1st FAI World Paramotor Endurance Championship 2024 Progress update

Manston Airfield, Kent, UK

3rd - 10th August, 2024

With thanks to the official championship sponsors:

LIBERTY PARAMOTORS

vittorazi MOTORS

Location:

30 minutes drive from Port of Dover. 1h35m by train from London St. Pancras Station.
1h20m drive from London Gatwick Airport. 1h45m drive from London Heathrow Airport.

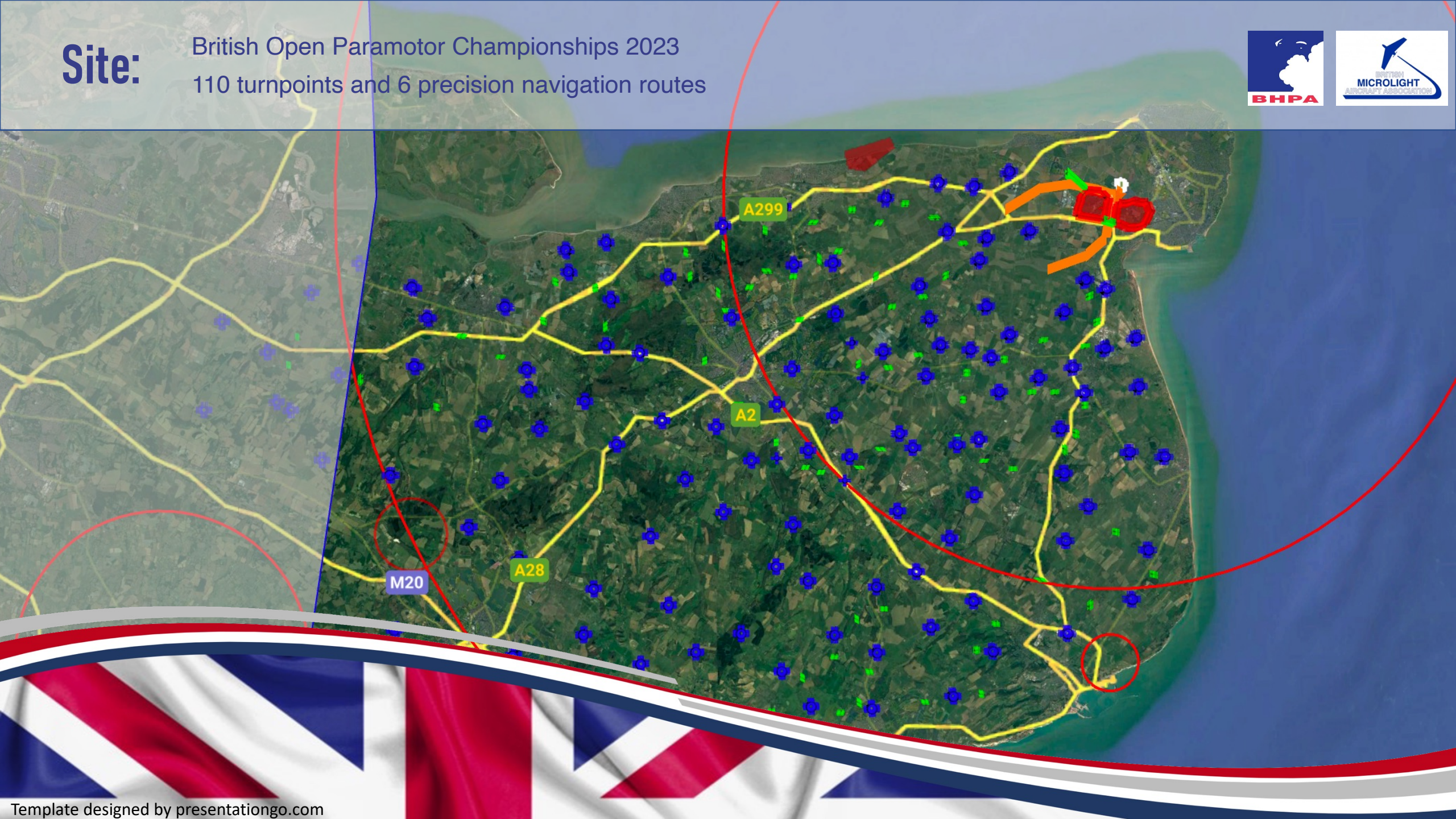
Site:

Access to >4000km^2 open airspace, mostly flat land

Site:

