



# ***MEASUREMENT REPORT***

**6<sup>th</sup> DOLIANA MOUNTAIN HALF MARATHON  
ANO DOLIANA (GRE)**

***5000m***

**2022**

***GRE / 2022 / 134 / JFD1994 A***

***Elevation change : 0 m / km***

***Separation : 0 %***

*Georgios DOUSSIS*

*Measurer A*



## *Introduction*

The K.P.S. Kynourias is the event organizer of “Doliana Mountain Half Marathon”. Its main event is an off road Half Marathon, which can't be measured by the calibrated bicycle method. The event program includes a 5K road run. The 5K road race course was measured officially and certificated in year 2017 and now should be re-measured after the expiration of its validity. The 6<sup>th</sup> edition of this event will be held in Ano Doliana, Greece on Sunday 26<sup>th</sup>, June 2022.

The race course re-measurement for the 5K race course was requested by Mrs. Ioanna SAGKA and Mr. D. KARZIS, both members of the organizing team. Then it was approved by the International Measurement Administrator, Jean-Francois DELASALLE. Indeed, the measurement of the 5K race course, 2022 edition, took place on 20<sup>th</sup> May 2022.

This mission was accomplished according to current WA and A.I.M.S. regulations and was held under good weather conditions, appropriate for measurement.

The measurement was implemented by me, Georgios DOUSSIS, Measurer WA/AIMS, Grade A. For this activity I had the support and effective cooperation of G. MEGLIS, who had a good knowledge of the entire course.

The race course has the approval of the local Municipality as the Traffic Police.

The 5K Run will start and finish at the same point, at the football court “Nikitaras” of Ano Doliana.

Start and finish point is identical and estimated by the organizers 32m away from the gate exit (see map & photo). The first 165m of the course are not asphalt surface (32m grass and 133m dirt).

The race course is a “lap” type and hilly.

There is no elevation change, because start and finish points are identical (altitude 1019m). The proposed circuit meets the WA requirements for a drop of <1m/km (Rule 260, 28c).

For the same reason the separation is 0%. The proposed circuit meets the WA requirements for separation of <50% of the overall distance (Rule 260, 28b).

The 5K race course, “Doliana Mountain Half Marathon”, 2022 edition, is approved by the Administrator under the International Performance Measurement No. GRE/2022/134/JFD1994 A dated June 26, 2022. Without modification, the validity of this measurement is 5 years.

I would like to thank Mrs. I. SAGKA for the invitation and Mr. G. MEGLIS his availability and assistance during the measurement procedure.

*Georgios DOUSSIS*  
*Measurer WA/AIMS, Grade A*



## *Contact*

Ioanna Sagka  
6, Kapnokoptiriou str.

104 33 Athens  
GREECE  
TEL +30 6945807620, 6936577585

email [ioannasagka@gmail.com](mailto:ioannasagka@gmail.com)

web site [www.rundoliana.gr](http://www.rundoliana.gr)

### **Race Director**

Spyros TRIANTAFYLLOPOULOS

+30 6973335709

email [s.a.triantafillopoulos@gmail.com](mailto:s.a.triantafillopoulos@gmail.com)

Georgios DOUSSIS

WA/AIMS Measurer A

Vas. Alexandrou Str. 20, Marousi

151 22 Athens, Greece

+302110142140

+306972004569

[doussis.g@gmail.com](mailto:doussis.g@gmail.com)



**6<sup>th</sup> DOLIANA MOUNTAIN HALF MARATHON**  
**ANO DOLIANA (GRE)**

***5000 m***

**2022**

***CERTIFICATE***

*Georgios DOUSSIS*

*Measurer A*



# INTERNATIONAL MEASUREMENT CERTIFICATE

Name of Race

**Doliana Mountain 5 km**

Location

**Ano Doliana**

Date of Race

**26/06/2022**

Date of Measurement

**20/05/2022**

Distance

**5 000 m**

Country

**GREECE**

Elevation Change

**0 m/km**

Separation

**0** % of race distance

Name(s) of the measurer(s)

**Georgios DOUSSIS**

World Athletics – AIMS Grade

**A**

Country

**GREECE**

Certificate Number

**GRE/2022/134/JFD1994A**

Expiry Date

**31/12/2026**

International Measurement Administrator

**Jean François DELASALLE**

Registered On

**31/05/2022**

Signed

This certificate certifies that the length of the above test race has been established by an accredited World Athletics – AIMS Grade A or B measurer employing the method of a bicycle calibrated with a "Jones Counter". It remains valid for 5 years subject to the course defined in the full measurement report submitted by the measurer being unchanged in any way. Any modifications to the course, however minimal, will nullify this Certificate and require a new measurement to be undertaken. Possession of this certificate does not indicate any sanction of the race by World Athletics or membership of AIMS.

In cooperation with





### Measurement Attestation

The undersigned Georgios DOUSSIS measurer WA/AIMS Grade-A certify that on request of Mrs. I. Sagka, implemented the re-measurement of the 5K race course, according to WA/AIMS rules, using a bicycle given by the Organizing Committee with a 6-digit Jones counter on it.

The race will be held on June, 26<sup>th</sup> 2022. It will be the 6<sup>th</sup> edition of this running event.

The 5K Run will start and finish at the same point, at the Ano Doliana football court (see map).

The race course is a “lap” type and hilly. It includes intensive uphill and downhill course parts.

