

# Navigation flying in the Czech Republic

Lausanne 25th - 26th November 2017



czech  
microlight  
team



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# Navigation flying in the Czech Republic

## Agenda:

- Petr Tuček National Navigation Cup
- Czech Microlight Championship
- Software – flight evaluation tool
- Czech Junior Microlight Team

So let's go!!!





**Official logo of Petr Tucek Navigation Cup**

# Petr Tuček Navigation Cup

- April - September
- 10 rounds
- One day competition every 14 days (except August – WMC, EMC)
- Airfields all around Czech Republic
- Navigation workshop before the season start
- Two categories – sport and hobby
- Open for microlights, GA planes, helicopters,...
- Ceremony at the end of each season





# Petr Tuček Navigation Cup



# Petr Tuček Navigation Cup

## Navigation workshop

- Workshop of navigation flying at the start of the season for new competitors
- Lectures, task preparation, practice with instructors
- Second day - first round of Petr Tuček Navigation cup





# Navigation Workshop



# Petr Tuček Navigation Cup

## Two categories

- Category A (sport pilots)
  - for experienced pilots
  - stricter rules
  - training for international competitions
- Category B (hobby pilots)
  - for beginners
  - simpler rules
  - successful competitors advance to cat. A





# Petr Tuček Navigation Cup



# Petr Tuček Navigation Cup

## Competition day

- Web registration in advance or at in person at the airfield upon arrival
- Arrivals and registration until 10:00 am
- Entry fees – 4 € (in advance), 6 € (on the spot)
- Competitors receive maps, task sheet, lunch, diploma and members of the association get 20 l of fuel for the competition flight





# Petr Tuček Navigation Cup



# Petr Tuček Navigation Cup

## Competition day

- Every crew gets an AMOD logger
- 10:00 competition briefings
- 10:30 first prep time
- 11:30 first take-off
- Announcement of winners on the same day!





# Petr Tuček Navigation Cup



# Petr Tuček Navigation Cup

## Navigation task

- Known track (usually)
- Max. 120 km length and 10 turnpoints
- Gates 250 / 500 m to each side (A / B)
- 5 s / 15 s time gate tolerance (A / B)
- Max. 18 objects for category B
- No false photos and markers for B
- Landing to the deck without braking



# Petr Tuček Navigation Cup





# Petr Tuček Navigation Cup

## Some statistics from season 2017

- 108 competition crews in 3 categories – A AL2, B AL2, B AL1
- No valid WL and GL categories...
- 214 competition flights
- 53 types of planes
- No plane damage or incident
- Most successful round hosted 42 crews – more than the last European Championship...



# Czech Microlight Championship

- 3 best results from 5 selected rounds of Petr Tuček Navigation Cup – navigations task
- One multi-day competition in precision and economic tasks
- Two categories – sport and hobby



# Czech Microlight Championship



# Czech Microlight Championship

- Multi-day competition for technical tasks 2017
  - 10 competitors in Hobby category
  - 11 competitors in Sport category
- **No braking in the deck**
- Special rules for hobby category
  - economy task with self declaration of how much fuel to bring back
  - in precision task no engine-stopped landings