British Open Paramotor Championships 2023

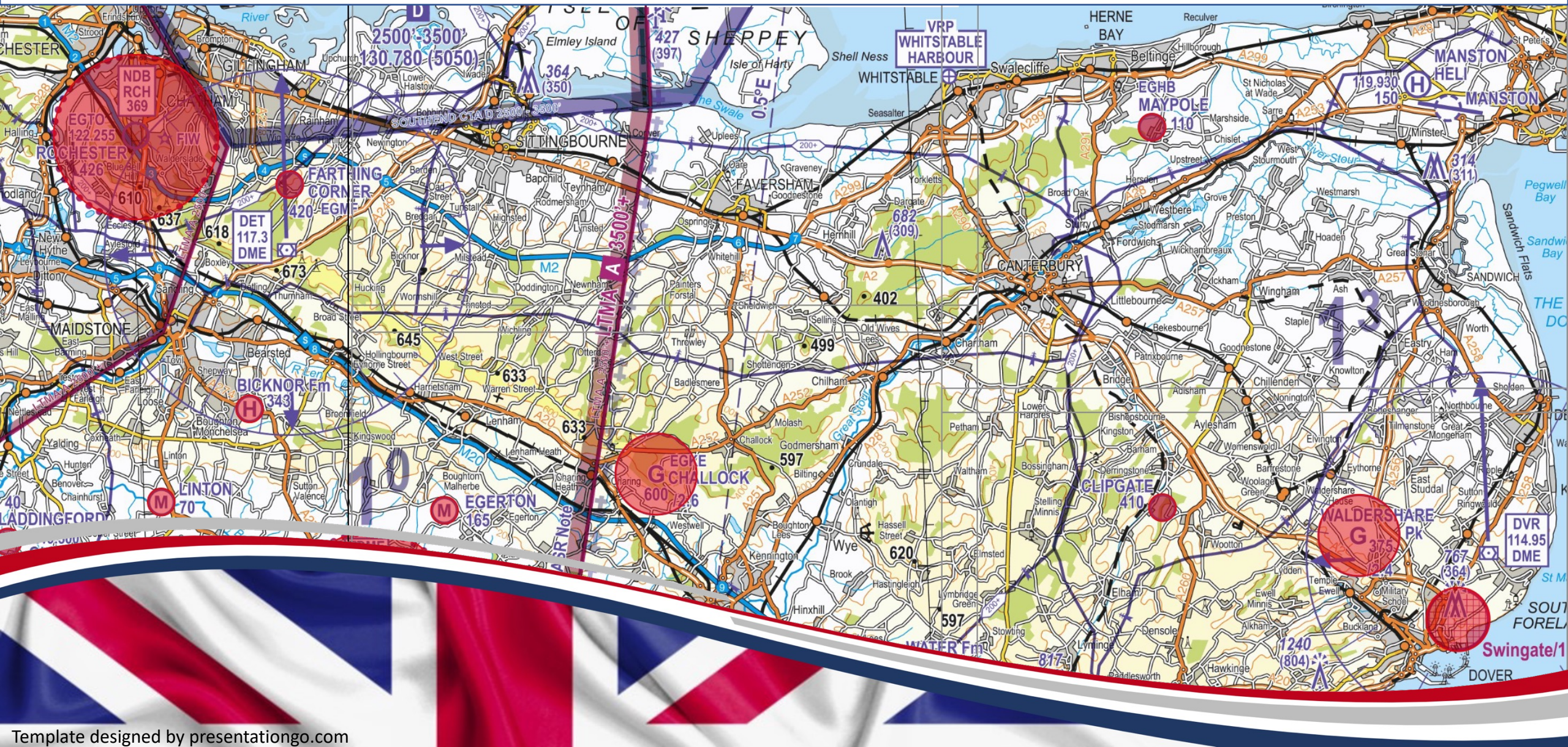
110 turnpoints and 6 precision navigation routes



Competition Area

Approximately 55km x 55km map area over 6 x A3 map panels;

Open airspace, nearest altitude limitation is 40km away at 3500'.



Site:

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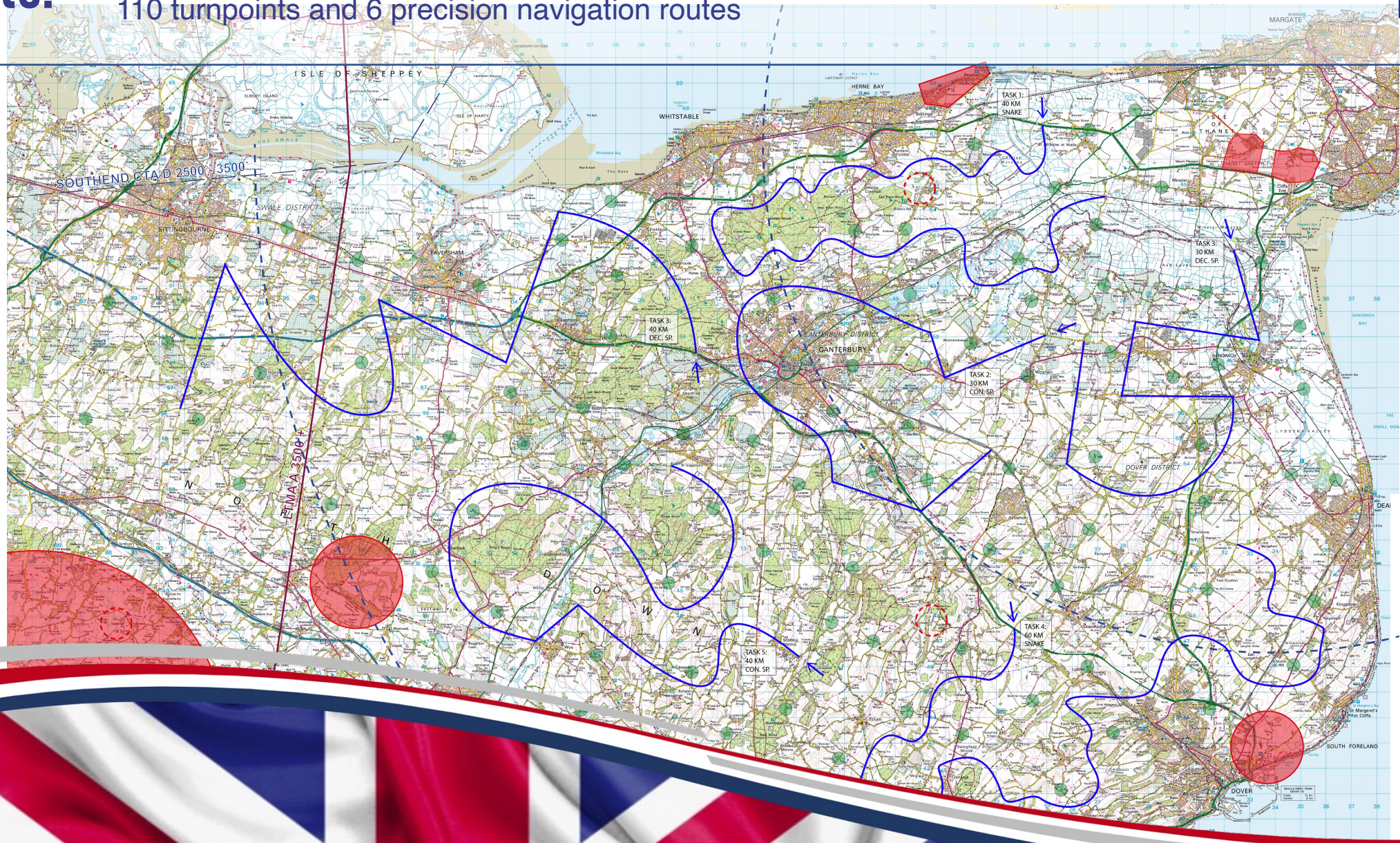
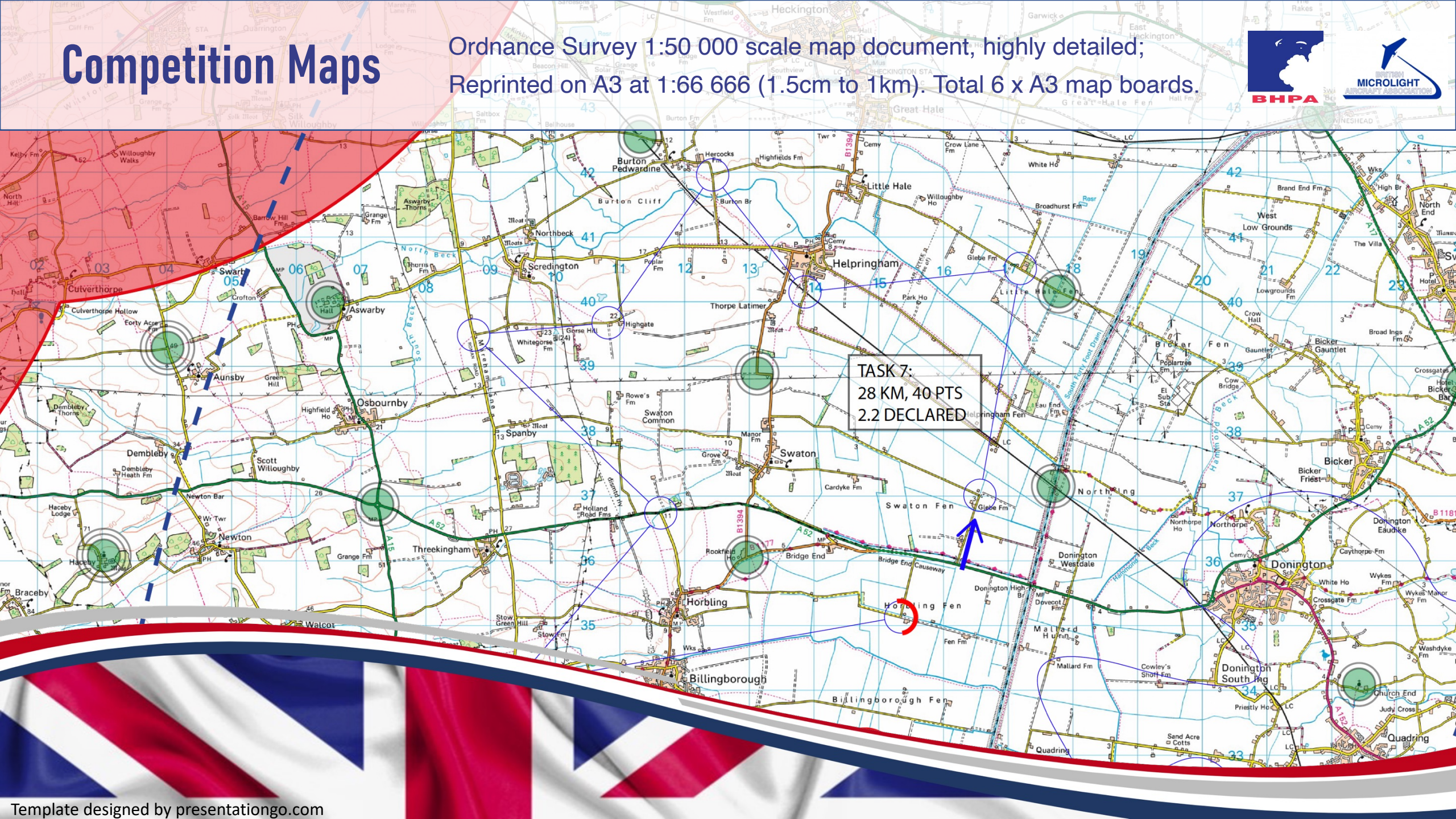


