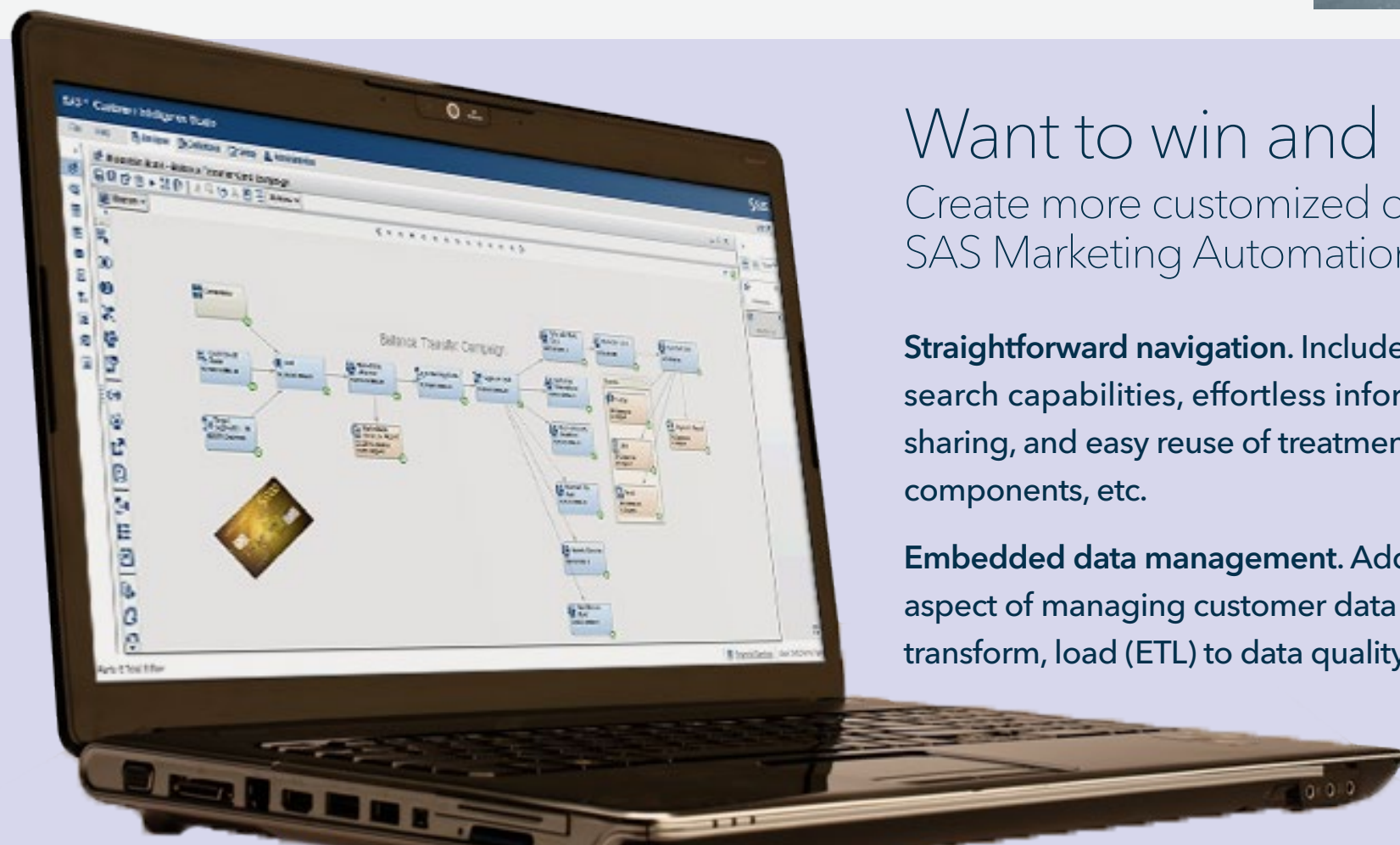
Create more customized campaigns with less hassle.  
SAS Marketing Automation features:

**Straightforward navigation.** Includes intuitive search capabilities, effortless information sharing, and easy reuse of treatments, campaign components, etc.

**Embedded data management.** Address every aspect of managing customer data – from extract, transform, load (ETL) to data quality.

**Unmatched analytics.** Includes multiple methods for campaign and component testing, as well as analytically based clustering, segmentation, modeling and priority optimization.

**Painless integration and customization.** Includes a common, open data model and custom node functionality for creating custom processes and selecting data attributes.





