



REPORT

YOTA SUMMER CAMP 2019

(Sofia, Bulgaria)

11th to 17th of August 2019

ARA TEAM	
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ARA Team Sponsored by :



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Introduction

This document relates the adventurous participation of the three (03) ARA Team members to the event Youngsters On The Air (YOTA) 2019 that was held on the 11th to the 17th of August 2019 in Bulgaria.

This document aims to share our experience in this wonderful event, as well as to be a guideline for ARA in organizing events that involve Youngsters in the Ham Radio world.

The events related in this report are as experienced by the ARA team, thus, it will only highlight those to which they attended.

This document will be divided in Three parts. The first part will be a factual and objective report on what has the ARA Team been involved with during the event. The second part will be some subjective notes on what has most caught the eyes of the ARA team as well as future ideas that shall be implemented by ARA following the knowledge acquired throughout the event. The third and last part will be some recommendations to the YOTA team as well as for the ARA for such future events, which may or may not be relevant and are only there to highlight areas that in our opinion could be improved even though the YOTA 2019 was a great success.

Factual Report

Here under is what happened on a specific date and time as experienced by the ARA YOTA Team. All the times are expressed in local time of the place where the team was.

The notes taken are short notes that express what has happened.

Day 1 11th August 2019

Travel

Flight from Algiers to Rome at 11:00

30 Minutes waiting in Rome Airport.

From Rome to Sofia at 15:30

Arrival to Sofia at 18:30

Waiting for French and Czech Republic Teams

Reached the Bankya Palace Hotel at 21:30 and room checking. Our team missed the opening ceremony because of late arrival of the other teams we waited for.

Mohamed and Abdou took room 206 and Rayan took room 503 sharing with a YL from Turkey.



Day 2 12th August 2019

Group Photo



Presentation 1: Train the trainer by OE3VVU

What is train the trainer

What is the goal of YOTA?

To get more young people interested and involved in the hobby and passion

How does TT help

Platform on ham-yota.com Website

Learn from each other.

Motivation for YOTA.



What to achieve in this week (Start own activities in our countries and motivation).

Program for this week (presentation from Germany, Finland and Italy)

Presentation past year and what we will do.

Presentations online ham-yota.com

Q-Morning which started in Austria 2016 (Every morning Q group each team sends a funny picture with this Q group and send to one person) Trainthetrainer@ham-yota.com (QRM today)

Presentation of the process of organizing YOTA 2016

Strat from an Idea to a Plan

After applying to IARU there is no turning back, 5 focal people organizing, 40 people total.

It is important to define Who does What.

Decide on the scale

How many people? How long?

First step Location: Price, Must be flexible, close to Airport, what to do outside.

Tools to help: Trello, allows to collaborate with organizers/Google forms.

Planning the budget, IARU money barely covers the hotel and food for all participants.

How to get sponsors: sponsor folder to show the sponsors the advantages of sponsoring.
Friedrichshafen to get sponsors.

Social Media: Small document to summarize the camp.

Planning workshops and activities. (Hamnet in Austria, SOTA, COTA)

Combine two activities (Use what you build).

Build VHF, HF, APRS.... Etc (no boring presentations)

Not everything has to be serious:

Offline contest (sitting on the chair frequency everybody shouting and paper logs)

Be strict and have enough free time, make sure presentations are not too long, many hands on as possible.

YOTA is not a free holiday (Fun and Learn).

You cannot plan everything:

- Be flexible
- Delayed flight
- People might be sick
- Transciever not sent by sponsor.

Lesson learned.

- Incredible experience
- Lots of work but worth it
- Cannot start early enough
- Last minute things could have done better if done in advance.

Finished at 9:30

Questions:

What was total cost:

- Total cost 110,000 Euros (if paid for completely) in Austria
- 25,000 Euros for Italy

How Youngsters would know about YOTA (through Lisa to contact the Societies).

What is hamnet?

a second internet, some hams built 2.4 GHz network with directional antennas independent from the internet.

[Presentation 2: Basics of Measurement by Valery from R&S](#)

Two assumptions:

- Start from the beginning.
- It has to be not boring.

Basics of Electrical and Radio Measurements.

Measurement is for comparing. Our knowledge is based on comparing and sharing with others

Rohde & Schwarz: biggest in Europe was founded 1933, it is German.

Definition of Meter, Kilogram, Second, Amper, Voltage, Ohm Law



New equipment does not express visible physics.

Measure of Power using Power meter.

All measurements are done by measuring current and voltage.

Understanding what we are measuring and have some expectation about what it is we are measuring to avoid burning the equipment.

Signal Generators: Talking about Signal generators and what they.

Vector Signal Generator and their uses.

