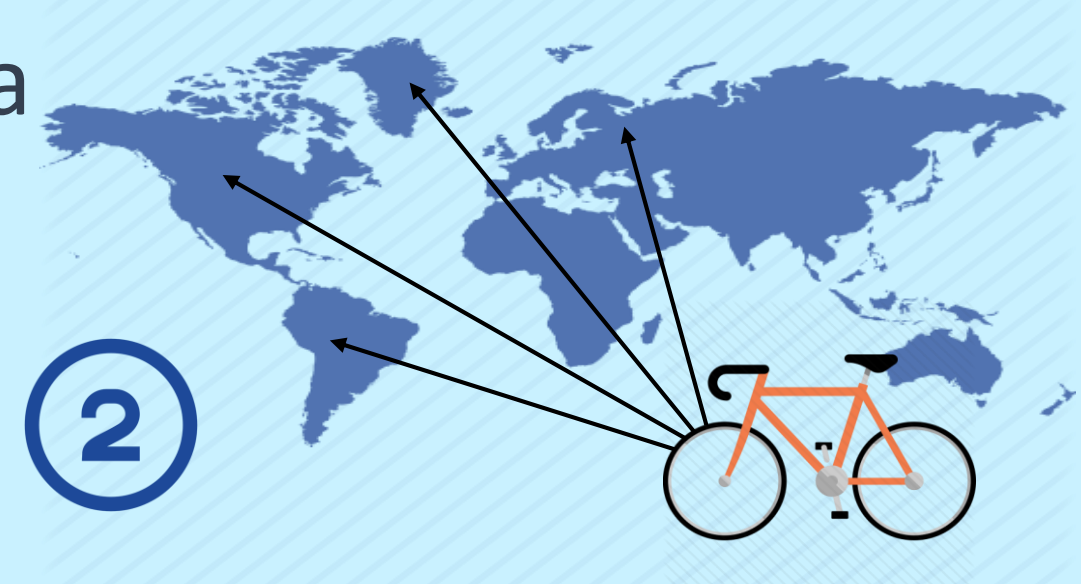


# Identifying Markets for Customized Bicycles



**1** Calculus Bikes is a start-up company that designs and builds customized bicycles for their clients based on their specified requirements and biometrics. The core team is currently situated in Hermanus, South Africa.

They want to identify their niche clients and use a data driven entrance strategy to enter the relevant, identified markets with the most client potential.



**The Problem**  
To design and manufacture a customized bike is costly and more time consuming than buying a standard bicycle from larger manufacturers. They have a very specific group of clients that have to be identified and targeted in order for them to have a competitive edge.

**3** Who are the riders?  
Where are the riders?

## The Approach

Identify the most attractive markets



## Data Analytics

Data from top level cycling statistics were gathered to determine the popularity of the sport in different countries.  
The next dataset collected was the average annual income per person in 2015 and the current exchange rate in different countries.  
The data were analysed in Rstudio to identify possible trends and select a few potential attractive markets for further analysis. Heat-maps were used to visualize the data.

## Analytic Hierarchy Process (AHP)

AHP is a multi-objective decision making technique and can be used in situations where multiple objectives are involved.  
The objectives considered were the popularity of cycling as a sport, the average annual income per person and the exchange rate in each country.  
Weights were obtained for each objective respectively in correspondence with their importance.  
The next step was to determine how well each of the potential alternatives satisfied each of the objectives. This was done using a pairwise comparison matrix.