The race course has the approval of the local Municipality as the Traffic Police. A traffic warranty is given to organizers by the local Traffic Police for the race day that the athletes will run on traffic free roads. The race organizers should take care of setting cones to separate the running rows from km 2.45 to km 3.2, which includes the way to and back from Turn Over Point.

Course restrictions and limitations are shown at the photos below.

The running surface is 95% asphalt of mainly passable to partly bad quality.

A 200m way but with a light inclination at the location “Vateri”, 1500m away from the Start/Finish in a straight line was used as a calibration course (same as of 2017). The exact position of points “A” & “B” could not be confirmed, so I measured it again according the rules. A 50N 20°C 50m steel tape is used by me and my measurement assistant for the measurement of the calibration course. In order to follow an absolutely straight way during the calibration I painted straight lines along the measured calibration way to ride on them by bicycle.

During the measurement I followed the shortest possible way according to the rules.

The weather conditions were appropriate for the measurement procedure.

After the calibration I measured the entire lap according to the organizers’ proposal. After the post calibration and the calculations (see table B) the course length excluding the arc for the U-Turn and the course part inside the football court was found -68.84m shorter than it should be. The only difference between the 2017 and 2022 measurements was a short modification just before entering the football court for the Finish. This small change was not significant and caused just few meters less distance. We kept the same location and the same arc (1.20m radius) for the U-Turn and I added +4.71m to the overall measured distance. Then I measured the missing course part inside the football court to fulfill the advertised 5K distance (see calculations on Table C).

The entire course length is now **officially measured 5000.05m.**

The Start/Finish point is marked with nail at the football court enclosure; the Turn Over Point is painted and clearly marked on the asphalt surface (see photos). No intermediate km markers are set.

There is no elevation change, because start and finish line is identical (altitude 1019m). The race course does meet the WA/AIMS requirements.

Because start and finish point is identical the separation is 0%. The race course does meet the WA/AIMS requirements.

This measurement will be valid for 5 (five) years (2017-2021). Any modification on the measured course needs a re-measurement.

Georgios DOUSSIS,

Measurer WA/AIMS, Grade A



**6<sup>th</sup> DOLIANA MOUNTAIN HALF MARATHON  
ANO DOLIANA (GRE)**

***5000m***

**2022**

***Statements of measurement - Conclusion***

*Georgios DOUSSIS*

*Measurer A*





## Statements of measurement and Conclusion

Measurement records by Georgios Doussis

### 1. Measurement of the calibration course

Date: 20.05.2022, Time: 10:10, Temperature: 24° C

Length: 200.00m (average of two measurements): 1<sup>st</sup>: 200.00m, 2<sup>nd</sup>: 200.00m, ave. : 200.00cm

Correction average length formula:  $200 \times [1 + (24-20) \times 0.0000116] = 200.00928m$

Shortening of the calibr. course by: 0 cm (measurement) - 1 cm (temperature factor) = -1 cm

**Total length 200.00m**

### 2. Calibration

Calibration		
Friday 20.05.2022, 10:30, 24° C		
Ano Doliana, "Vateri"		
Length of the calibration course (m):		<b>200</b>
Start	763000	Difference
Ride 1	765171.5	2171.5
Ride 2	767343.5	2172
Ride 3	769515	2171.5
Ride 4	771686.5	2171.5
Summary		8686.5
average		<b>2171.625</b>
<i>Working Constant:</i>		<b>10868.98313</b>

$$\text{Working Constant: } \frac{2171.625 \text{ counts} \times 1001m}{200m} = 11868.98313$$

Post Calibration		
Friday 20.05.2022, 12:15, 20.8° C		
Ano Doliana, "Vateri"		
Length of the calibration course (m):		<b>200</b>
Start	826000	Difference
Ride 1	828174	2174
Ride 2	830348	2174
Ride 3	832522	2174
Ride 4	834696	2174
Summary		8696
average		<b>2174.000</b>
<i>Finish Constant:</i>		<b>10880.87000</b>
<i>Constant of the Day:</i>		<b>10874.92656</b>

$$\text{Finish Constant: } \frac{2174 \text{ counts} \times 1001m}{200m} = 11880.87$$

$$\text{Constant of the Day: } \frac{11868.98313 + 11880.87}{2} = 11874.92656$$

### 3. Measurement of the race course

Table A							
Calibration, Working Constant: 10868.98313							
course part	from	counts	to	counts	part counts	part distance (m)	course distance (m)
1	enter/exit gate football court	772000	end of dirt road behind hostel, right turn	773451	1451	133.50	133.50
2	end of dirt road behind hostel, right turn	773451	highest course point, wooden column DEI	785904	12453	1145.74	1279.24
3	highest course point, wooden column DEI	785904	exit to main road, right turn	794573	8669	797.59	2076.83
4	exit to main road, right turn	794573	enter deviation Ag. Ioannis, right turn	796657	2084	191.74	2268.57
5	enter deviation Ag. Ioannis, right turn	796657	exit deviation Ag. Ioannis, right turn	798327	1670	153.65	2422.21
6	exit deviation Ag. Ioannis, right turn	798327	Turn Over Point (measurement 2017)	801557	3230	297.18	2719.39
7	Turn Over Point (measurement 2017)	801557	exit Ag. Ioannis, straight!	804797	3240	298.10	3017.49
8	exit Ag. Ioannis, straight!	804797	enter Ag. Ioannis, straight!	806547	1750	161.01	3178.49
9	enter Ag. Ioannis, straight!	806547	village parking, manhole	819627	13080	1203.42	4381.92
10	village parking, manhole	819627	right turn to Iroon	823568	3941	362.59	4744.51
11	right turn to Iroon	823568	Iroon, statue behind Hostel	824734	1166	107.28	4851.79
12	Iroon, statue behind Hostel	824734	enter/exit gate football court	825626	892	82.07	4933.86
				counts:	53626		

