Doug Ryder, Team Principal
NTT Pro Cycling

'We are challenging ourselves, wanting to be better. We leverage technology and data in new ways to enhance our performance daily and speed up and improve decision making.'

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Case study

NTT Pro Cycling | Global | Sport and Entertainment | Innovation
Intelligent Business

Creating a technology enabled, data and performance-driven professional cycling team

Team profile
In the professional cycling arena, NTT Pro Cycling is unique. They’re not only the first team with its roots in Africa competing on the world stage, but riding for a cause is also part of their DNA. Together with their partners they aim to be the most purpose-led, performance-driven and technology-enabled team in pro cycling today.

Working together to realize their ambition of being ranked among the top 10 cycling teams in the world.

NTT Pro Cycling is truly born in Africa, made for the world.

Summary
NTT Pro Cycling must perform at the highest level, winning races and as many UCI points as possible. This is critical to retaining a position in the cycling's World Tour, delivering value for sponsors and maximizing the exposure for the Qhubeka charity which the team support.

With thousands of riders and hundreds of races to choose from each year, NTT Pro Cycling uses data and advanced analytics to optimize the performance of the team by ensuring they recruit the best riders for their budget and selected races.

In 2020, the Team has adopted a fully integrated athlete performance management solution, for training analysis, health and wellness tracking, in-race hydration and nutrition management, injury reporting, and overall athlete condition monitoring.

Vision
Placing their trust in data-driven decision making
NTT Pro Cycling has set their sights on being one of the top 10 cycling teams in the world. Racing in the UCI World Tour means competing against some of the best funded teams, in the most iconic cycling races. In order to achieve this, the Team is leveraging the power of advanced data analytics and data platforms. This allows them to harness all their resources in the best possible way, based on real data, to perform at the highest level possible to win as many points as possible, retaining World Tour status and delivering value for their sponsors.

Attracting the best talent is a challenge for every team. NTT Pro Cycling follows a simple but effective formula, the better a team performs, the easier it is to attract talented riders in the future.

The Team is utilizing data to drive key decision making in three critical areas of performance:

- recruiting and retaining the best talent to create the best team within the available budget
- optimizing athlete performance so they can perform at their best
- constructing the most effective race calendar and team selections to maximize the potential UCI points and race results

Over the past 12 months NTT Pro Cycling, in conjunction with NTT Ltd., has been working on a comprehensive data platform that helps the Team climb the UCI rankings. The solution supports them through innovative technology that monitors and manages the performance of the riders.
They also use advanced data analytics and data science to help make key decisions faster. Working together within this ecosystem of support provides the Team with every possible advantage to be a high-performing pro sports team, both on and off the bike. Technology not only supports NTT Pro Cycling’s performance, but also its business processes. Advanced data analytics help them select riders, prepare their race calendar, and assign the right riders to the right races. Technology also helps them monitor the health of its riders by tracking physiological data through a health and wellness application.

Transformation

How NTT Pro Cycling optimizes its overall performance as a team and business

As part of NTT Pro Cycling’s drive to secure World Tour points, the Team must make tough decisions about which races to participate in. Based on last year’s rankings, they will need to double the number of points they accrue to land in the top 10.

Over the past 18 months, NTT Pro Cycling and the NTT Ltd. Advanced Technology Group Sport have jointly developed several statistical and analytical models for classifying different riders, studying career trajectories and form. Built upon data from ProCyclingStats.com, the analytics package allows the Team to distil every rider down to a matrix of strengths and weaknesses. It’s a process that runs daily in NTT Ltd.’s cloud platforms, scraping the required data, calculating all of the key metrics and then encapsulating it into a dashboard that team management can utilize to analyse different groups of riders, deep-dive into individual rider profiles and calculate the trajectory of that rider in the future.

Having the right riders with a range of skills and capabilities is an important foundation for building a successful cycling team. NTT Pro Cycling is using data to analyse every pro cyclist in the world. NTT Ltd.’s solution allows the Team to look beyond the big names, to the true ‘Moneyball’ performers - the riders who have previously been overlooked but provide a unique value proposition.