## Improving fan touch points

Using analytics, Bruins managers have improved fan touch points, which include everything from extra parking to cleanliness, and food and beverage vendors.

Since SAS is designed to scale, SAS will also be used by TD Garden's owner and operator, Delaware North, to deepen patron engagement at its gaming properties.



"We're always looking for ways to use technology to stay competitive on and off the ice. SAS Analytics is providing the tools that allow us to communicate with our passionate fans in a consistent, relevant and meaningful way."

**Glen Thornborough**, Chief Revenue Officer for the Boston Bruins and TD Garden

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## Time champs

The Bruins have appeared in the Stanley Cup Final **19 times** and have won it all **six times**, most recently in 2011 when they defeated the Vancouver Canucks for their first NHL title in 39 years.





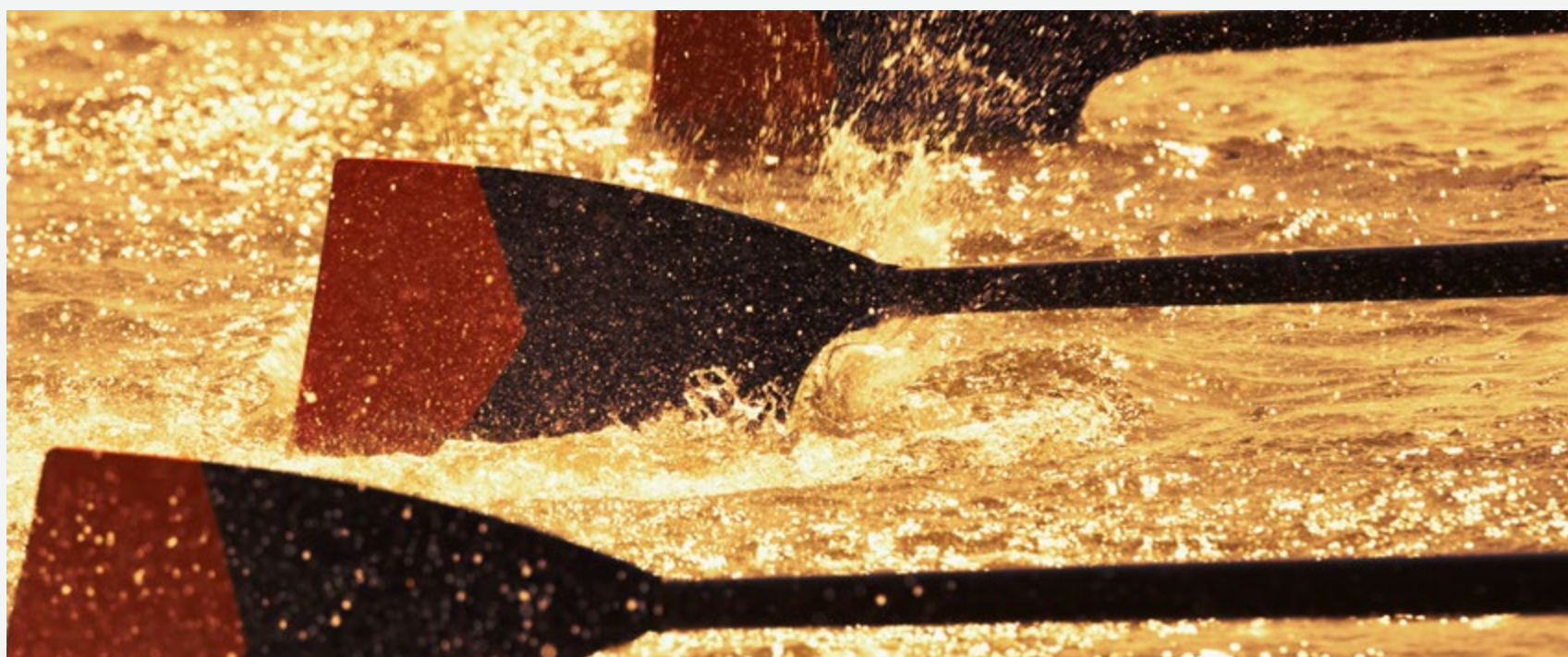
## Data helps achieve Olympic success

SAS® helps elite British rowers in their pursuit of excellence



As Great Britain's most successful Olympic sport, rowing carries a certain weight of expectation. Medals are not just hoped for – they are demanded. It's a sport where marginal gains in a number of areas can lead to dramatic benefits in competition performance. Fractions of seconds are often the difference between first and fourth, glory and despair. That's why British Rowing used SAS technology to analyze GB Rowing Team athlete data, improve training methods and enhance preparation ahead of the Rio Olympics in 2016.