Table B							
Calibration, Constant of the Day: 10874.92656							
course part	from	counts	to	counts	part counts	part distance (m)	course distance (m)
1	enter/exit gate football court	772000	end of dirt road behind hostel, right turn	773451	1451	133.43	133.43
2	end of dirt road behind hostel, right turn	773451	highest course point, wooden column DEI	785904	12453	1145.11	1278.54
3	highest course point, wooden column DEI	785904	exit to main road, right turn	794573	8669	797.15	2075.69
4	exit to main road, right turn	794573	enter deviation Ag. Ioannis, right turn	796657	2084	191.63	2267.33
5	enter deviation Ag. Ioannis, right turn	796657	exit deviation Ag. Ioannis, right turn	798327	1670	153.56	2420.89
6	exit deviation Ag. Ioannis, right turn	798327	Turn Over Point (measurement 2017)	801557	3230	297.01	2717.90
7	Turn Over Point (measurement 2017)	801557	exit Ag. Ioannis, straight!	804797	3240	297.93	3015.84
8	exit Ag. Ioannis, straight!	804797	enter Ag. Ioannis, straight!	806547	1750	160.92	3176.76
9	enter Ag. Ioannis, straight!	806547	village parking, manhole	819627	13080	1202.77	4379.52
10	village parking, manhole	819627	right turn to Iroon	823568	3941	362.39	4741.92
11	right turn to Iroon	823568	Iroon, statue behind Hostel	824734	1166	107.22	4849.14
12	Iroon, statue behind Hostel	824734	enter/exit gate football court	825626	892	82.02	4931.16
				counts:	53626		

### 4. Calculation of the length of the race course and modification of the measured course

	counts	distance (m)
5K should be	54375	5000.00
missing distance	-749	-68.84

The distance of the whole lap excluding the arc for the U-Turn and the course part inside the football court was found (after the Post Calibration and the calculations) -68.84m (-749 counts) shorter than it had to be.

The organizers decided to keep the previous arc for the U-Turn, so I added 4.71m (see Table C below) to the overall measured distance. Then I measured the course part inside the football court (way & back) to fulfill the advertised 5K distance.

Final Table C, incl. modifications							
Calibration, Constant of the Day: 10874.92656		blue fonts for the added course parts					
course part	from	counts	to	counts	part counts	part distance (m)	course distance (m)
1	Start/Finish	836000	enter/exit gate football court	836349	349	32.09	32.09
2	enter/exit gate football court	772000	end of dirt road behind hostel, right turn	773451	1451	133.43	165.52
3	end of dirt road behind hostel, right turn	773451	highest course point, wooden column DEI	785904	12453	1145.11	1310.63
4	highest course point, wooden column DEI	785904	exit to main road, right turn	794573	8669	797.15	2107.78
5	exit to main road, right turn	794573	enter deviation Ag. Ioannis, right turn	796657	2084	191.63	2299.42
6	enter deviation Ag. Ioannis, right turn	796657	exit deviation Ag. Ioannis, right turn	798327	1670	153.56	2452.98
7	exit deviation Ag. Ioannis, right turn	798327	Turn Over Point (measurement 2017)	801557	3230	297.01	2750.00
8	add of a 1.20m radius arc (same as 2017), $(1.20m + 0.30m) \times 3.14 = 4.71m$					4.71	2754.71
9	Turn Over Point (measurement 2017)	801557	exit Ag. Ioannis, straight!	804797	3240	297.93	3052.64
10	exit Ag. Ioannis, straight!	804797	enter Ag. Ioannis, straight!	806547	1750	160.92	3213.56
11	enter Ag. Ioannis, straight!	806547	village parking, manhole	819627	13080	1202.77	4416.33
12	village parking, manhole	819627	right turn to Iroon	823568	3941	362.39	4778.72
13	right turn to Iroon	823568	Iroon, statue behind Hostel	824734	1166	107.22	4885.94
14	Iroon, statue behind Hostel	824734	enter/exit gate football court	825626	892	82.02	4967.96
15	enter/exit gate football court	836000	Start/Finish	836349	349	32.09	5000.05

The entire lap length is now **officially measured 5000.05m.**

### 5. Final adjustments to the race course and Conclusion

Start/Finish, Turn Over Point and its belonged arc are clearly marked. The position of each point is described in details in the following pages (see photos). No intermediate points are set. The list of streets and pathways, maps included, is given in the following pages showing the limitations for the markup of the course.

