

This document provides in clear all the information that was used during the F1 Strategy Competition with the exception of race strategy.

The expected results are run using a simple code that simulates theoretical seasons. This codes is comprised of two modules. The first of these modules is the same as the one used during the (livestreamed) driver signing phase. It is optional and allocates the available drivers to the competing teams based on their marketing investments and using the same probability law. The second module takes the team lineups (reliability, chassis, engine, driver 1 and driver 2) and ranks the drivers on each circuit as a function of their performance level, taking into account circuit-specific bonuses. The module then applies a DNF filter to the ranking with probability in line with the team reliability investment and attributes points to the remaining drivers in their ranking order. The point attribution and the race characteristics are as specified in the championship rules.

For Section 1, the code is run with a loop around both of these modules to average results over  $10^7$  seasons. For Section 2, the code is run in the same way except that the driver signing module is deactivated and the lineup is set to the one determined by the driver signing event for each simulated season.

Expected points scored are accurate to the tenth of point, while nor formal accuracy study has been performed for the ranking probabilities. These probabilities should, however, reflect the performance of the teams with an error inferior to one percent.

## 1 Financial phase

### 1.1 Drivers

- David Wilkinson (GBR) 5.0
- Joris Gootjes (NED) 4.8
- Ricardo Raul (BRA) 4.7
- Allan Johnson (GBR) 4.3
- Alfredo Alcarria (SPA) 4.2
- Michel Fabron (FRA) 3.8
- Luigi Disanti (ITA) 3.7
- Fabrizio Panduri (ITA) 3.4
- Carlos Arizaga (ARG) 3.3
- Philipp Krafft (GER) 3.0
- Simao Faria (POR) 2.8
- Cyprien Monnereau (FRA) 2.3
- Esteban Campos (MEX) 2.0
- Aaron Kilpatrick (IRL) 1.9
- Felix Wollen (GER) 1.8
- Germain Grisel (FRA) 1.7
- Fabian Metzger (SWI) 1.6
- Jiang Lin (CHI) 1.2
- Akiko Tomiko (JAP) 0.9
- Josh Palmer (AUS) 0.5
- Alfonso Llave (SPA) 0.2
- Mitesh Agrawal (IND) 0.0

## 1.2 Teams

| Team           | Name                        | Affiliation      | Mark. | Rel. | Cha. | Eng. |
|----------------|-----------------------------|------------------|-------|------|------|------|
| Aces           | Hafsa Mansour               | Leeds            | 2.4   | 1.4  | 1.2  | 3.0  |
| BURP           | Cédric Beaume               | Leeds            | 2.3   | 1.7  | 4.0  | 0.0  |
| forkBOMB       | Ati Sharma                  | Southampton      | 2.4   | 2.1  | 0.0  | 3.5  |
| GetAGrip       | Louis Armitage              | Nottingham Trent | 0.8   | 1.7  | 0.0  | 5.5  |
| GURU           | Demos Phedia                | Leeds            | 2.5   | 1.9  | 0.0  | 3.6  |
| JCW Racing     | Jack Craddock               | Leeds            | 2.1   | 1.8  | 0.4  | 3.7  |
| Manse Racing   | Charlie Norris              | Leeds            | 3.0   | 1.8  | 2.4  | 0.8  |
| Orange Bull    | Antonio Antoniadis          | Leeds            | 2.4   | 1.8  | 0.0  | 3.8  |
| Scuderia Senna | Harry Simpson               | Nottingham Trent | 1.0   | 1.8  | 5.2  | 0.0  |
| Shakamotosport | Max Champneys <i>et al.</i> | Sheffield        | 3.1   | 1.7  | 3.2  | 0.0  |
| Super Max      | Felix Kikuyu                | Leeds            | 2.3   | 1.2  | 2.5  | 2.0  |

Table 1: Table of the teams registered and their investment strategies. Note: after driver allocation, BURP's reliability investment was reduced to 1.5% and BURP's Chassis investment to 3.5%.