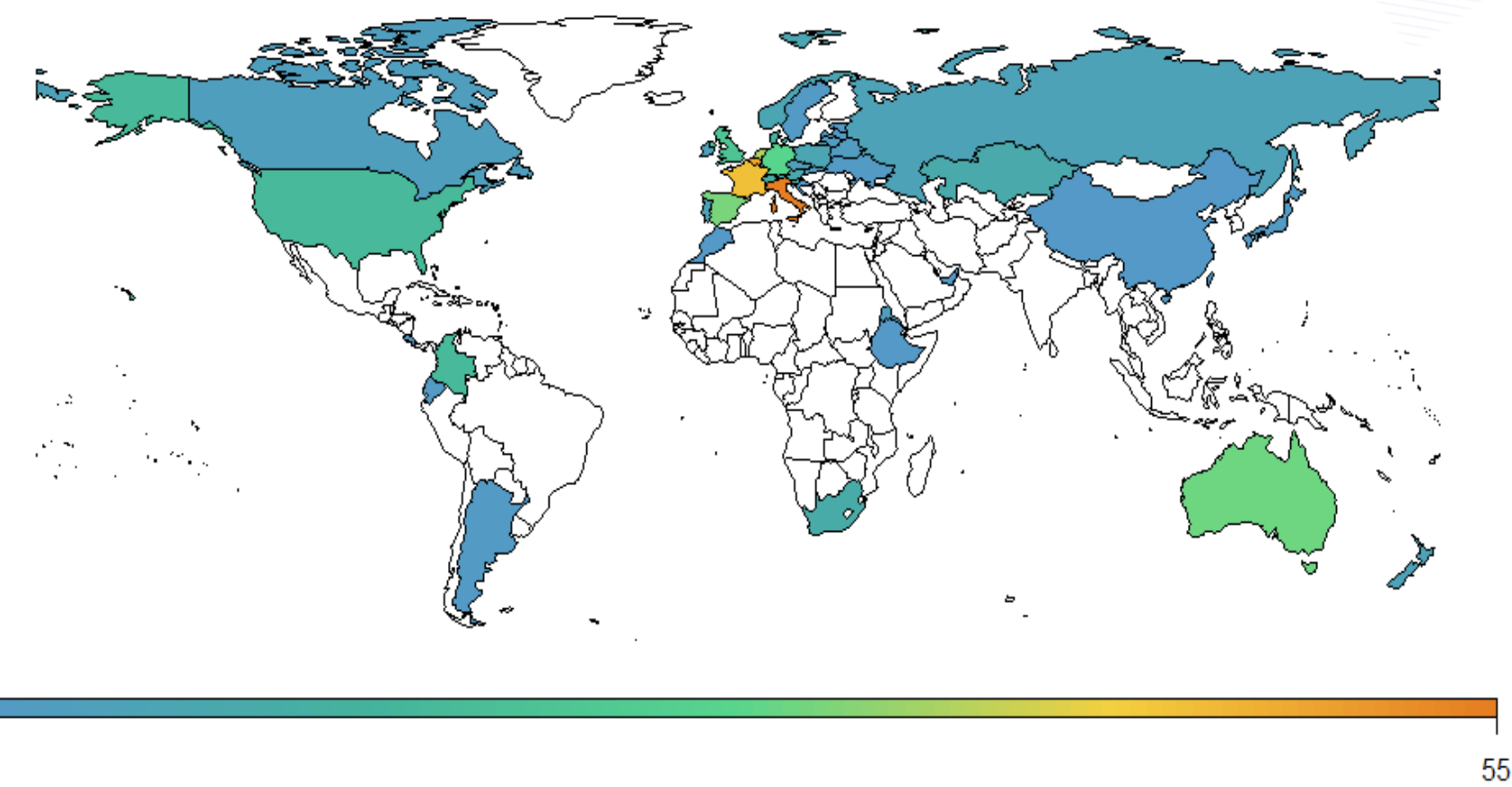
## The Results

After the second iteration of the AHP the following scores were obtained for each potential market.