Georgios DOUSSIS

Measurer WA/AIMS, Grade A



# ***Course points Positions***

Georgios Doussis  
Measurer A



## START & FINISH



Georgios Doussis  
Measurer A



## ***Course points description***

<b>Start</b>	Άνω Δολιανά, γήπεδο ποδοσφαίρου, 32,09μ διαγώνια από την πύλη εξόδου, 27,00μ από το δοκάρι του τέρματος, 15,20μ από το σίδηρο περίφραξης στην ευθεία από την αρχή των κερκίδων, στο ύψος της βρύσης. Μήκος γραμμής εκκίνησης 4,00μ
<b>Turn Over Point</b>	297μ μετά την έξοδο από Αη Γιάνη και τα σκαλοπάτια εξόδου. Ακτίνα τόξου 1,20μ
<b>Finish</b>	Άνω Δολιανά, γήπεδο ποδοσφαίρου, 32,09μ διαγώνια από την πύλη εξόδου, 27,00μ από το δοκάρι του τέρματος, 15,20μ από το σίδηρο περίφραξης στην ευθεία από την αρχή των κερκίδων, στο ύψος της βρύσης. Μήκος γραμμής εκκίνησης 4,00μ

Georgios Doussis  
Measurer A



***MAPS***

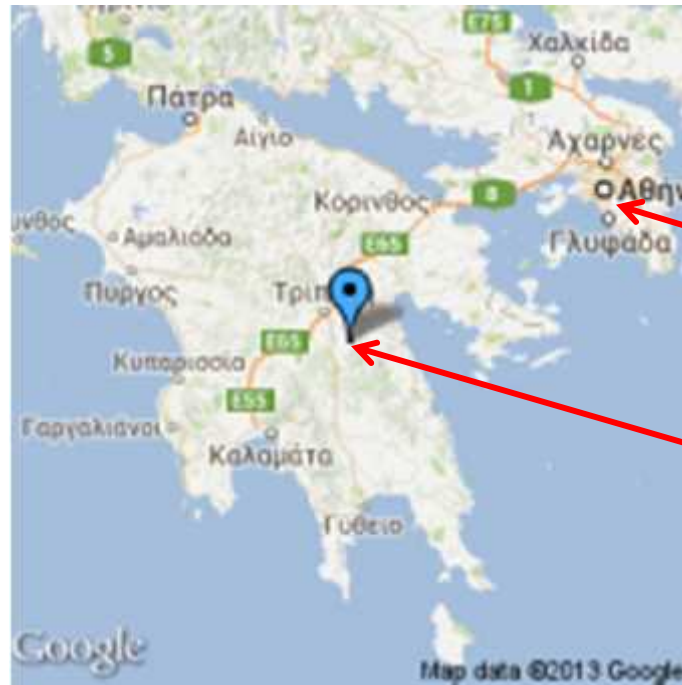
***&***

***Course Details & Restrictions***

Georgios Doussis  