## 1.3 Expected results

|                  | Aces (Leeds) | BURP (Leeds) | forkBOMB (Southampton) | GetAGrip (Nott. Trent) | GURU (Leeds) | JCW Racing (Leeds) | Manse Racing (Leeds) | Orange Bull (Leeds) | Scuderia Senna (Nott. Trent) | Shakamotosport (Sheffield) | Super Max (Leeds) |
|------------------|--------------|--------------|------------------------|------------------------|--------------|--------------------|----------------------|---------------------|------------------------------|----------------------------|-------------------|
| Pts              | 125          | 134          | 134                    | 93                     | 145          | 125                | 151                  | 143                 | 90                           | 155                        | 103               |
| 1 <sup>st</sup>  | 8.4%         | 11.7%        | 12.9%                  | 0.5%                   | 15.8%        | 11.8%              | 9.1%                 | 15.8%               | 0.9%                         | 9.8%                       | 3.3%              |
| 2 <sup>nd</sup>  | 9.1%         | 10.7%        | 10.1%                  | 0.7%                   | 11.6%        | 8.3%               | 15.3%                | 11.2%               | 1.2%                         | 16.5%                      | 5.3%              |
| 3 <sup>rd</sup>  | 9.6%         | 9.7%         | 9.3%                   | 1.3%                   | 10.3%        | 7.4%               | 16.8%                | 9.8%                | 1.1%                         | 17.7%                      | 7.0%              |
| 4 <sup>th</sup>  | 9.8%         | 9.5%         | 9.1%                   | 3.6%                   | 9.8%         | 7.4%               | 15.5%                | 9.1%                | 2.0%                         | 15.8%                      | 8.4%              |
| 5 <sup>th</sup>  | 9.6%         | 9.0%         | 8.3%                   | 8.3%                   | 8.8%         | 7.3%               | 12.8%                | 8.4%                | 5.8%                         | 12.7%                      | 9.0%              |
| 6 <sup>th</sup>  | 8.8%         | 7.8%         | 7.3%                   | 14.3%                  | 7.5%         | 6.9%               | 9.1%                 | 7.4%                | 13.3%                        | 8.8%                       | 8.7%              |
| 7 <sup>th</sup>  | 8.2%         | 6.8%         | 7.0%                   | 18.0%                  | 6.7%         | 6.9%               | 6.2%                 | 6.7%                | 18.9%                        | 6.0%                       | 8.6%              |
| 8 <sup>th</sup>  | 8.2%         | 7.1%         | 6.7%                   | 19.5%                  | 6.3%         | 8.1%               | 4.5%                 | 6.4%                | 19.4%                        | 4.2%                       | 9.4%              |
| 9 <sup>th</sup>  | 8.6%         | 7.9%         | 6.0%                   | 18.8%                  | 5.7%         | 9.8%               | 3.6%                 | 6.5%                | 19.1%                        | 3.1%                       | 10.9%             |
| 10 <sup>th</sup> | 9.9%         | 9.9%         | 7.4%                   | 11.5%                  | 6.7%         | 12.8%              | 3.2%                 | 8.1%                | 13.5%                        | 2.7%                       | 14.3%             |
| 11 <sup>th</sup> | 9.8%         | 9.9%         | 16.0%                  | 3.5%                   | 10.8%        | 13.4%              | 3.7%                 | 10.4%               | 4.8%                         | 2.7%                       | 15.1%             |

Table 2: Expected team results in terms of number of points and ranking probability at the end of the season.

## 2 Pre-season

### 2.1 Lineups

- Aces (Leeds): Michel Fabron (3.8)–Aaron Kilpatrick (1.9)
- BURP (Leeds): Joris Gootjes (4.8)–Allan Johnson (4.3)
- forkBOMB (Southampton): Germain Grisel (1.7)–Jiang Lin (1.2)
- GetAGrip (Nott. Trent): Alfonso Llave (0.2)–Mitesh Agrawal (0.0)
- GURU (Leeds): Carlos Arizaga (3.3)–Felix Wollen (1.8)
- JCW Racing (Leeds): Philipp Krafft (3.0)–Simao Faria (2.8)
- Manse Racing (Leeds): Ricardo Raul (4.7)–Alfredo Alcarria (4.2)
- Orange Bull (Leeds): Fabrizio Panduri (3.4)–Fabian Metzger (1.6)
- Scuderia Senna (Nott. Trent): Akiko Tomiko (0.9)–Josh Palmer (0.5)
- Shakamotosport (Sheffield): Luigi Disanti (3.7)–Cyprien Monnereau (2.3)
- Super Max (Leeds): David Wilkinson (5.0)–Esteban Campos (2.0)