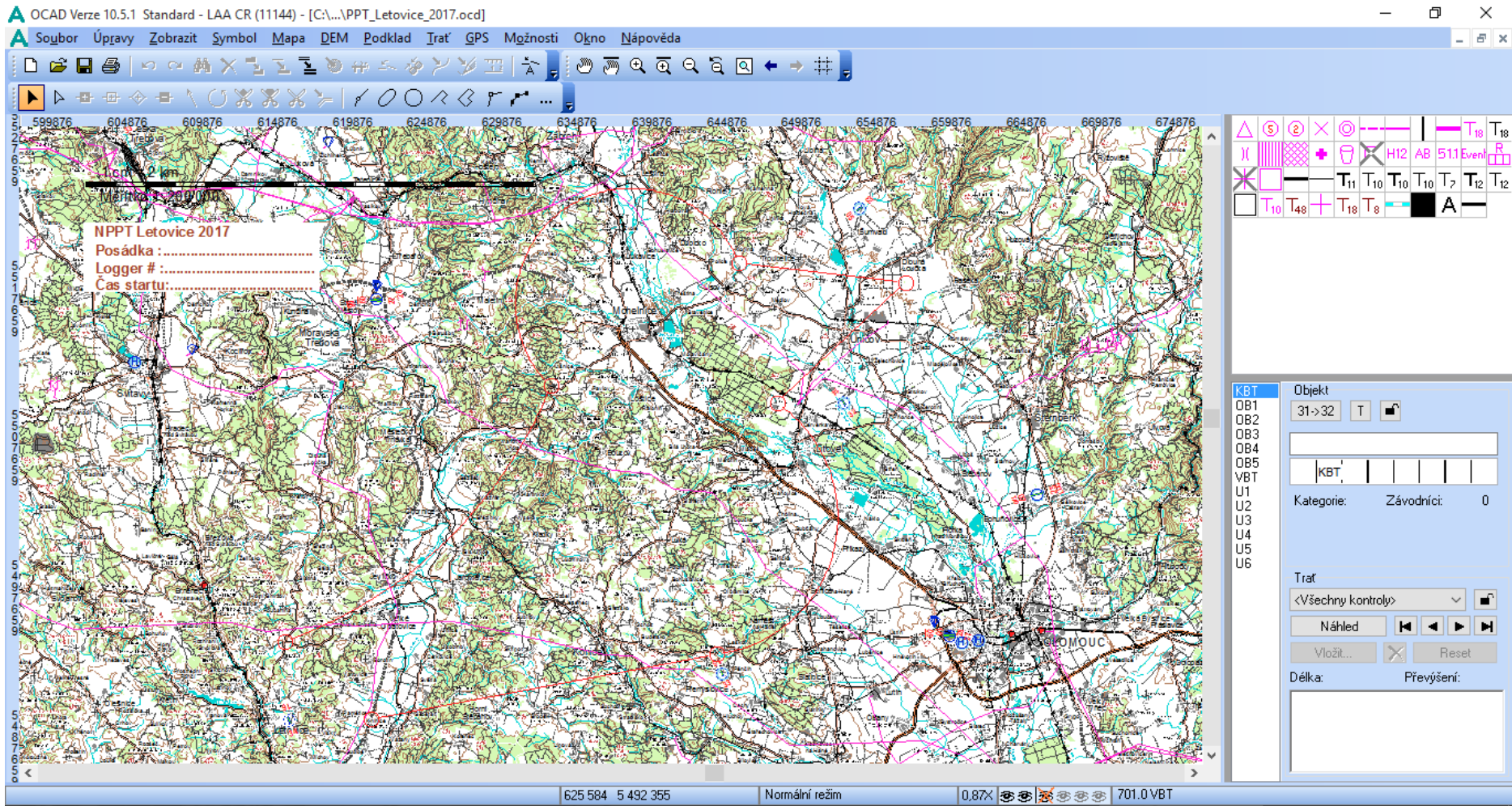


# Software

- Ocad – used for drawing of track in maps
- Editor – input track information
- Viewer – evaluation of flights from logger data
- Website – registration, start list, results