Measurer A



## *Ano Doliana location*



Athens

Ano Doliana



Georgios Doussis  
Measurer A





## Course Details

### *Whole Course 5K*



### ***Altitude***

**Start: 1019m**

**Finish: 1019m**

***Elevation change: 0m/km***

### ***Separation***

**Start to Finish: 0m**

***0%***

Georgios Doussis  
Measurer A



## Course Details

### *First course part (165m)*

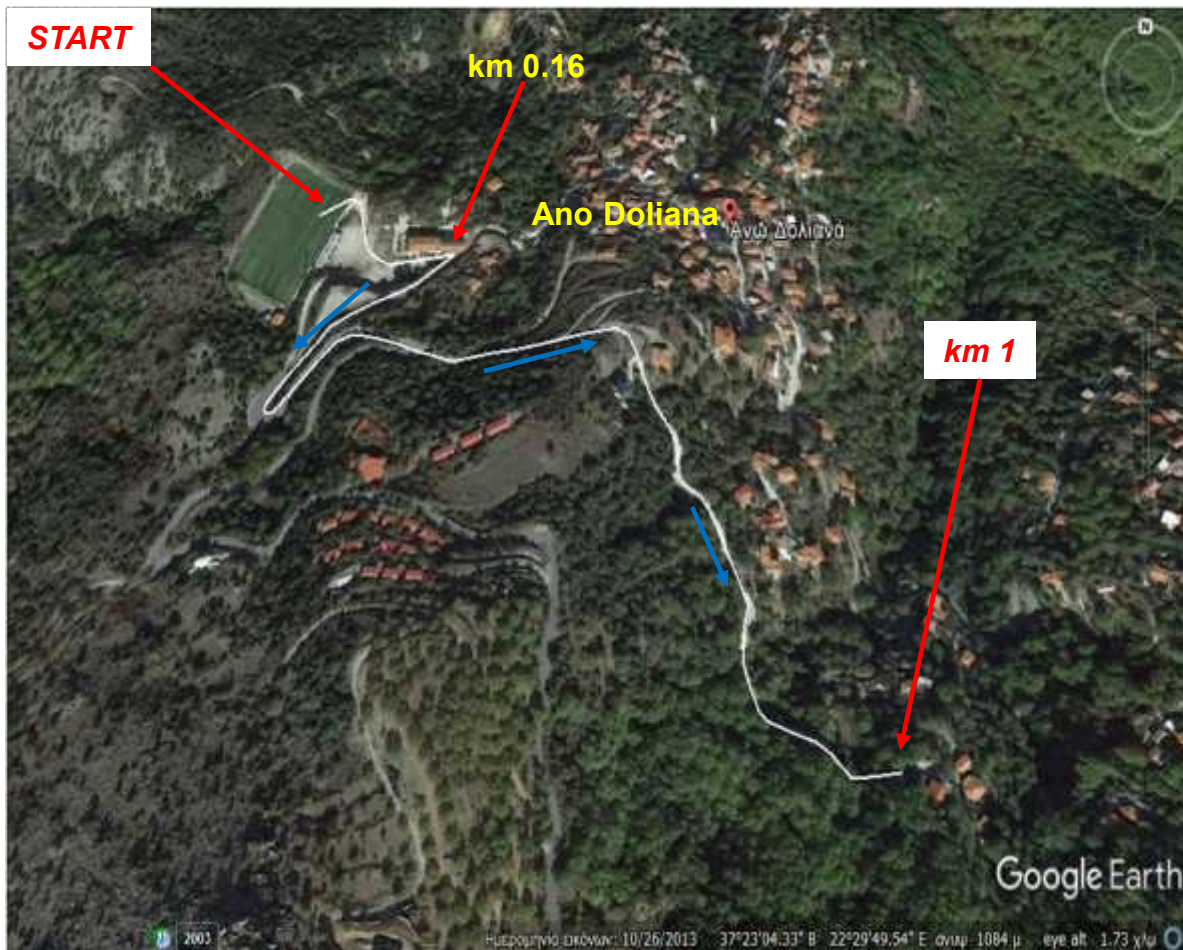


Georgios Doussis  
Measurer A