### 2.2 Expected results

| Pos | Driver           | Team         | Points | Pos | Driver            | Team           | Points |
|-----|------------------|--------------|--------|-----|-------------------|----------------|--------|
| 1   | Joris GOOTJES    | BURP         | 124    | 12  | Akiko TOMIKO      | Scuderia Senna | 62     |
| 2   | David WILKINSON  | Super Max    | 119    | 13  | Luigi DISANTI     | Shakamotosport | 58     |
| 3   | Ricardo RAUL     | Manse Racing | 115    | 14  | Mitesh AGRAWAL    | GetAGrip       | 44     |
| 4   | Michel FABRON    | Aces         | 101    | 15  | Josh PALMER       | Scuderia Senna | 43     |
| 5   | Fabrizio PANDURI | Orange Bull  | 91     | 16  | Aaron KILPATRICK  | Aces           | 37     |
| 6   | Allan JOHNSON    | BURP         | 88     | 17  | Esteban CAMPOS    | Super Max      | 33     |
| 7   | Alfredo ALCARRIA | Manse Racing | 83     | 18  | Felix WOLLEN      | GURU           | 29     |
| 8   | Philipp KRAFFT   | JCW Racing   | 82     | 19  | Fabian METZGER    | Orange Bull    | 29     |
| 9   | Simao FARIA      | JCW Racing   | 68     | 20  | Cyrpien MONNEREAU | Shakamotosport | 28     |
| 10  | Carlos ARIZAGA   | GURU         | 67     | 21  | Germain GRISEL    | forkBOMB       | 21     |
| 11  | Alfonso LLAVE    | GetAGrip     | 62     | 22  | Jiang LIN         | forkBOMB       | 11     |

Table 3: Expected driver results.

|                  | Aces (Leeds) | BURP (Leeds) | forkBOMB (Southampton) | GetAGrip (Nott. Trent) | GURU (Leeds) | JCW Racing (Leeds) | Manse Racing (Leeds) | Orange Bull (Leeds) | Scuderia Senna (Nott. Trent) | Shakamotosport (Sheffield) | Super Max (Leeds) |
|------------------|--------------|--------------|------------------------|------------------------|--------------|--------------------|----------------------|---------------------|------------------------------|----------------------------|-------------------|
| Pts              | 138          | 211          | 32                     | 107                    | 97           | 150                | 199                  | 120                 | 104                          | 86                         | 152               |
| 1 <sup>st</sup>  | 1.2%         | 56.0%        | 0.0%                   | 0.0%                   | 0.0%         | 0.5%               | 33.6%                | 0.0%                | 0.0%                         | 0.0%                       | 8.7%              |
| 2 <sup>nd</sup>  | 6.5%         | 26.1%        | 0.0%                   | 0.0%                   | 0.0%         | 6.2%               | 45.8%                | 0.2%                | 0.0%                         | 0.0%                       | 15.0%             |
| 3 <sup>rd</sup>  | 18.2%        | 10.3%        | 0.0%                   | 0.9%                   | 0.0%         | 29.9%              | 15.1%                | 2.5%                | 0.3%                         | 0.0%                       | 22.7%             |
| 4 <sup>th</sup>  | 22.1%        | 4.1%         | 0.0%                   | 4.4%                   | 0.2%         | 36.6%              | 3.9%                 | 10.3%               | 2.1%                         | 0.1%                       | 16.2%             |
| 5 <sup>th</sup>  | 20.6%        | 1.9%         | 0.0%                   | 12.0%                  | 1.6%         | 18.9%              | 1.2%                 | 23.3%               | 7.8%                         | 0.4%                       | 12.3%             |
| 6 <sup>th</sup>  | 11.3%        | 0.7%         | 0.0%                   | 19.8%                  | 6.7%         | 5.0%               | 0.3%                 | 29.2%               | 17.5%                        | 2.1%                       | 7.4%              |
| 7 <sup>th</sup>  | 7.2%         | 0.4%         | 0.0%                   | 20.7%                  | 17.2%        | 1.8%               | 0.1%                 | 16.7%               | 24.4%                        | 6.5%                       | 5.1%              |
| 8 <sup>th</sup>  | 5.1%         | 0.2%         | 0.0%                   | 16.4%                  | 27.7%        | 0.7%               | 0.0%                 | 9.6%                | 21.7%                        | 14.4%                      | 4.1%              |
| 9 <sup>th</sup>  | 4.1%         | 0.1%         | 0.0%                   | 13.5%                  | 30.0%        | 0.3%               | 0.0%                 | 5.4%                | 15.7%                        | 27.1%                      | 3.7%              |
| 10 <sup>th</sup> | 3.5%         | 0.1%         | 0.4%                   | 12.2%                  | 16.5%        | 0.1%               | 0.0%                 | 2.8%                | 10.3%                        | 49.4%                      | 4.7%              |
| 11 <sup>th</sup> | 0.0%         | 0.0%         | 99.6%                  | 0.1%                   | 0.0%         | 0.0%               | 0.0%                 | 0.0%                | 0.0%                         | 0.1%                       | 0.2%              |