British Rowing uses SAS Visual Analytics to analyze individual and team data sources. Sports scientists, coaches and team management use the data to track the performance of athletes and make better decisions. Analytics can match up rowers in different boat combinations to maximize the performance of every crew. The data can also be used to identify promising young rowers who have the potential to reach the top. Individual rowers can use analyses to tailor their training sessions for optimal impact and analytics can also be used to flag early signs of injury.



## About British Rowing

British Rowing, as the governing body for the sport, is responsible for the development of rowing in England and the training and selection of rowers to represent Great Britain. Rowing has a proud history as one of GB's most successful Olympic sports, producing World, Olympic and Paralympic champions from across the UK.

More than 825,000 people across England row, indoors or on water, each month, according to Sport England's Active Lives Survey for 2015-2016. British Rowing's mission is to lead, enable and inspire excellence in rowing at all levels.

"Bringing together that array of data, combined with data from competition, we have a massive resource to inform our training and development methods and enhance athlete performance. But the data is nothing without the tools to analyze it. By partnering with SAS we now have the capacity for much more in-depth and speedy analysis of the rowers."

**Mark Homer**  
Senior Sports Scientist  
British Rowing

# British rowers weigh in on how they use data

All athletes differ in their reliance on data.

Here's what three Olympic rowers say about their use of data.



## Olympic champion Moe Sbihi:

"I'm always asking questions about my own data and historical data from some of the leading athletes in the past. When you're trying to do something that's quite challenging you want to look at the numbers of someone who's done it before."<sup>1</sup>



## Olympic silver medalist Zoe Lee:

"I love data – I'm a big numbers person. I'm looking at data that tells me how my technique is evolving, how my physiology is changing and data about the cohesion between my teammates."<sup>1</sup>



## Olympic champion Paul Bennett:

"In the gym, analytics tells me what weights I should be lifting, what speed I should be rowing and so on. On the water, it tells us the exact timing, power and weights required to achieve the optimum combination of team members in each boat. Every subtle measurement – no matter how small – can make a big difference to the final outcome."<sup>2</sup>

1. British Rowing. "How elite rowers use data to achieve Olympic success." November 28, 2016. [www.britishrowing.org](http://www.britishrowing.org)  
2. SAS Voices blog. "Training for the games: the countdown begins!" by Paul Bennett. August 13, 2015. [blogs.sas.com](http://blogs.sas.com)

# Analytics from training to competition

During the rowing team's training sessions, SAS collects and analyzes many measures, including heart rate, body mass, muscle strength and core strength. Coaches and sports scientists use the data to make more informed training decisions. The analytics also provides customized rowing programs, tailored for each individual athlete.

During competition, data is collected through telemetry, a sensor system attached to the boats that gathers data about the rowing stroke and the boat speed. This data helps identify areas to improve for the next race.

In the history of the Olympic Games, the British Rowing Team has won a total of **68** Olympic medals:







## The magic behind the Magic

SAS® is a slam dunk for NBA's  
Orlando magic



The Orlando Magic have come a long way since their inaugural season in 1989. There weren't many wins in those early years, but the franchise has weathered the ups and downs to compete at the highest levels of the NBA.

One reason: The Orlando Magic are analytics trailblazers, reaping the benefits both on and off the court.

For example, the team uses an integrated marketing solution from SAS to help attract and reward its loyal fans. The software establishes a new digital marketing hub to unite data from online and offline channels - everything from the Magic's site and mobile app to the Amway Center box office - to help the team deliver a consistent, relevant customer experience for millions of fans worldwide.



## Analytics offers the perfect assist

Professional sports teams in smaller markets often struggle to build a big enough revenue base to compete against their larger-market rivals. By using SAS Analytics, the Orlando Magic are among the top revenue earners in the NBA, despite being in the 20th-largest market.

The Magic accomplish this feat by studying the resale ticket market to price tickets better, to predict season ticket holders at risk of defection (and lure them back), and to analyze concession and product merchandise sales to make sure the organization has what the fans want every time they enter the arena. The club has even used SAS to help coaches put together the best lineup.



"The Orlando Magic brand is already well known for exceptional customer service. By deploying SAS, we ensure that we can identify and anticipate our customers' needs, however they reach out."