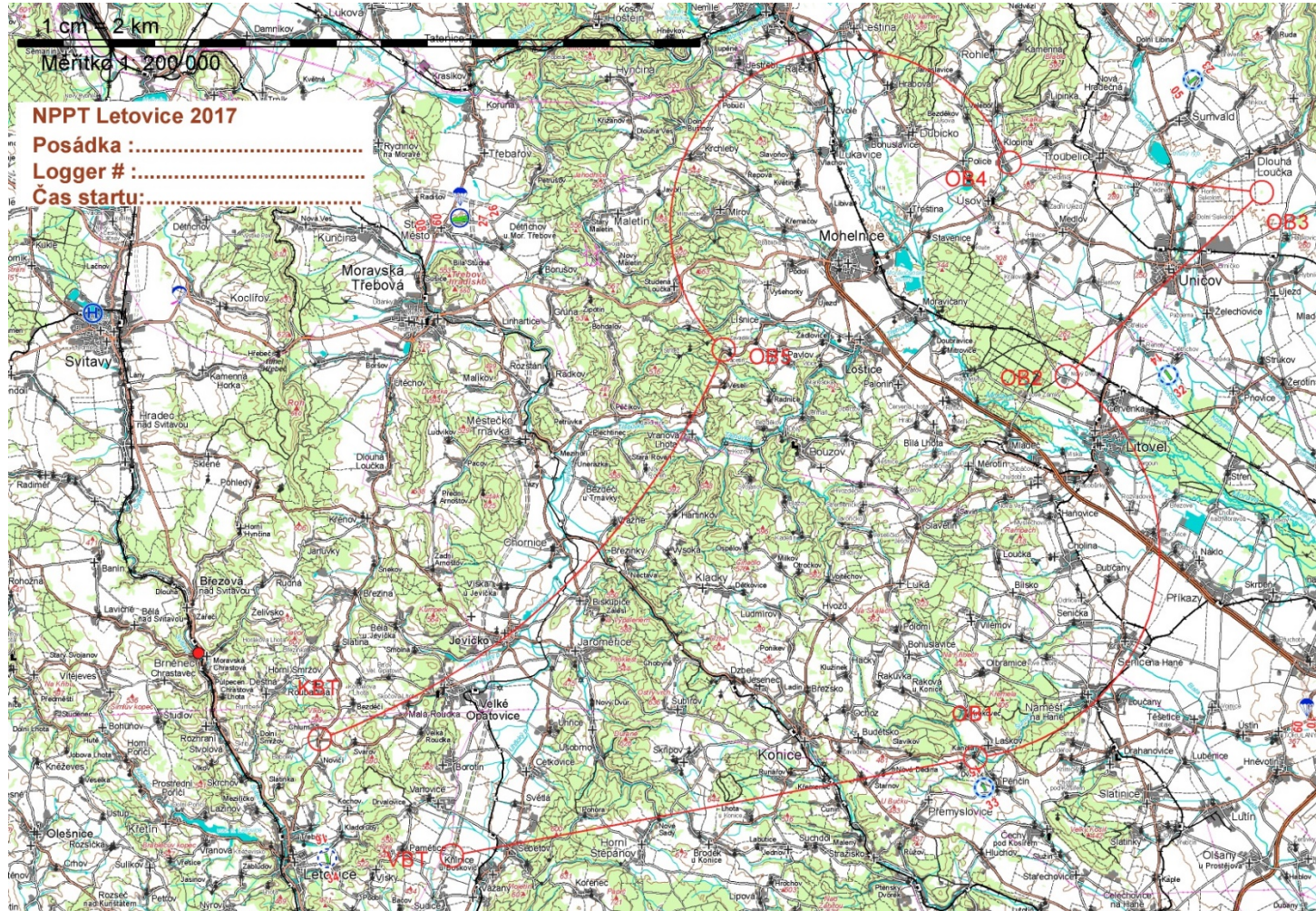


# Software - OCAD





# Software - OCAD

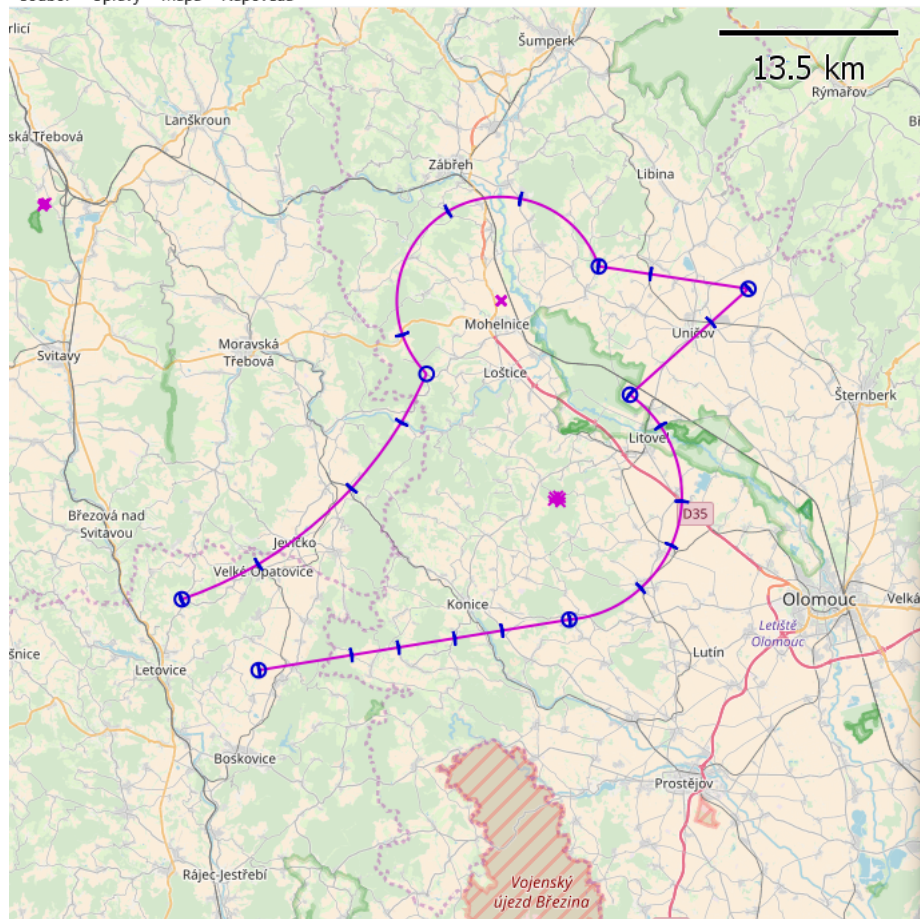




# Software - Editor

✈ Editor trati - Návrh\_pták

Soubor Úpravy Mapa Nápoředa



Body		Polygony	Tratě		Nastavení				Statistika		
R-AL 1											
Id	Bod		Typ	Úhel [st]	Vzdáleno	Vzdáleno	Čas dodatečný	Poloměr	Atributy		
1	VBT (1)			81	0	0	00:07:00	525	OB, Č		
8	ČB1 (11)		Přímka	81	6954	6954	00:00:00	525	ČB		
9	ČB2 (12)		Přímka	81	3525	10479	00:00:00	525	ČB		
10	ČB3 (13)		Přímka	81	4221	14700	00:00:00	525	ČB		
11	ČB4 (14)		Přímka	81	3563	18263	00:00:00	525	ČB		
2	OB1 (2)		Přímka	81	5077	23340	00:00:00	525	OB, Č		
12	ČB5 (15)		Oblouk A	49	5871	29212	00:00:00	525	ČB		
13	ČB6 (16)		Oblouk A	25	3915	33126	00:00:00	525	ČB		
14	ČB7 (17)		Oblouk A	4	3386	36512	00:00:00	525	ČB		
15	ČB8 (18)		Oblouk A	328	5892	42404	00:00:00	525	ČB		

Vlastnosti kategorie R-AL1

Časová brána - maximální skóre [body]	150	Poloměr [m]	525
Časová brána - tolerance [s]	15	Minimální výška [m]	1000
Časová brána - penalizace [body/s]	6	Maximální výška [m]	8000
Prostorová brána - maximální skóre [body]	200	Atributy	3
Otočný bod - maximální skóre [body]	50	<input checked="" type="checkbox"/> Otočný bod	
Znaky - maximální skóre [body]	200	<input checked="" type="checkbox"/> Časová brána	
Fotky - maximální skóre [body]	200	<input type="checkbox"/> Prostorová brána	
Startovací okno [s]	60	<input type="checkbox"/> Minimální výška	
Startovací okno - penalizace [%]	10	<input type="checkbox"/> Maximální výška	
Nedodžení výšky - penalizace [body/m]	10	<input type="checkbox"/> Začátek úseku měření rychlosti	
Kroužení -, penalizace [%]	50	<input type="checkbox"/> Konec úseku měření rychlosti	
		<input type="checkbox"/> Začátek úseku měření výšky	