Table 4: Expected team results.

### 3 Results

| Rk | Firstname | LASTNAME   | NAT | Team           | SPA              | BEL              | USA              | JAP              | CAN              | HUN              | MON              | ITA              | FRA              | AUS              | TOTAL |
|----|-----------|------------|-----|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------|
| 1  | Ricardo   | RAUL       | BRA | Manse Racing   | 10               | 20               | 7                | 16               | 13               | 10               | 16               | 11               | 16               | 25               | 144   |
| 2  | Fabrizio  | PANDURI    | ITA | Orange Bull    | 11               | 7                | 11               | 7                | 10               | 7                | 25               | 20               | 25               | 13               | 136   |
| 3  | Alfredo   | ALCARRIA   | SPA | Manse Racing   | 8                | 5                | 2                | 20               | 16               | 11               | 20               | 16 <sup>th</sup> | 9                | 20               | 111   |
| 4  | Joris     | GOOTJES    | NED | BURP           | 16               | 13               | 3                | 25               | 25               | DNF              | DNF              | 10               | DNF              | 16               | 108   |
| 5  | Allan     | JOHNSON    | GBR | BURP           | 13               | 16               | DNF              | 10               | 20               | 16               | DNF              | 9                | 20               | DNF              | 104   |
| 6  | Akiko     | TOMIKO     | JAP | Scuderia Senna | 7                | 25               | DNF              | 9                | 6                | 25               | DNF              | 17 <sup>th</sup> | 4                | DNF              | 76    |
| 7  | Alfonso   | LLAVE      | SPA | GetAGrip       | 5                | 10               | 25               | 3                | 5                | 6                | 3                | DNF              | 8                | 5                | 70    |
| 8  | Simao     | FARIA      | POR | JCW Racing     | 6                | 11               | 8                | 8                | 11               | 5                | DNF              | 8                | 10               | 16 <sup>th</sup> | 67    |
| 9  | David     | WILKINSON  | GBR | Super Max      | 25               | DNF              | DNF              | 13               | 8                | DNF              | 11               | DNF              | DNF              | DNF              | 57    |
| 10 | Mitesh    | AGRAWAL    | IND | GetAGrip       | DNF              | DNF              | 20               | 16 <sup>th</sup> | DNF              | DNF              | 16 <sup>th</sup> | 25               | 7                | 4                | 56    |
| 11 | Philipp   | KRAFFT     | GER | JCW Racing     | 1                | 8                | 16               | DNF              | DNF              | 1                | 13               | 13               | DNF              | 2                | 54    |
| 12 | Carlos    | ARIZAGA    | ARG | GURU           | 17 <sup>th</sup> | 16 <sup>th</sup> | 5                | DNF              | 7                | DNF              | 9                | 16               | 6                | 9                | 52    |
| 13 | Michel    | FABRON     | FRA | Aces           | 20               | DNF              | DNF              | DNF              | DNF              | 8                | 10               | 2                | 11               | DNF              | 51    |
| 14 | Germain   | GRISEL     | FRA | forkBOMB       | 4                | 4                | 10               | 2                | 2                | 3                | 7                | 7                | 1                | 8                | 48    |
| 15 | Luigi     | DISANTI    | ITA | Shakamotosport | 9                | 2                | DNF              | 11               | 9                | DNF              | DNF              | 3                | 13               | DNF              | 47    |
| 16 | Fabian    | METZGER    | SWI | Orange Bull    | DNF              | DNF              | 13               | 4                | 16 <sup>th</sup> | 2                | 8                | 6                | 3                | 11               | 47    |
| 17 | Cyprien   | MONNEREAU  | FRA | Shakamotosport | 16 <sup>th</sup> | 3                | 1                | DNF              | DNF              | 13               | 5                | 18 <sup>th</sup> | 5                | 10               | 37    |
| 18 | Josh      | PALMER     | AUS | Scuderia Senna | DNF              | 6                | 16 <sup>th</sup> | DNF              | 3                | 20               | 4                | 19 <sup>th</sup> | DNF              | 3                | 36    |
| 19 | Jiang     | LIN        | CHI | forkBOMB       | 3                | DNF              | 9                | 1                | 1                | 16 <sup>th</sup> | 2                | 5                | 16 <sup>th</sup> | 7                | 28    |
| 20 | Felix     | WOLLEN     | GER | GURU           | 18 <sup>th</sup> | 17 <sup>th</sup> | 4                | 5                | 4                | 4                | 6                | DNF              | 2                | 1                | 26    |
| 21 | Aaron     | KILPATRICK | IRL | Aces           | 2                | 1                | 6                | 6                | DNF              | DNF              | DNF              | 4                | DNF              | 6                | 25    |
| 22 | Esteban   | CAMPOS     | MEX | Super Max      | DNF              | 9                | DNF              | DNF              | DNF              | 9                | 1                | 1                | DNF              | DNF              | 20    |