Competition Maps

Ordnance Survey 1:50 000 scale map document, highly detailed;
Reprinted on A3 at 1:66 666 (1.5cm to 1km). Total 6 x A3 map boards.



Site:

Approx. 40 acres flat grass take off deck adjacent to campsite.

Mowing will be arranged the week before the championship

Feedback and monitor report:

- Range of site/infrastructure issues to resolve: more toilets, motorhome toilet empty facilities, deck entry layout relative to tents etc etc.
  - *These arose due to the late growth of the competition numbers to 70 pilots. We will adjust for 2024.*

- Need all task types to ensure a balanced competition.
  - *This was our intention, and included in our simulations for balancing the points value, but weather prevented an eco task. Championships in 2024 will have longer period of flying days, and greater priority will be placed on ensuring enough eco tasks earlier.*

- Some logger issues resulted in lost tracks
  - *In 2024 we will implement a comprehensive testing protocol in the training days to ensure all loggers are working. All pilots are strongly advised to carry their own backup GPS units (these can be rented from the organisation as well.*

Feedback and monitor report:

- It is hard for pilots to remember all the turnpoints they have collected after one day so they know what they can still do the next day.
  - *It is not feasible under this format to release tracks individually, daily. Pilots should be marking off their tracks in the air, and if they carry their own backup logger, they can check this.*

- Grass needs to be cut, especially under the spot landing tarpaulin
  - *Grass was cut 2 weeks before the event. In 2024 it will be one week, and we will have a mower available for local extra cutting around spot landing points.*

Feedback and monitor report:

- Normalisation of tasks to 1000 points did not fairly reflect pilot effort in this format of competition, and is a safety risk that encourages pilots to stay on task even in bad weather.
  - *Normalisation was newly introduced in 2023 as a trial – previously we have always used cumulative scoring for this format. We agree that it didn't work and have reverted the scoring formulae in 2023 to be cumulative*

- Delay in scores doesn't allow tactics to be adjusted between tasks.
  - *We were surprised in 2023 by the high number of pilots who registered late, preventing time for recruiting and training more members scoring team. For 2024, we have recruited at least two new members of the scoring team, who will conduct training meetings online, and test at the BOPC, before the WPEC.*

Task Catalogue:

Cumulative, not normalised scoring for precision navigation tasks

Based on testing at BOPC2023 and feedback from monitor

- Approved in 2023

2.1 PRECISION NAVIGATION OVER A KNOWN CIRCUIT

Scoring

Pilot Score, P = $1000 \times \frac{NBp}{NBmax}$

Where:

NBp = The number of hidden gates correctly crossed.

NBmax = The maximum NBp score of any pilot in the task.

- Change for 2024

2.1 PRECISION NAVIGATION OVER A KNOWN CIRCUIT

Scoring

Each hidden gate crossed scores 50 points. A gate crossed twice or crossed in the opposite direction will be invalidated.