**Anthony Perez** *Executive Vice President of Business Strategy* Orlando Magic

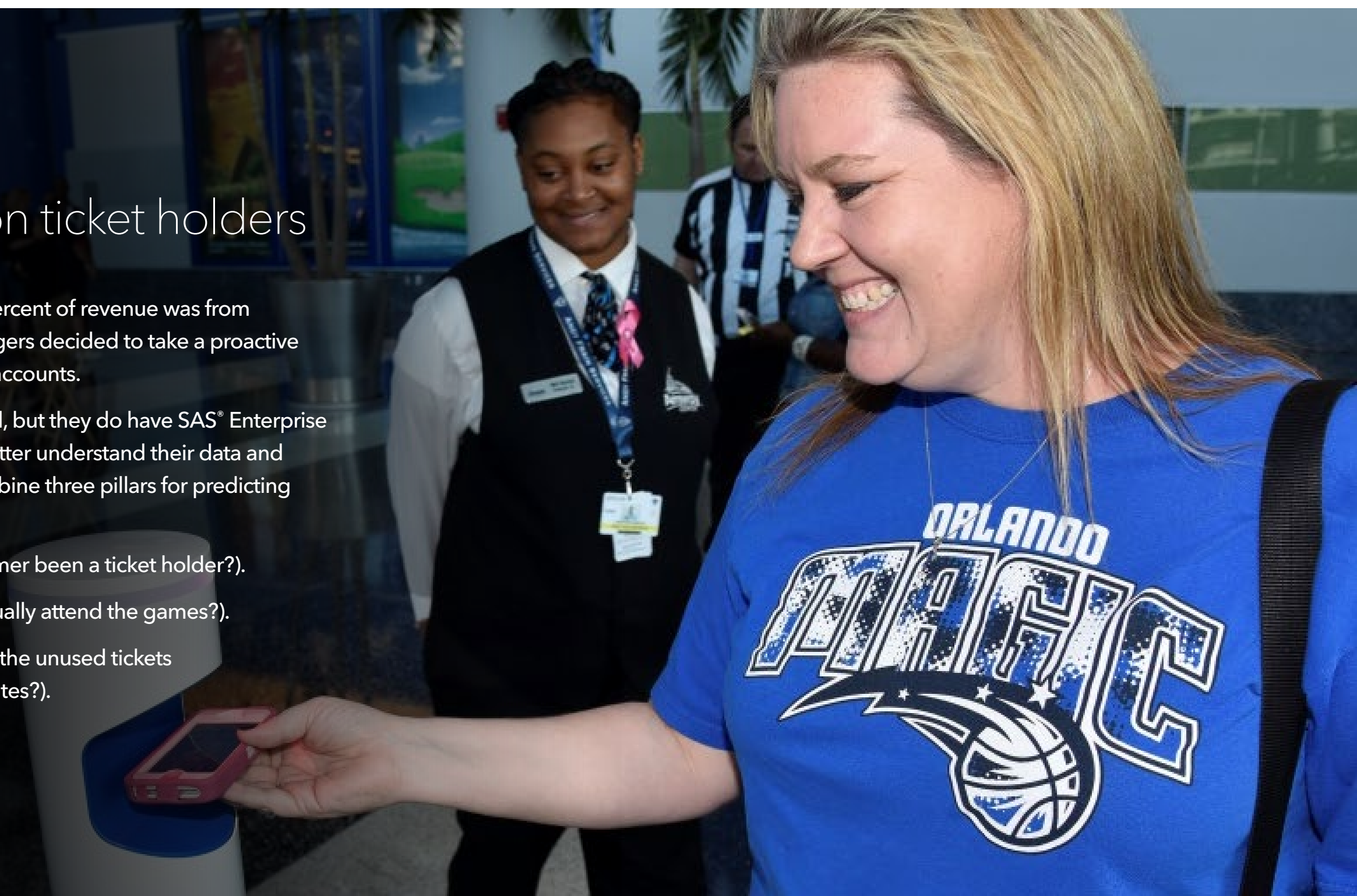


## Predicting season ticket holders

When analytics showed that 80 percent of revenue was from season ticket holders, team managers decided to take a proactive approach to renewals and at-risk accounts.

The Magic don't have a crystal ball, but they do have SAS® Enterprise Miner™, which allowed them to better understand their data and develop analytic models that combine three pillars for predicting season ticket holder renewals:

- Tenure (how long had the customer been a ticket holder?).
- Ticket use (did the customer actually attend the games?).
- Secondary market activity (were the unused tickets successfully sold on secondary sites?).