Figure 1: Drivers championship final standings.

| Rk | Team           | University  | SPA              | BEL              | USA              | JAP | CAN | HUN | MON | ITA              | FRA | AUS | TOTAL |
|----|----------------|-------------|------------------|------------------|------------------|-----|-----|-----|-----|------------------|-----|-----|-------|
| 1  | Manse Racing   | Leeds       | 18               | 25               | 9                | 36  | 29  | 21  | 36  | 11               | 25  | 45  | 255   |
| 2  | BURP           | Leeds       | 29               | 29               | 3                | 35  | 45  | 16  | DNF | 19               | 20  | 16  | 212   |
| 3  | Orange Bull    | Leeds       | 11               | 7                | 24               | 11  | 10  | 9   | 33  | 26               | 28  | 24  | 183   |
| 4  | GetAGrip       | NTU         | 5                | 10               | 45               | 3   | 5   | 6   | 3   | 25               | 15  | 9   | 126   |
| 5  | JCW Racing     | Leeds       | 7                | 19               | 24               | 8   | 11  | 6   | 13  | 21               | 10  | 2   | 121   |
| 6  | Scuderia Senna | NTU         | 7                | 31               | 16 <sup>th</sup> | 9   | 9   | 45  | 4   | 17 <sup>th</sup> | 4   | 3   | 112   |
| 7  | Shakamotosport | Sheffield   | 9                | 5                | 1                | 11  | 9   | 13  | 5   | 3                | 18  | 10  | 84    |
| 8  | GURU           | Leeds       | 17 <sup>th</sup> | 16 <sup>th</sup> | 9                | 5   | 11  | 4   | 15  | 16               | 8   | 10  | 78    |
| 9  | Super Max      | Leeds       | 25               | 9                | DNF              | 13  | 8   | 9   | 12  | 1                | DNF | DNF | 77    |
| 10 | Aces           | Leeds       | 22               | 1                | 6                | 6   | DNF | 8   | 10  | 6                | 11  | 6   | 76    |
| 11 | forkBOMB       | Southampton | 7                | 4                | 19               | 3   | 3   | 3   | 9   | 12               | 1   | 15  | 76    |

Figure 2: Team championship final standings.