## Course Details

### *START to km 1*

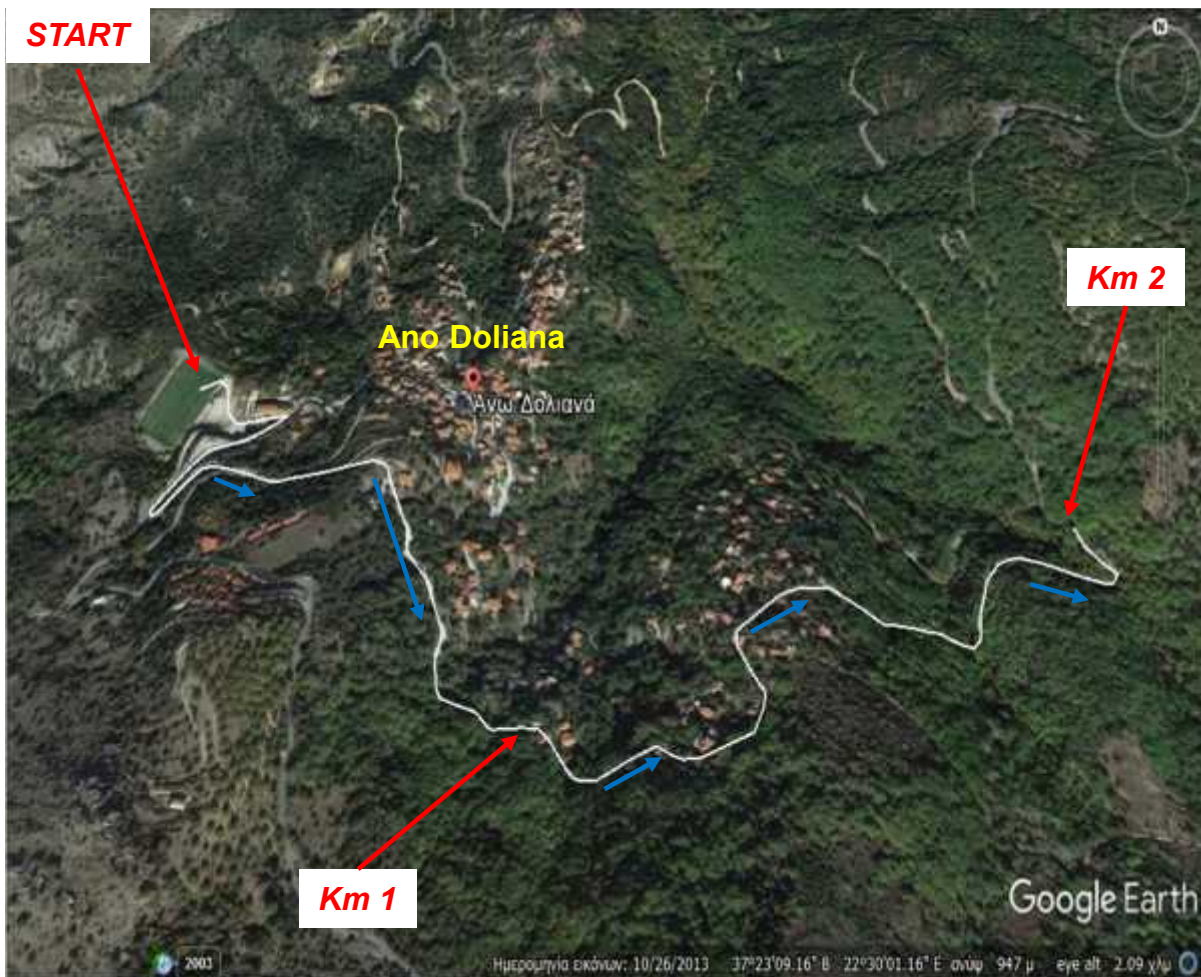


Georgios Doussis  
Measurer A



## Course Details

### *Start to km 2*

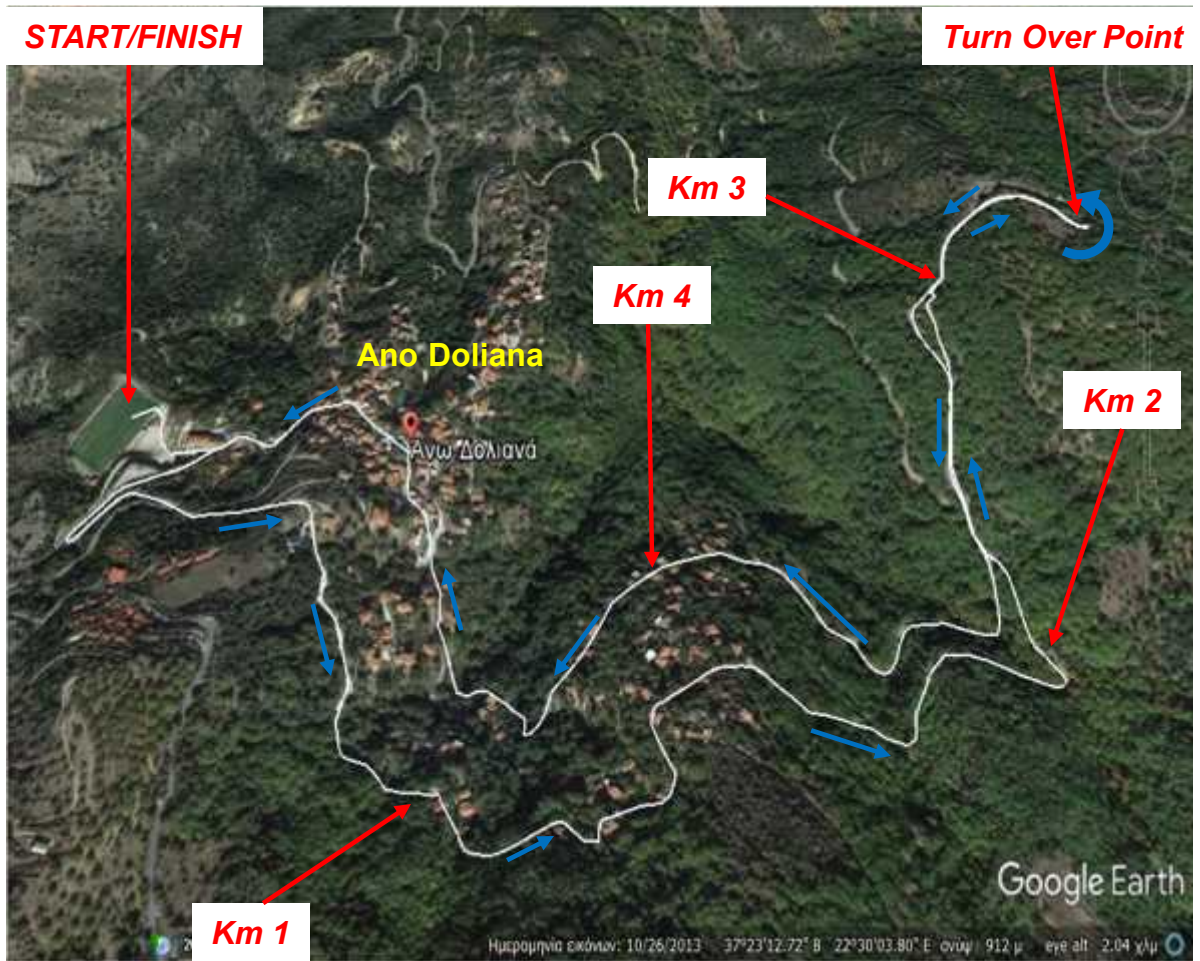


Georgios Doussis  
Measurer A



## Course Details

### *All km marks*



Georgios Doussis  
Measurer A



**Course Details**  
**Turn Over Point at km 2.75**  
**Ag. Ioannis**

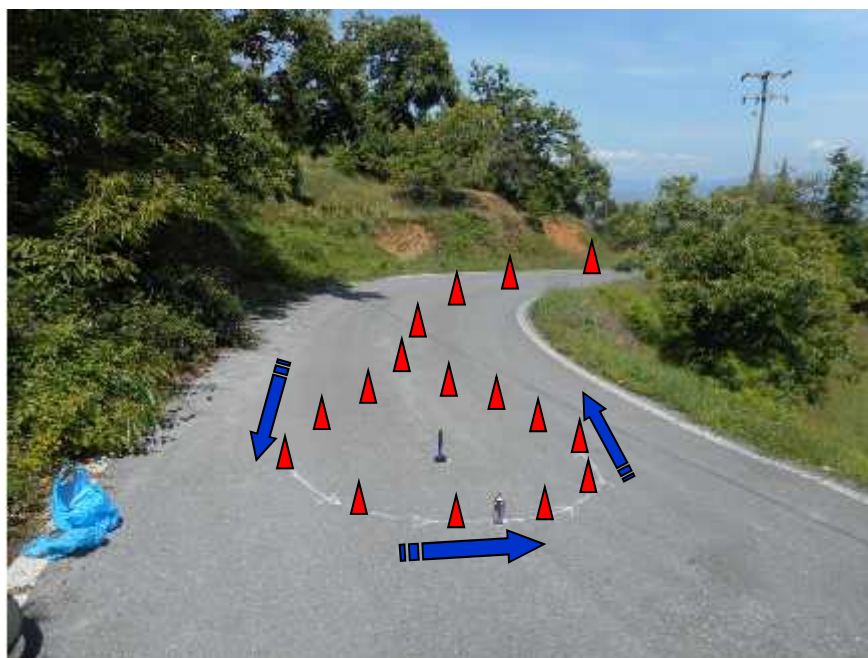
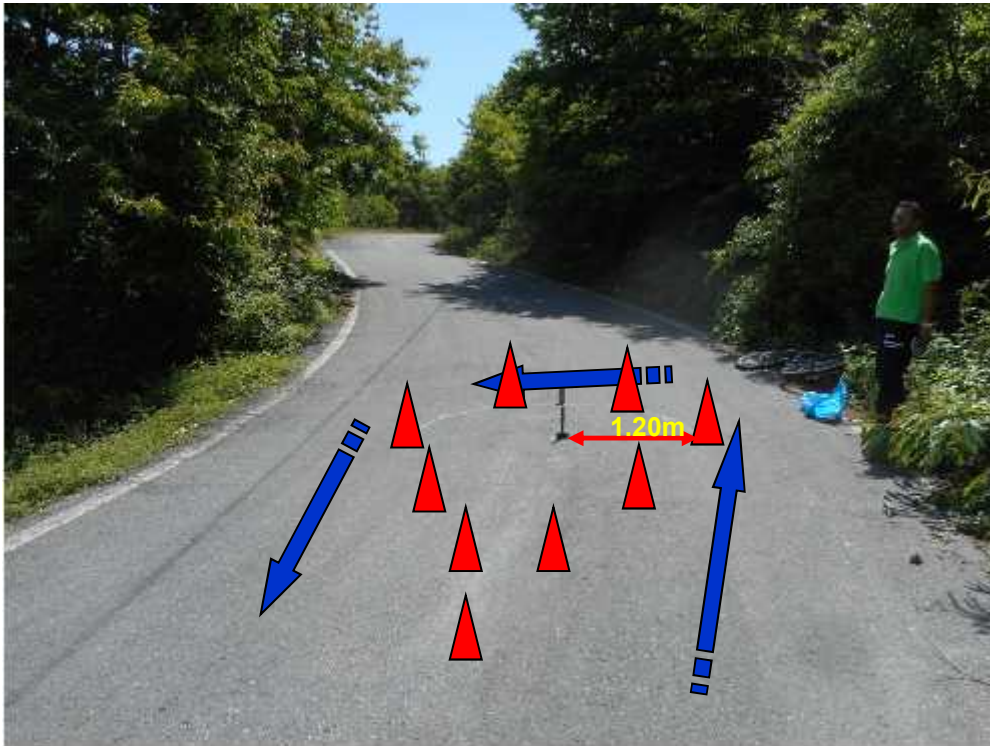