Which technologies?
- Advanced data analytics
- Data platform
- Hybrid cloud
- AI
- Machine learning

Which services?
- Digital and analytics consulting
- Data platform
- Data architecture
- Data services
- Data science
- Systems integration
- Applications managed services
- Program management

Which partners?
- Lumin Sports Technology
- Alcatel Lucent Enterprise
- Microsoft

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![Diagram of NTT Pro Cycling technologies and services](diagram.png)
Using a combination of historical data and performance metrics, the experienced sports directors are able to supplement the process by identifying riders for specific roles to help fill out the roster. Leveraging advanced data analytics, team management is able to make more informed decisions to build the best possible team, while staying within budget.

In addition to the 36 compulsory World Tour events, there are hundreds of races for teams to choose from, so making the decision about which races to participate in, with which riders, is critical to success. For that reason, NTT Pro Cycling uses data and analytics to help optimize their race calendar and utilize its resources most effectively.

The Team participates in 82 races on 256 days, across five continents every year, with up to three different races on a single day. This creates challenges in ensuring optimal team performance, logistics and identifying the most suitable race for a rider’s capabilities.

The Team uses an algorithm, taking into account the points available by race, calculated field strengths based on the calibre of riders who have competed in the past, and creates a points-per-race-day weighted by the field strength indicator. This shows where the best value races are – where they are likely to achieve the best results and therefore earn the most points.

Moreover, they use a combination of technology solutions from their ecosystem of partners including NTT Ltd., Alcatel Lucent Enterprise, Lumin Sports, Today’s Plan, Garmin and Rotor, to monitor and optimize the riders training and race preparation. Phila (an Nguni word meaning ‘to live’) is a health and wellness mobile application that provides a morning and evening questionnaire to check on the rider’s location, sleep, fatigue, mood, soreness, illness, injury, training and race feedback. It allows the coach to provide immediate feedback on the day’s training plans.

Assisting in optimizing hydration and nutrition for recovery, the team uses the Hydration and Nutrition Guidance (HANG), an automated application for use at races. The app is linked with Bluetooth Smart Scales to capture morning, pre and post-race weights to track hydration levels and provides personalized recommendations to each rider following the race.

They utilize a centralized athlete data reporting tool called ARC which integrates all the training data, health and wellness data, HANG data, and race reporting to provide the coaches and team management with performance dashboards on key metrics, including the optimal training load for each rider, race analysis and modelling training load based on rider race schedules.

**Results**

**Transforming NTT Pro Cycling’s team and operations**

NTT Pro Cycling is not the only team looking at gaps in its line-up and trying to recruit to fill those gaps. It’s also unlikely to be the only team with a data analytics solution of some kind to help with the process.

However, the Team is far ahead of the curve in the road cycling space in the level of sophistication and detail of the performance monitoring and management solution providing access to their capabilities and all the crucial data via one unified data analytics platform.

With a holistic view of the current team, the gaps they need to fill, and the potential talent available from the data and analytics solution, team management is able to make quicker, more informed decisions, taking some of the guesswork out of the process.

The 2020 NTT Pro Cycling Team uses data driven recruiting - based on team performance, the selected riders should be expected to deliver 25% more UCI points than the 2019 team did, which would result in them moving up seven positions in the UCI World ranking.
In order to move into the top 15 cycling teams in the world, they require their top 10 riders to win 25% more points than in 2019. To achieve a top 10 ranking would require double the points they accumulated in 2019.

Through optimizing the race calendar alone there is potential to increase the available points they can win by 20 - 30%.

**Initial results**

The start of the 2020 racing season has already proven to be very successful, reaping the benefits from a technology-enabled, data and performance-driven team. With an increase of 18% more UCI points, a ground-breaking 200% increase in wins and 114% more podiums compared to last year’s results, the solution in place has already proven to be of immense value to the Team and its management.

The below table shows 2019 vs. 2020 results and variances:

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>Variance</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCI Points</td>
<td>885</td>
<td>1041</td>
<td>156</td>
<td>+18%</td>
</tr>
<tr>
<td>Wins</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>+200%</td>
</tr>
<tr>
<td>Podiums</td>
<td>7</td>
<td>15</td>
<td>8</td>
<td>+114%</td>
</tr>
</tbody>
</table>

When NTT Ltd. built the data and analytics platform, the Pro Cycling team committed to use the data, applications and platforms that are collecting the data, so algorithms can be applied to analyse the data in order to make accurate data-driven decisions. The key is that they trust the data and monitor the outcomes, making adjustments along the way, to refine the solution over time and achieve the goal of becoming a top 10 World Tour cycling team.