Spatial precision:

Vh = 50 (Value assigned to crossing a hidden gate on the track)
Nh = Number of hidden gates correctly crossed (crossed once, in order and proper direction)
Pilot Score Q = Vh * Nh

Task Catalogue:

Cumulative, not normalised scoring for precision navigation tasks

Based on testing at BOPC2023 and feedback from monitor

- Approved in 2023

2.2 PRECISION NAVIGATION WITH ESTIMATED SPEED

Scoring

Pilot Score P = $1000 \times \frac{Q}{Qmax}$

Where:

$$Q = \left(150 \times \frac{NBp}{NBmax}\right) + (300 - T)$$

- Change for 2024

Scoring

Spatial precision

Each hidden navigation gate crossed scores 25 points. A gate crossed twice or crossed in the opposite direction will be invalidated.

Vh = 25 (Value assigned to crossing a hidden gate on the track)
Nh = Number of hidden gates correctly crossed (crossed once, in order and proper direction)
Qh = Vh * Nh

Time precision

Crossing time of each timing point will be checked against the pilot declaration. Each second of error will score two negative points. If a timing point is crossed twice, the pilot will score Emax for that point.

Nt = Number of timing points.

Emax = 100 (Maximum error (in seconds) in each timing point).
(i.e. if a pilot arrives more than 100 seconds early or late for the timing gate, they will register a maximum error value of 100 seconds and no more for that gate). Emax seconds error is applied if point not flown.

Qmax = Nt * Emax (this is the maximum number of time precision points available for a perfect score on the task, and will be displayed on the competition map)

Et = Sum of absolute errors in timing points, in seconds
(i.e. the sum total of all the seconds late or early arrival at all the timing points, limited to a maximum of 100 on each individual point)

Qe = Et * 2 (applies a multiplier of 2 to the error in seconds for scoring)

Qt = Qmax – Qe

Qtmin = 0 (Qt cannot be negative, to ensure that a pilot with high timing errors will still retain their Qh score)

Pilot score: Q = Qh + Qt

Task Catalogue:

Cumulative, not normalised scoring for precision navigation tasks

Based on testing at BOPC2023 and feedback from monitor

- Approved in 2023

2.3 PRECISION NAVIGATION WITH CONSTANT SPEED

Scoring

Pilot Score P = $1000 \times \frac{Q}{Qmax}$

Where:

Q = 300 – T

T = The total difference in between calculated ETA and actual times of arrival at all timing gates. (If >=300, then T = 300)

- Change for 2024

Scoring

An estimated time for crossing each timing gate will be calculated by the organization based on the pilots time of arrival at the turnpoint that marks the end of that leg. Crossing time will be checked against this estimation. Each second of error will score two negative points. If a gate is crossed twice, time will be extracted from the first crossing.

Time precision

Nt = Number of timing gates.
Emax = 100 (Maximum error (in seconds) in each time gate).
(i.e. if a pilot arrives more than 100 seconds early or late for the timing gate, they will register a maximum error value of 100 seconds and no more for that gate). Emax seconds error is applied if gate not flown.

Qmax = Nt * Emax (this is the maximum number of points available for a perfect score on the task, and will be displayed on the competition map)

Et = Sum of absolute errors in timing gates, in seconds.
(i.e. the sum total of all the seconds late or early arrival at all the timing gates, limited to a maximum of 100 on each individual gate)

Qe = Et * 2 (applies a multiplier of 2 to the error in seconds for scoring)

Pilot Score Q = Qmax – Qe

Qmin = 0 (applies in cases where Qe > Qmax to prevent negative scores)

Task Catalogue:

Cumulative, not normalised scoring for precision navigation tasks

Based on testing at BOPC2023 and feedback from monitor

- Approved in 2023

2.4 PURE NAVIGATION

Scoring

Pilot Score, P = $N \times \frac{NBp}{NBmax}$

Where:

N = A multiplier to be defined at the briefing. The maximum score for the task will vary between 1000 and 2000 points, and will be set by the director based on the balance of points available from other task types according to the amount of flying enabled by weather. This value will be announced in the first competition briefing.

NBp = A + (2 x B) + (3 x C)

A = the number of turnpoints collected by the pilot that are weighted 1 point

B = the number of turnpoints collected by the pilot that are weighted 2 points

C = the number of turnpoints collected by the pilot that are weighted 3 points

NBmax = The maximum NBp score of any pilot in the task.

- Change for 2024

Scoring

Turnpoint score weightings will vary between 10 and 30 points according to their distance from the Airfield. These will be clearly indicated on the published maps.

Each turnpoint passed correctly in the air for the first time will score its full initial point value. Subsequent passes of that turnpoint will not score any points, but neither will they be penalised if crossed inadvertently whilst en-route towards other tasks.

If any pilot successfully collects all turnpoints on the competition map during the period of the competition, the board 'resets' and the pilot may continue to score turnpoints for a second time, with all turnpoint values set to 10 points for that pilot from that point onwards.