Georgios Doussis  
Measurer A



## Course Details

### Turnover Point at km 2.75



Georgios Doussis  
Measurer A



***Calibration  
Ano Doliana, "Vateri"  
20.05.2022***

Georgios Doussis  
Measurer A





# Calibration

20.05.2022



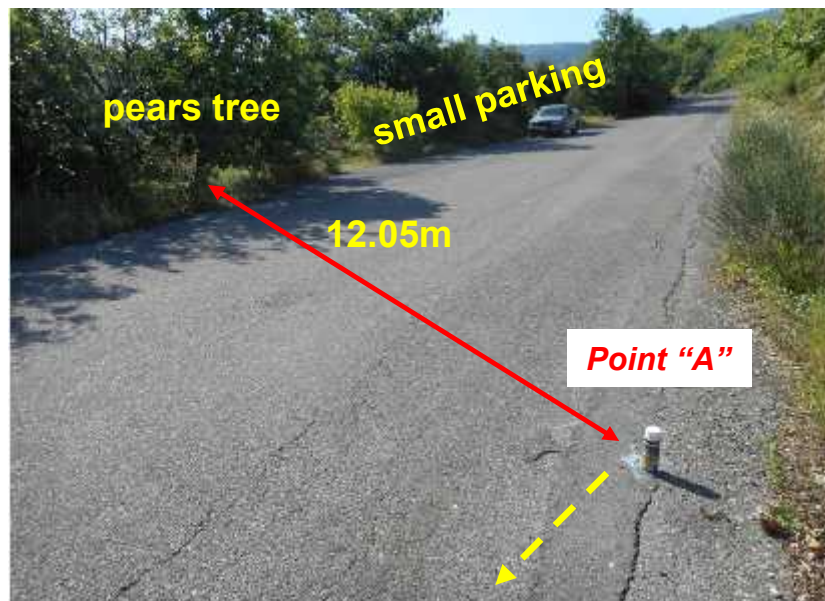
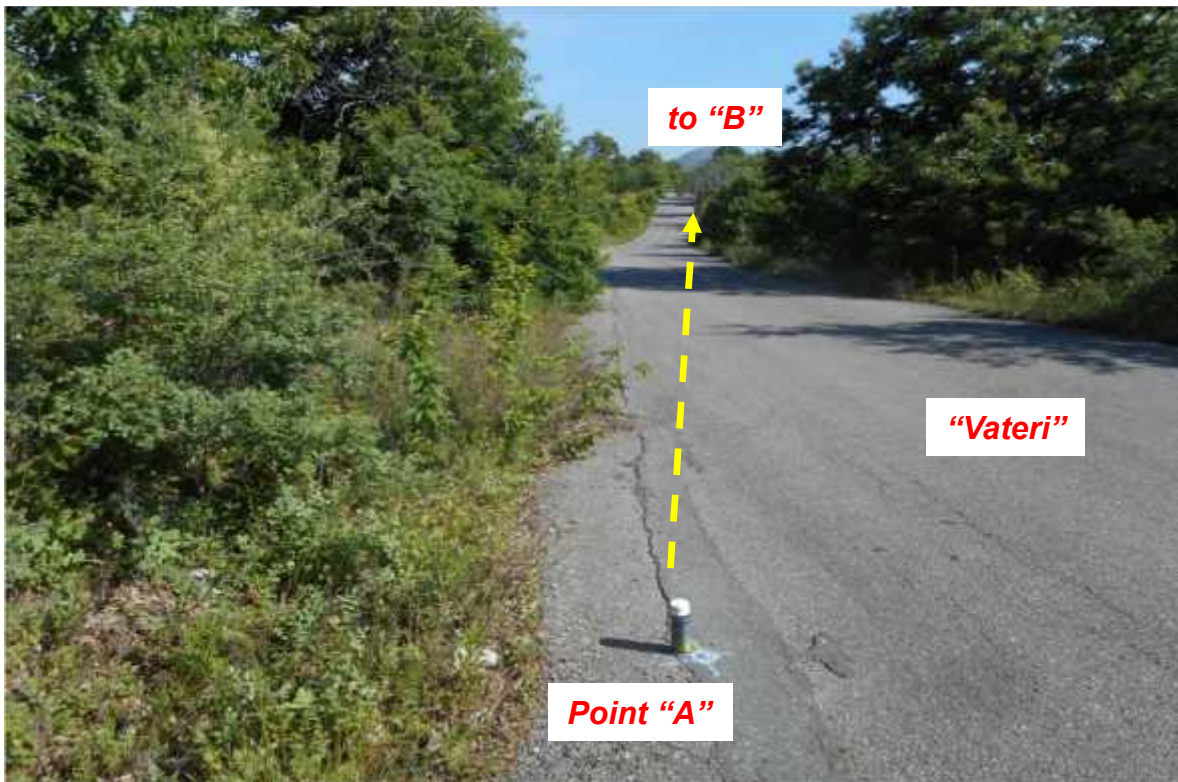
**Calibration Course 200m**  
**1500m away from Start/Finish in a straight line**



Georgios Doussis  
Measurer A



## Calibration Course 200m Point "A"

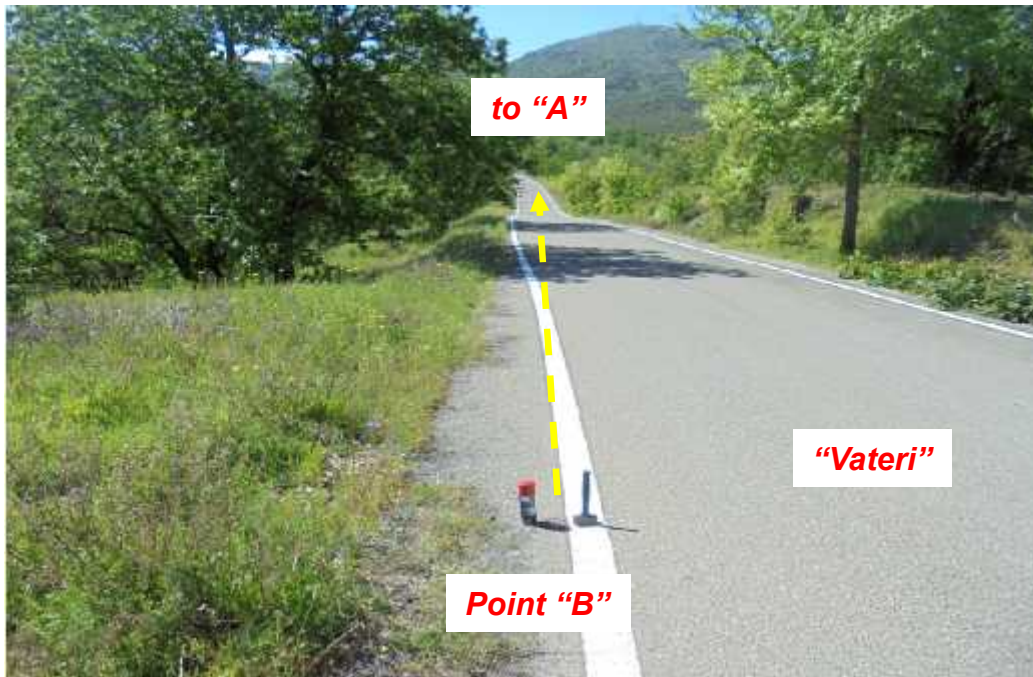


Georgios Doussis  
Measurer A



# Calibration Course 200m

## Point "B"



Georgios Doussis  
Measurer A



# ***ACKNOWLEDGMENTS***

## ***Measurement assistant***

Georgios Doussis  
Measurer A



## **ACKNOWLEDGMENTS**

### ***The Measurement Assistant***



**G. Meglis**

Georgios Doussis  
Measurer A