"Our biggest challenge is to customize the fan experience, and SAS helps us manage all that in a robust way."

**Alex Martins,** *CEO, Orlando Magic*





## Hitting fan experience out of the ballpark

Korean professional baseball team  
kt wiz uses customized marketing  
and data visualization to keep the  
stadium filled



Korean professional baseball team kt wiz got off to a terrific start, on and off the field, in 2015. The team had the most wins and largest audience of any new team in Korea's Premier Baseball League during its first season. To build on that success, kt wiz deployed SAS® Visual Analytics to monitor the effectiveness of its marketing campaigns and deepen customer engagement.

In the sports world, fan engagement is everything. It drives ticket sales, keeps the seats filled and brings patrons back for more. Kt wiz uses SAS to strengthen its Legend Members loyalty program, strategically manage benefits, analyze fan behavior and measure the effectiveness of marketing campaigns.



## Exceeding fan expectations

Kt wiz has a reputation built on cutting-edge technology to please patrons. Fans can:

- Book and pay for tickets from their mobile devices.
- Enter the stadium by scanning their e-tickets from their smartphones.
- Use the stadium's gigabyte Wi-Fi to get online and share photos and messages directly from the game.
- Get personalized, beacon-based push notifications about team updates, seating information, promotions and more.

Using SAS Visual Analytics to handle the team's large data sets, marketers can examine multiple variables in real time and share visually engaging results to different stakeholders.

"Win or lose, we always do our best to give our fans memorable moments, and SAS Visual Analytics helps us accomplish that."

**Han Woo Je**  
*Marketing Manager*  
kt wiz





“We can analyze fan experience from various angles and determine how to better connect with our patrons.”