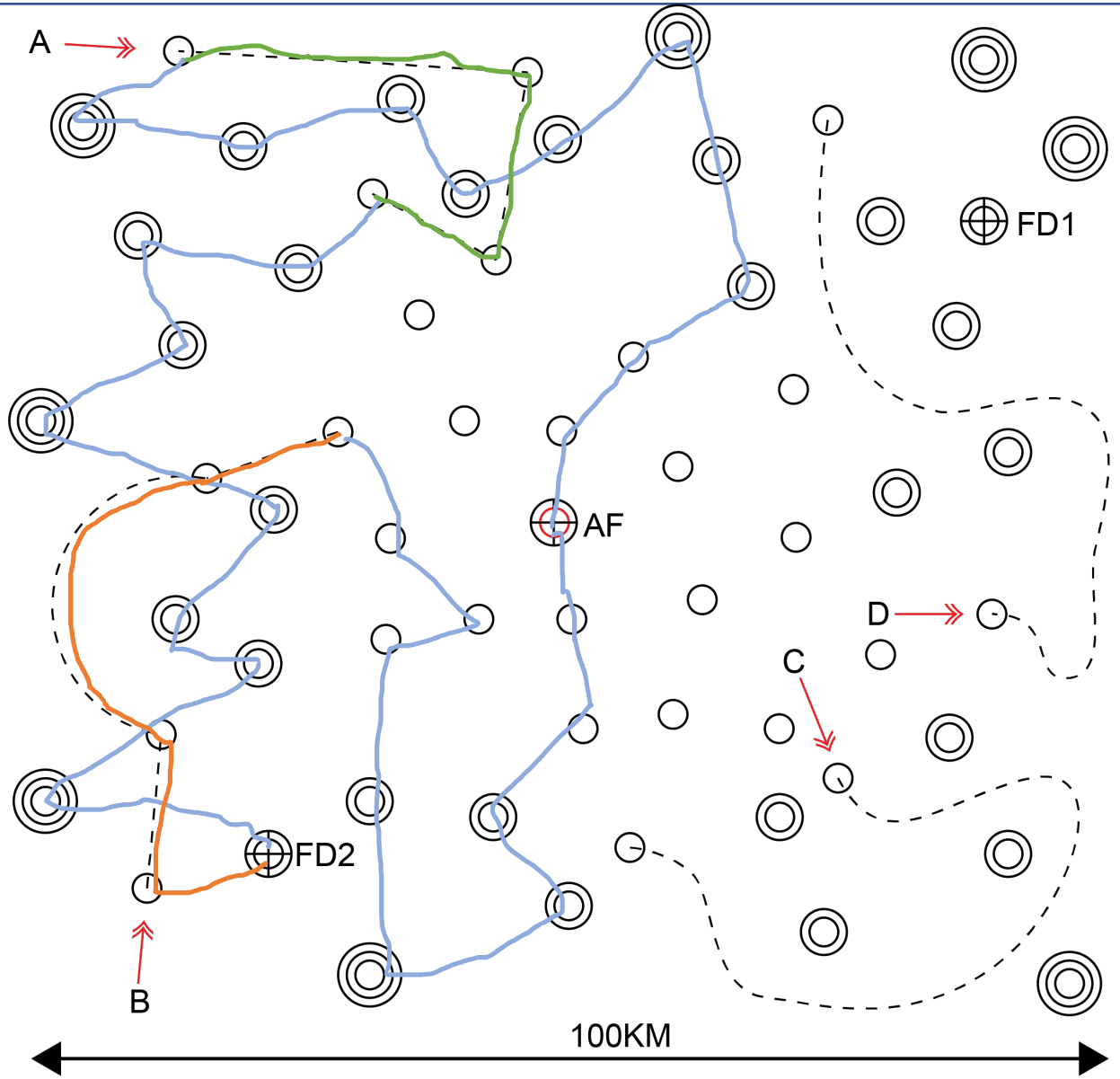
N10 = Number of 10-value turnpoints correctly crossed for the first time by the pilot

N20 = Number of 20-value turnpoints correctly crossed for the first time by the pilot

N30 = Number of 30-value turnpoints correctly crossed for the first time by the pilot