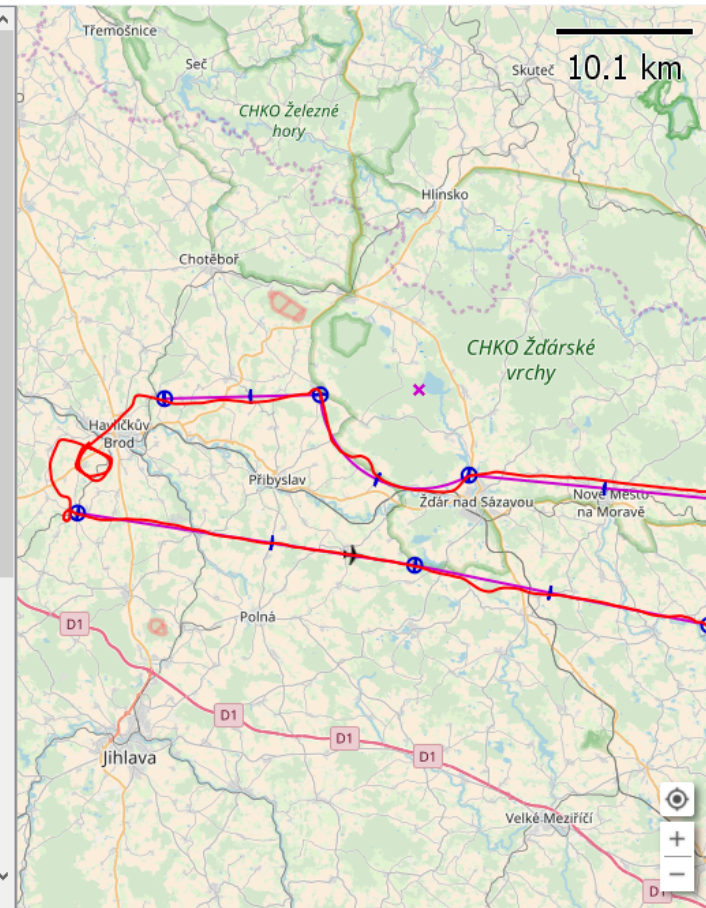
# Software - Viewer

Prohlížeč trajektorií+

Soubor Výsledky Mapa Okno Nápvěda

Soutěžící	Jméno souboru	Kategorie	Čas startu	Rychlost	Imatrikulace	Body
Čekan Juraj – Dolinský Lukáš	420T01V1R1_CEKAN.jgc	S-AL2	10:50:00	120	OK OUS 09	0
Jonáš Petr	421T01V1R1_JONAS.jgc	S-AL1	10:57:00	120	OK UUS 90	0
Krajča Jiří	444T01V1R1_KRAJCA.jgc	S-AL1	11:10:00	72	OK FZC 03	0
Kovář Libor – Malina Tomáš	023T01V1R1_LAA23.jgc	CUSTOM1	12:00:00	131	OK KAL	4090
Kocina Karel – Jech Robert	030T01V1R1_LAA30.jgc	R-AL2	12:05:00	140	OK MUF 19	0
Petr Miroslav – Čtvrtníček Vít	022T01V1R1_LAA22.jgc	R-AL2	12:10:00	130	OK NUR 33	0
<b>Zeman Pavel – Prokop Jan</b>	<b>007T01V1R1_LAA7.jgc</b>	<b>R-AL2</b>	<b>12:15:00</b>	<b>138</b>	<b>OK EUD 08</b>	<b>3044</b>
Aylsworth Lída – Lukeš Jan	021T01V1R1_LAA21.jgc	R-AL2	12:20:00	120	OK MUS 15	2682
Těmová Kateřina – Těma Petr	035T01V1R1_LAA35.jgc	S-AL2	12:25:00	120	OK NUU 02	0
Burjánková Petra – Rázová Ilona	031T01V1R1_LAA31.jgc	S-AL2	12:30:00	120	OK OUS 09	0
Kotrba Josef – Holenda Tomáš	009T01V1R1_LAA9.jgc	R-AL2	12:35:00	120	OK AUD 20	0
Kuželka Ivan – Mareš Martin	015T01V1R1_LAA15.jgc	R-AL2	12:40:00	120	OK AUD 04	0
Mündel Karel	011T01V1R1_LAA11.jgc	S-AL1	12:45:00	120	OK UUS 90	0
Nečas Jiří	037T01V1R1_LAA37.jgc	S-AL1	12:50:00	120	OK TUR 11	0
Nosek Tomáš – Šedinová Anna	004T01V1R1_LAA4.jgc	R-AL2	12:55:00	120	OK VUS 01	0
Dvořák Karel – Šmíd Pavel	027T01V1R1_LAA27.jgc	S-AL2	13:00:00	108	OK AUU 03	0
Lorenc Jan – Krejsa Richard	422T01V1R1_Lorenc.jgc	S-AL2	13:10:00	102	OK PUS 30	0
Řihová Martina – Horký Milan	012T01V1R1_LAA12.jgc	R-AL2	13:15:00	96	OK PUZ 28	0
Stach Karel – Říha Vilém	033T01V1R1_LAA33.jgc	R-AL2	13:25:00	80	OK XUA 11	0
Karel Hořínek – Lehký Jiří	020T01V1R1_LAA20.jgc	R-AL2	13:45:00	132	OK MUS 15	0
Řehořek Michal – Lukeš Jan	029T01V1R1_LAA29.jgc	R-AL2	13:50:00	120	OK BUQ 02	0

track 12:28:11 712 m (Čas startu: 12:15:00) Chybných 16 Oříznutých 958 Zaměření 4294