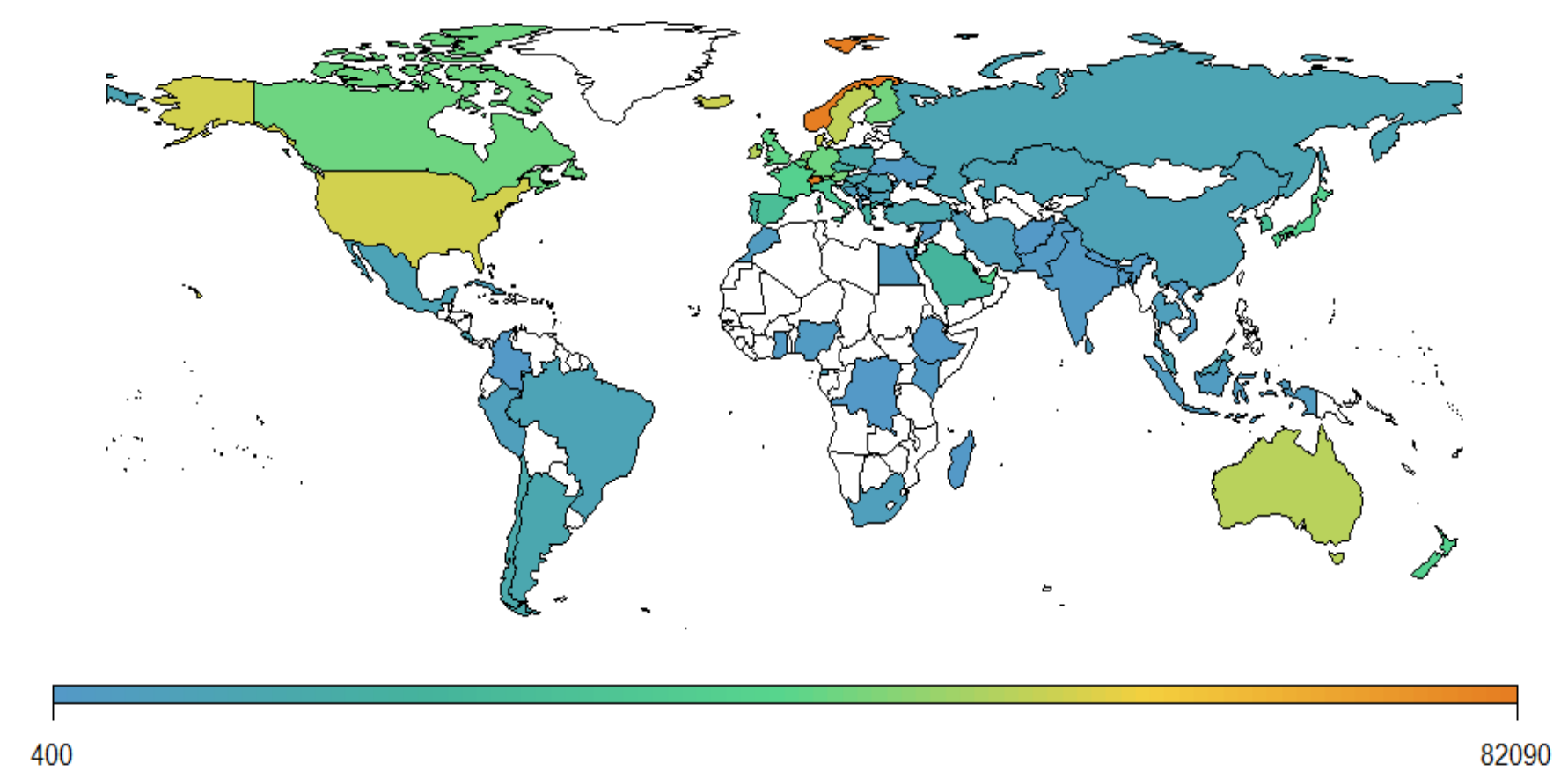
Country	AHP Score
Italy	0,337876
France	0,193525
Belgium, Netherlands, Germany	0,123813
Australia	0,165535
United States	0,178951

**5** This can be improved  
The accuracy of the results can be improved by introducing more objectives and evaluating more alternatives. Even if the correct markets have been identified, there will still be barriers to entry that have to be considered.

Riders in Top-level Teams 2018



Average Annual Income per Person (\$)



AHP Score Obtained