**Han Woo Je**

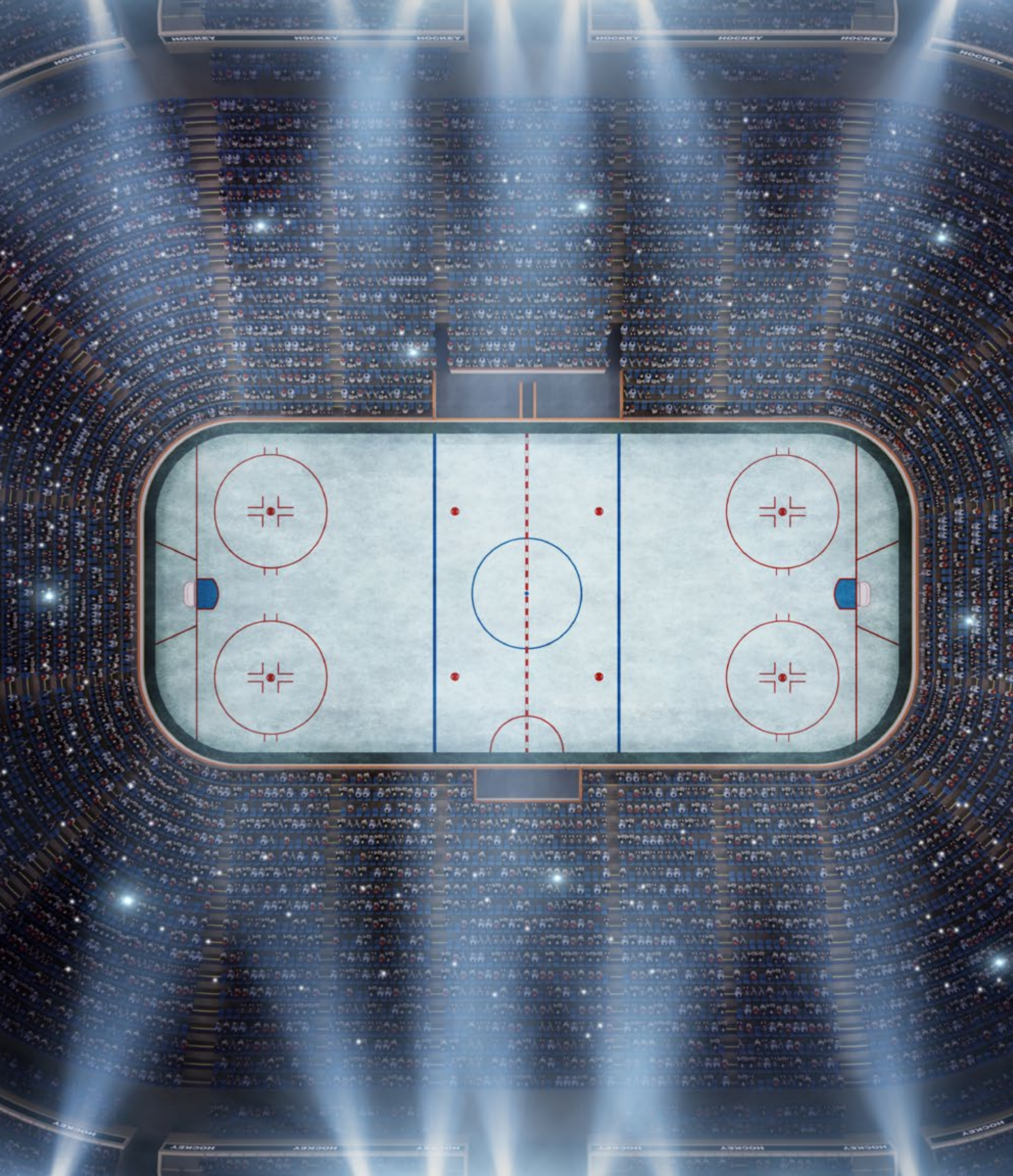
Marketing Manager  
kt wiz



## 6 ways kt wiz uses SAS®

- Reduce repetitive manual data handling tasks.
- Organize marketing campaigns more aggressively.
- Provide members with better service and more benefits at games.
- Offer fans customized events and services based on attendance and member status.
- Predict attendance figures and customer behavior patterns.
- Tailor the scale of marketing to increase game attendance.





## Analytics on ice

Swedish Ice Hockey Association uses SAS® Analytics to help select players for the World Cup of Hockey



How do you select the best hockey players from the existing pool of Swedish professionals in the National Hockey League? The Swedish Ice Hockey Association used NHL data and SAS Analytics.

Rikard Grönborg, the coach for the Swedish men's national ice hockey team, is in charge of selecting the players for Sweden's World Cup team. To avoid basing the selection on personal opinions alone, objective values are crucial. "We are specialists in hockey, not statistics. It's important that our decisions

are based on facts in order to increase our chances for success," says Grönborg. "That's why we have help from SAS."

SAS analyzed and evaluated player information from NHL.com. The data is based on 1,230 regular season matches that include 1 million substitutions and 400,000 events. Things like penalties and goal attempts count as events. The statistics not only describe how players have performed in previous matches, but also predict how to maximize the team resources over time. The goal is to optimize the resources that are available and use them at the right time and in the best part of the match.

## What is the World Cup of Hockey?

The World Cup of Hockey is an international ice hockey tournament. The competitions have happened sporadically, but will become more regular after 2016:

**1996**

The first tournament was held in 1996.

**2004**

The second event was held in 2004.

**2016**

The third competition took place September to October 2016.

After 2016, the World Cup of Hockey will be held every four years.

The tournament is a joint effort of the NHL Players' Association and the NHL, in cooperation with the International Ice Hockey Federation.

## What teams played in the World Cup of Hockey?

In 2016, the World Cup competition consisted of eight teams: Team Canada, Team Czech Republic, Team Europe, Team USA, Team Finland, Team North America, Team Russia and Team Sweden.

Team North America, originally labeled the Young Stars, comprised players from the US and Canada age 23 and under.

Team Canada won the 2016 competition in a final match against Team Europe.



## Statistical analysis vs. trainer opinions

Analyzing data from NHL.com brought objective values to the selection process for creating the Swedish team.

"The analysis takes the emotion out of the decision and shows in black and white how the players perform on the

ice. Often, the analysis has confirmed our gut feeling, but it has also brought surprising insights," says Grönborg.

The goal is to optimize available resources and use them at the right time and in the best part of the match. The

strength of statistical analysis lies in the visualization, which makes it easier to compare players and show which players stand out from the average.



"The analysis takes the emotion out of the decision and shows in black and white how the players perform on the ice. Often, the analysis has confirmed our gut feeling, but it has also brought surprising insights."

**Rikard Grönborg**, *Coach, Swedish Men's National Ice Hockey Team*



SAS® Analytics can help you discover new ways to tap into and use a variety of data sources: in-game data, coach and referee reports, panoramic feeds, biometric data, new player performance tracking, ticket sales, fan comments on social media – and more.

The result? You'll perform predictive analysis of players and rankings, analyze play-by-play effectiveness, and attract more fans to your gates.

Learn how to change your game with SAS.

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