# Software - Viewer

Prohlížeč trajektorií+

Soubor Výsledky Mapa Okno Nápvěda

Zeman Pavel – Prokop Jan R-AL2 12:15:00 138 km/h OK EUD 08 Storm G280

Manuální hodnoty Brány Rychlostní úseky Výškové úseky Prostorové úseky Přehled

## Okno na start

Vypočteno

12:15:00

Změřeno

Rozdíl

Body

## Přesnost přistání

Body

0

## Znaky

Dobře

0

Špatně

0

Falešné

0

Body

0

## Fotky

Dobře

0

Špatně

0

Falešné

0

Body

0

## Kroužení na trati, protisměrný let

Počet

0

Body

0

Poznámka

## Ostatní body

Body

0

Body

0

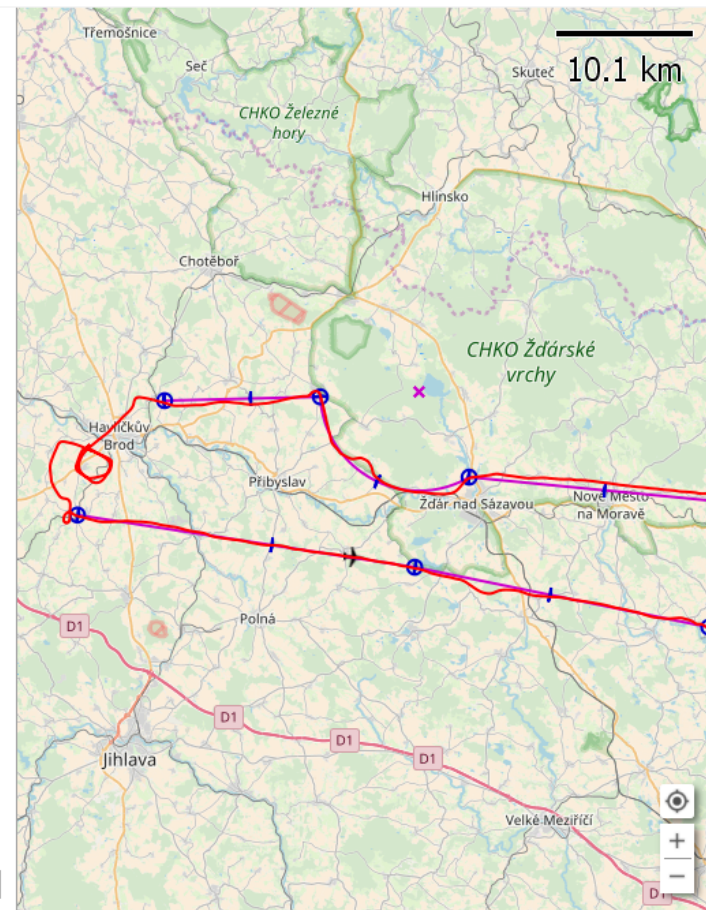
## Ostatní penalizace

Uložit a otevřít

Uložit

Zrušit

track 12:28:11 712 m (Čas startu: 12:15:00) Chybných 16 Oříznutých 958 Zaměření 4294





# Software - Viewer

Prohlížeč trajektorií+

Soubor Výsledky Mapa Okno Nápvěda

Zeman Pavel – Prokop Jan R-AL2 12:15:00 138 km/h OK EUD 08 Storm G280

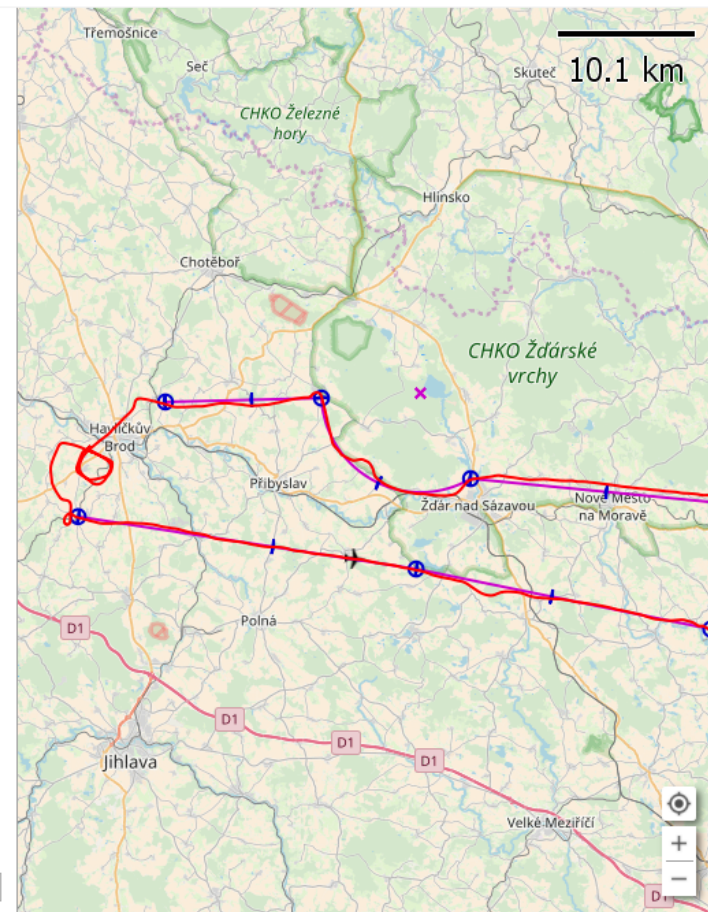
Manuální hodnoty	Brány	Rychlostní úseky	Výškové úseky	Prostorové úseky	Přehled		
Jméno	Typ		Vzdálenost od VBT	ČB spočteno	ČB změřeno	ČB rozdíl	ČB body
R_VBT	OB, ČB		0	12:20:00	12:20:00	00:00:00	200
R_TG1/1	ČB		14.26	12:26:12	12:25:39	00:00:33	92
R_OB1	OB, ČB		24.85	12:30:48	12:30:16	00:00:32	98
R_TG2/1	ČB		34.86	12:35:09	12:34:49	00:00:20	170
R_OB2	OB, ČB		46.72	12:40:19	12:40:06	00:00:13	200
R_TG3/1	ČB		52.32	12:42:45	12:43:23	00:00:38	62
R_OB3	OB, ČB		57.83	12:45:09	12:45:56	00:00:47	8
R_TG4/1	ČB		72.55	12:52:33	00:00:00	10:52:33	0
R_OB4	OB, ČB		82.52	12:56:53	12:57:18	00:00:25	140
R_TG5/1	ČB		89.45	12:59:53	13:00:15	00:00:22	158
R_OB5	OB, ČB		97.29	13:03:18	13:03:38	00:00:20	170
R_TG6/1	ČB		102.32	13:05:29	13:05:53	00:00:24	146
R_KBT	OB, ČB		108.61	13:08:13	13:08:16	00:00:03	200