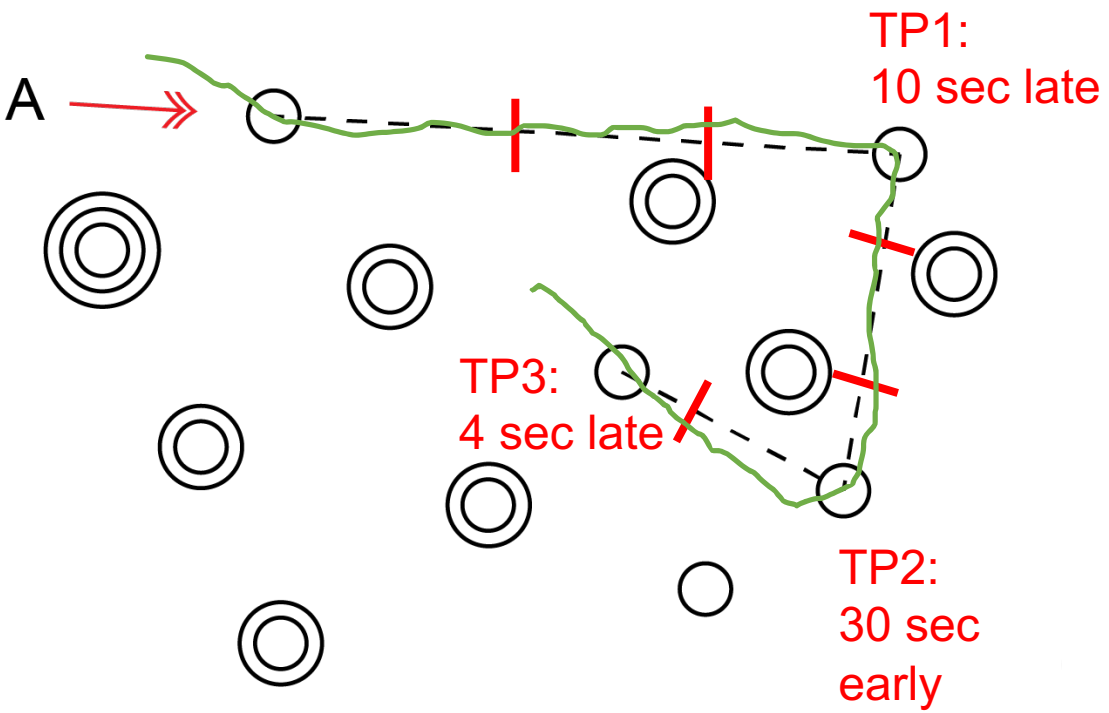
Pilot score Q = N10 + N20 +N30

Examples:



FEATURE	NOTES	POINTS VALUE
○	TP – Standard Turnpoint	No. of rings indicates value of points for first crossing in the air. i.e. One ring = 10 point, Two rings = 20 points, Three rings = 30 points No points scored for each second crossing of the same point during the competitions (no penalty either)
⊕	FD – Fuel Depot	20 points for first landing
⊕ AF	AF - Airfield	No points for flying through or performing normal landing. Pilots must conclude each competition day by flying back to Airfield to complete the day's task or accept 50% penalty on all points accrued during that flight.

Examples: Route A



Task 2.2
Precision Navigation with Estimated speed

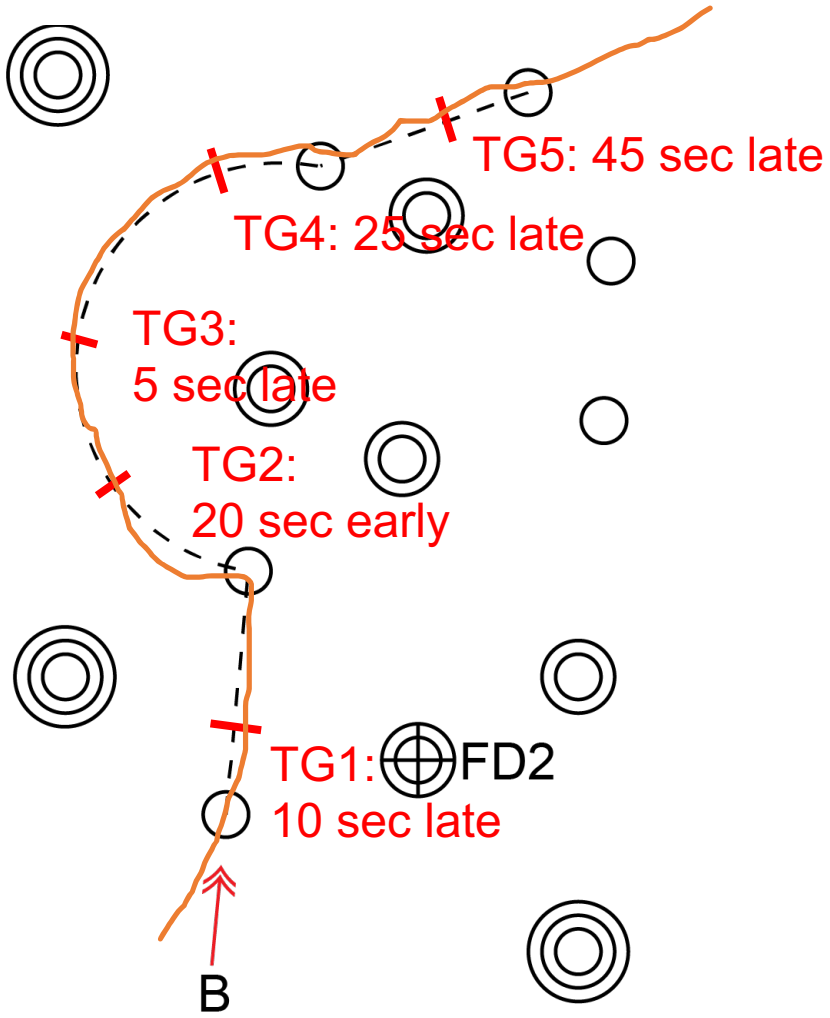
Nh = 5: This route contains a total of 5 hidden navigation gates spread over the course, and 3 timing declaration points.
Vh = 25: Value assigned to crossing each navigation gate
Qh = Vh * Nh = 125 (if pilot successfully crosses all hidden navigation gates.