Uložit a otevřít

Uložit

Zrušit

track 12:28:11 712 m (Čas startu: 12:15:00) Chybých 16 Oříznutých 958 Zaměření 4294



# Competiton website

[LAA Competitions](#)[Home](#)[Calendar](#)[Administrator](#)

Jiří Nečas



## ✓ Pre-registration

Do you want to fly? The [application form](#) for the competition can be filled online. Save time organizers, so the preparation of the first crew will be able to start immediately after the briefing.

## 📅 Calendar

Competitions are scheduled in advance. Save individual dates to [Calendar](#). For one round are always reserved two weekends. In case of bad weather, the term moves.

## 📄 Results

Your own [results](#) will be easily accessible via web interface. You can print them or share them with friends on facebook. Comparison with [other pilots](#) will motivate you to push your abilities.

## Apply to competition

Competition	4. kolo NPPT, plocha SLZ Letovice
Group	Navigační Pohár Petra Tučka 2017
Date	2017-06-03
Pilot	Vladimír Adamec
Co-Pilot	Ondřej Barša
<b>Aircraft</b>	
Registration	OK LUY 55
Type	Aeroprakt A22
Category	S-AL2
Speed [km/h]	102
Note	You can leave it blank

Sport flying ultralight aircraft is internationally defined Sporting Code Fédération Aéronautique Internationale FAI in section 10. Rules for the competition in the Czech Republic are defined in [Sporting Code](#).

Sport flying can be divided into two basic categories: Sport (denoted by the letter A or S) and recreation (R and B).

Classes ultralight aircraft category **R** (Recreational) for which organized the competition in the Czech Republic and sport flying:

A plane in solo

- **AL 1** Single ultralight aerodynamically controlled airplanes
- **WL 1** Single ultralight aircraft controlled by changing the center of gravity
- **GL 1** Single gyroplanes

According to the Sporting Code, Section 10, para. 1.3.1 in the category of single-seat cover and aircraft with two seats that are flown solo (does not apply to records).

A plane with two persons in crew:

- **AL 2** - two-seat ultralight aerodynamically controlled airplanes
- **WL 2** - two-seat ultralight aircraft controlled by changing the center of gravity
- **GL 2** - two-seat gyroplanes

Thus, if an application fills a two-seat crew of the Motor hang in the recreation category, and selects an item R-WL2S.

[LAA Competitions](#)[Home](#)[Calendar](#)

## Navigační Pohár Petra Tučka 2017 [Results](#)

Round	Date	Name
1	2017-04-30	<a href="#">1.kolo NPPT, letiště Havlíčkův Brod</a>
2	2017-05-06	<a href="#">2.kolo NPPT, letiště Břeclav</a>
3	2017-05-20	<a href="#">3.kolo NPPT, letiště Jinčichův Hradec</a>
4	2017-06-03	<a href="#">4. kolo NPPT, plocha SLZ Letovice</a>
5	2017-06-18	<a href="#">5.kolo NPPT, letiště Kyjov</a>
6	2017-07-01	<a href="#">6.kolo NPPT, letiště Moravská Třebová</a>
7	2017-07-16	<a href="#">7. kolo NPPT, letiště Cheb</a>
8	2017-07-29	<a href="#">8. kolo NPPT, letiště Hradec Králové</a>
9	2017-09-03	<a href="#">9. kolo NPPT, letiště Praha Letňany - Kufr Honzy Lukeše</a>
10	2017-09-23	<a href="#">10. kolo NPPT, letiště Soběslav</a>



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# Competition website - results

LAA Competitions

Home

Calendar

Administrator



Jiří Nečas



## 4. kolo NPPT, plocha SLZ Letovice

Competition Navigační Pohár Petra Tučka 2017

Round 4

Type Navigation along known track

Date 2017-06-03

Referee



Jiří Nečas



Marek Velát



## R-AL1

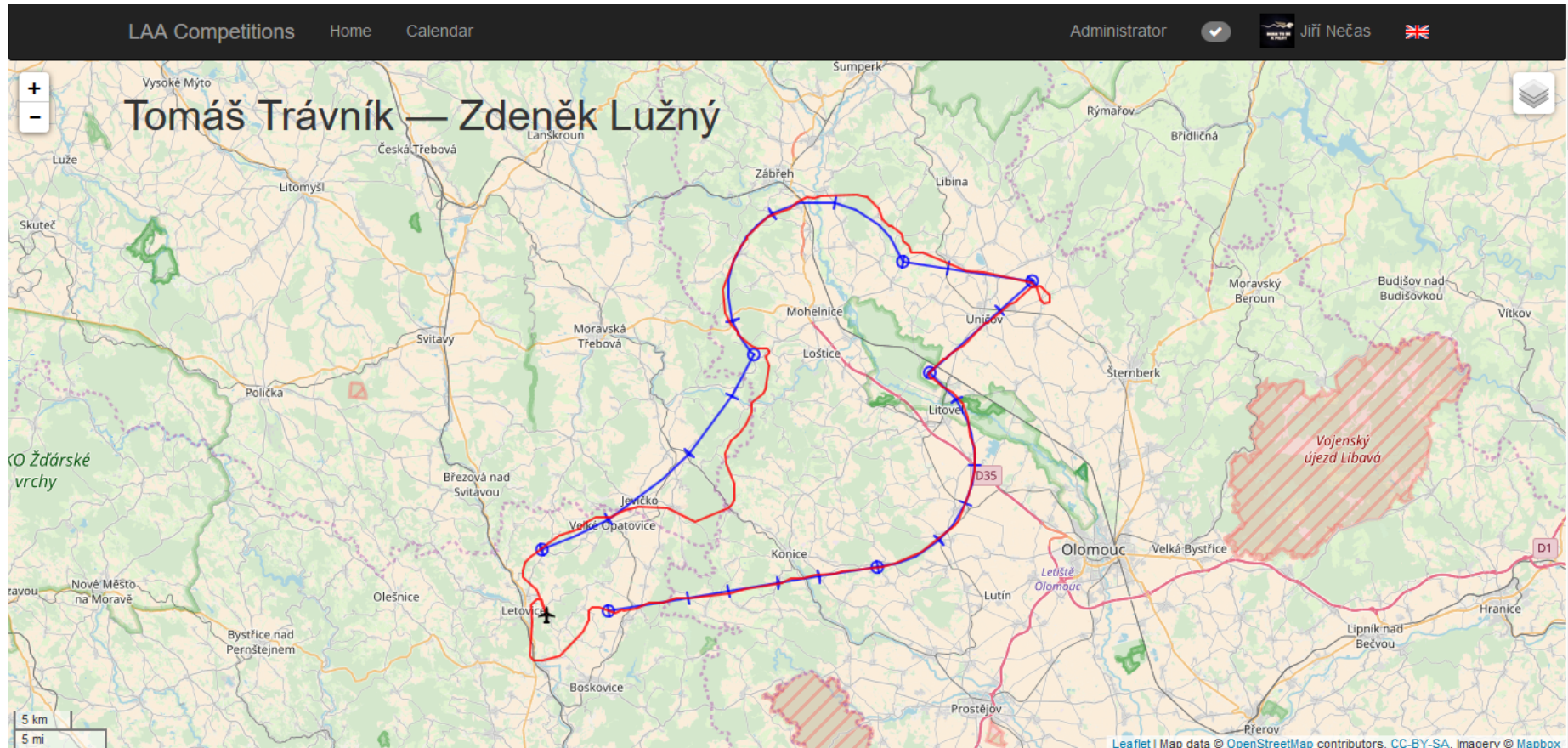
#	Crew	TP	TG	SG	AP	Spd	Alt	Spc	M	BM	FM	P	BP	FP	Lnd	TW	Od	+p	+%	-p	-%	
1	<a href="#">Puža Václav – bez</a>	350	2766	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	5716	1000
2	<a href="#">Přihoda Tomáš – bez</a>	350	1866	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	3616	633
3	<a href="#">Tichý Petr – bez</a>	150	768	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	2318	406
4	<a href="#">Stanka Radovan – bez</a>	300	0	0	0	0	0	0	1	0	0	7	0	0	0	0	0	0	0	0	1900	332
5	<a href="#">Kamba Milan – bez</a>	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	400	70
6	<a href="#">Hartmann Jiří – bez</a>	50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	250	44



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team




# Competition website - results



# Competition website - results

## 4. kolo NPPT, plocha SLZ Letovice

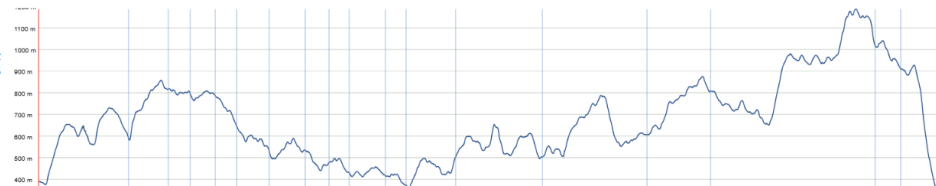
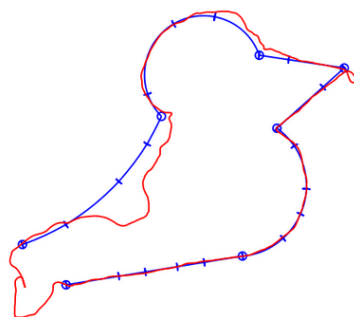
Soutěž	Navigační Pohár Petra Tučka 2017
Kolo	4
Typ	Navigace po známé trati
Datum	2017-06-03