Nt = 3 = Number of timing gates – one on each turnpoint on the course
Emax = 100 = maximum error allowed on each timing gate (in seconds)
Qmax = 300 = Maximum number of time precision points available for a perfect score on the task, and will be displayed on the competition map
Et = sum of absolute pilot error on each timing gate.
EG:
Gate 1: pilot arrives 10 seconds late. Et1 = 10
Gate 2: pilot arrives 30 seconds early. Et2 = 30
Gate 3: pilot arrives 4 seconds late. Et3 = 4
Et = 54
Qe = Et * 2 = 108
Qt = (Qmax – Qe) = (300 – 108) = 192

Total Q = Qh + Qt = 125 + 192 = 317 points

Route may only be flown once in the competition per pilot

Examples: Route B



Task 2.3
Precision Navigation with Constant speed

Nt = 5 = Number of hidden timing gates spaced along the course
Emax = 100 = maximum error allowed on each timing gate (in seconds)
Qmax = 500 (Maximum number of time precision points available for a perfect score on the task, and will be displayed on the competition map)
Et = sum of absolute pilot error on each timing gate.
EG:
Gate 1: pilot arrives 10 seconds late. Et1 = 10
Gate 2: pilot arrives 20 seconds early. Et2 = 20
Gate 3: pilot arrives 5 seconds late. Et3 = 5
Gate 4: pilot arrives 25 seconds late. Et4 = 25
Gate 5: pilot arrives 45 seconds late. Et5 = 45

Et = 105
Qe = Et * 2 = 210
Total Q = (Qmax – Qe) = 500 – 210 = 390 points

Route may only be flown once in the competition per pilot

Food and drink:

On-site caterer serving 3 meals a day available to purchase by the meal

Local brewery Shivering Sands providing drinks in evening

Official Championship Website: www.wpec.co.uk

- Launched in January 2024
- Official pilot registration will open in early March 2024
- Request to teams / pilots to kindly complete the expression of interest form in advance:
  https://forms.gle/qMzvmni3hwiA12Li8
- This is very important to enable us to plan budget and delivery more accurately. If we know to expect more pilots, we have budget for more benefits at the event and ability to support other costs for pilots.

1st FAI World Parmotor Endurance Championships - pre-registration form

This is a pre-registration form for interested individuals and team leaders who wish to compete to express their interest. Key details of the event are available at https://wpec.co.uk/
This is not the official pilot registration form. In responding to this form, you are not making any commitment, but the information will be very helpful to the organisers in planning and budgeting for the event, in order to provide a better experience for your pilots.
Official pilot registration will open in March 2024.

Email *

Valid email

This form is collecting emails. Change settings

...t is your name? *

Accommodation and facilities

- Extensive space for camping on site, and shower / toilet faciltiies. Power will be available in main marquee, but we cannot offer power hookup for camper vans.

- Food served from main marquee 3 meals per day:
  Breakfast: Bacon / sausage / egg roll, plus cereal / non-cooked option, tea, coffee, water
  Lunch: Range of sandwiches and salads, tea, coffee, water
  Dinner: 1 x meat, 1 x veg, 1 x fish dish, with varying themes BBQ, Chinese, Indian, Mexican etc

- Strong 4G reception across the site area, no wifi provided by organisation.

- Chairs and tables provided in marquee. Team tents available to rent by advance booking (at additional cost to teams – soon TBC)

- Social dinner and party on final evening (food included in entry fees)

Schedule of events

Date	Activity
Wednesday 17 July, 1300 UTC	Online initial briefing for team leaders
TUESDAY 30 July – Friday 02 August	Teams arrival on site Practice flying
Friday 2nd August	Official practice task window
Saturday 3rd August	Opening Ceremony First Team Leader Briefing
Sunday 4th – Friday 9th August	Competition flying days
Saturday 10th August	Awards ceremony Closing celebration
Sunday 11th August	Teams leave

British Open Paramotor Championships 2024: 18-22 June

- Held on same site in 2023 and 2024
- Same organisation and marshal team
- 70 pilots competed in 2023, of which 19 International
- 20 Places still available: book at www.ppgcomps.co.uk