Rozhodčí	 Jiří Nečas
	 Marek Vešl





2017-06-12  
13:31:05


14.8 km



Info: Competition is read only

### Posádka

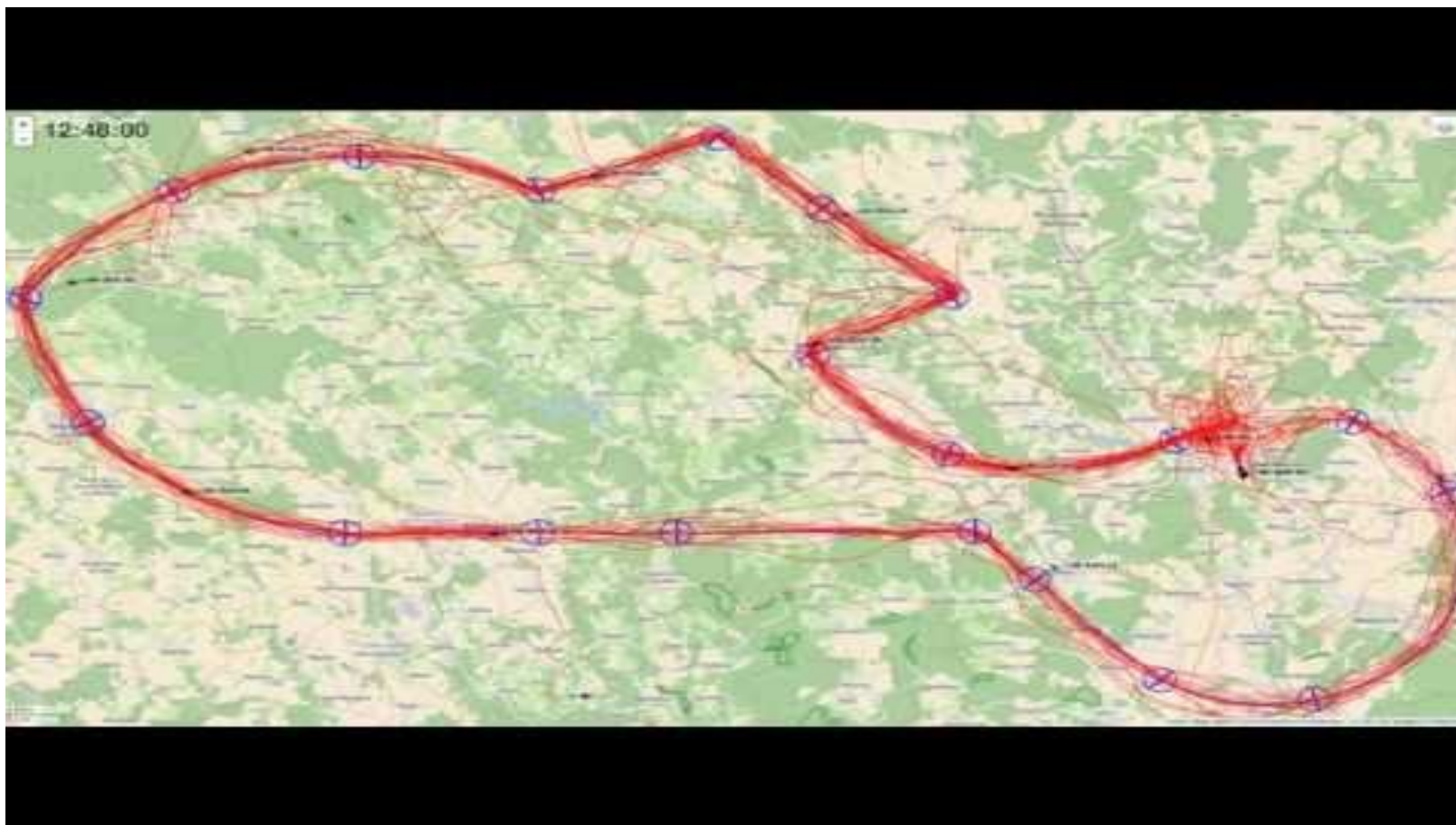
Pilot	 Trávník Tomáš
Copilot	 Lužný Zdeněk
Kategorie	R-AL2
Čas startu	11:25:00
Rychlost	120
Imatrikulace	OK NUU 02
Typ	Junior JK 05L
Klasifikován	ANO
Body	5028

Pilot	 Tomáš Trávník
Co-Pilot	 Zdeněk Lužný
Registration	OK NUU 02
Type	Junior JK 05L
Start time	09:25:00
Speed	120
Download IGC	
Category	R-AL2
In championship	✓

Name	Distance	Time	Expected time	Turn Point	Space Gate	Altitude	Score
VBT	0	09:32:17	09:32:00	Yes	Yes	587	138 50 0 0
ČB1	6.95	09:35:29	09:35:29	Yes	Yes	817	150 0 0 0
ČB2	10.48	09:37:17	09:37:14	Yes	Yes	792	150 0 0 0
ČB3	14.7	09:39:20	09:39:21	Yes	Yes	783	150 0 0 0
ČB4	18.26	09:41:02	09:41:08	Yes	Yes	644	150 0 0 0
OB1	23.34	09:43:41	09:43:40	Yes	Yes	519	150 50 0 0
ČB5	29.21	09:46:35	09:46:36	Yes	Yes	533	150 0 0 0
ČB6	33.13	09:48:29	09:48:34	Yes	Yes	478	150 0 0 0
ČB7	36.51	09:50:07	09:50:15	Yes	Yes	431	150 0 0 0
ČB8	42.4	09:53:02	09:53:12	Yes	Yes	416	150 0 0 0
OB2	45.67	09:54:43	09:54:50	Yes	Yes	373	150 50 0 0
ČB9	53.67	09:58:45	09:58:50	Yes	Yes	507	150 0 0 0
OB3	57.41	00:00:00	10:00:42	Yes	No		0 50 0 0
ČB10	64.68	10:05:45	10:05:20	Yes	Yes	505	90 0 0 0



# Competition website - results





# Czech Junior Microlight Team



# Czech Junior Microlight Team

- Entry from 15 to 26 years
- Annual intake before the season starts
- Sport grant for talented youth from ministry of education and sports
  - used for airplane rent discounts and training camps
- Training by experienced instructors
- Future of Czech Microlight Team



# Czech Junior Microlight Team



# What we can offer?

- Know-how of competition organization (next year cooperation with Slovakia – SLA)
- Software for evaluation of flights
- Open Czech microlight championship
- Coordination in development of new loggers with our Universities





# Some important links

Facebook – communication and information

<https://www.facebook.com/czech.microlight.team/>

Light Aircraft Association of Czech Republic - information

<http://www.laacr.cz/SvazUL/Stranky/default.aspx>

Competition website – registration, start lists and results

<http://ppt.laacr.cz/>

Flickr – photostream of competitions

<https://www.flickr.com/photos/132791736@N03/>





# Thank You for Your attention!

;)