Kit Testing

Afternoon activity, to test three different kits.

- Transistor and Diode Tester.
- Sound triggered Relai
- LED current consumption (Current measurement).

We also got to “Play” with a few measurement devices and power generators where we were shown rules of safety and measurement.

All three kits were tested successfully by our team.



Intercultural Night at 19:00

Every country has presented part of their culture such as clothing, food and drinks.

ARA team presented Algerian traditional clothing, as well as, dates, olive oil and the national drink “Hamoud Boualem” soda.



Day 3 13th of August 2019

Start at 9:00

Q-morning, Germany won the best photo, this time it is going to be QSY

Presentation YOTA ITALY

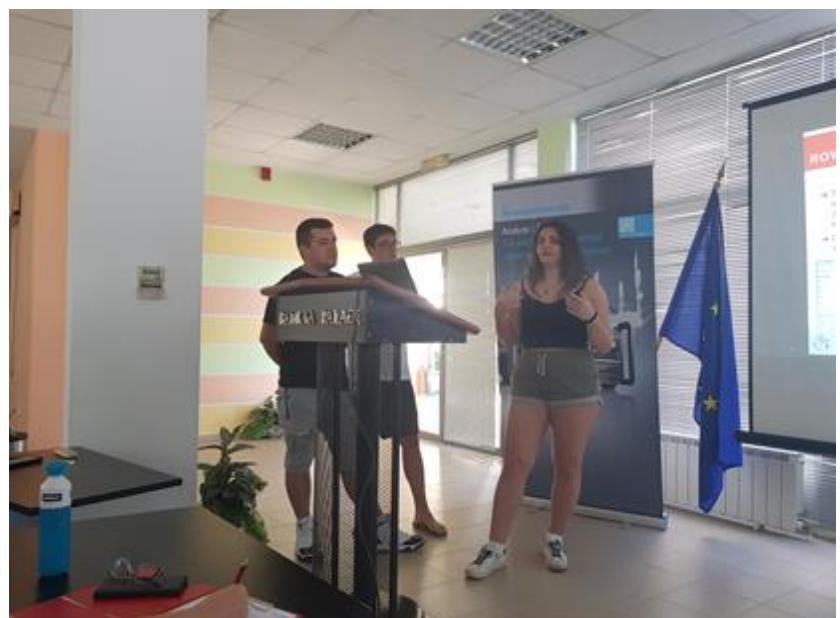
How they share and communicate (Facebook, Instagram, Yota Italia Website, Telegram YOTA)

Activities during 2018/2019

Participation in Pescara and Montichari and smaller groups went around Italy for exhibitions, also were in Friedrichshafen

2 ARDF activities in Trento and in Verona, and it is not a competition (They built foxes and antenna) they involved people who did not have any relation with Ham Radio.

Participation in Contests from Verona and Rovereto, Superga Cathedral (Turin), Marconi Memorial Stations Activation.



A lot of activities in school via old known teacher or principals mostly elementary school from 6-10 and high school students 16-18. It is more successful in High school because elementary hard to explain to the parents. SOTA activities and two YOTA NET (Verona and Udine), VHF&UP Meeting and much more.

In Italy cool rules for school from 14 and older students at schools can have a call sign.

Italy society also working on getting schools give credit to ham radio activities.

Children fascinated by CW, tech school they don't know about it. satellite activities are more attractive.

Subregional Camp 4 days 21st to 24th of June 2018

30 Ppl from 5 Countries

They did (Games, ARDF, Radio Contacts and quick Hamradio Explanations)

They got help from Cassino Radio Club.

Major Goal was to keep it cheap.

Results:

- Local scouts club got in touch with Cassini Club
- Some of the scouts asked to attend the lessons for next exams.
- 2 Youngsters joined the radioclub and got their licenses.

Total cost was 3190 Euros

[Presentation 2 Oscilloscope Fundamentals.](#)

Start 10:25

Explain difference between frequency domain and time domain.

Why we use Time Domain?

Power line (analog signal), PAL TV signal, Data Bus(Digital signals)

Oscilloscope from Analog of Digital Webster 1906

Trigger system, is to identify the starting point of the signal it is a very complicated feature of an oscilloscope



Visits:

[Visit of Shack Heaven:](#)

Presentation of the Antennas

Presentation of the Radio Equipment



Total Cost (Property+Antenna+Radios) around 1 million Euros

Visit of MILARA Company:

No photos were allowed during the visit of the workshops, but basically, MILARA is a company that builds:

- Robots, and more specifically those handling Silicon chip plates.
- Electric small trucks.
- Metallic pieces for other companies that request it.

After that we went to the last story of the MILARA building, it was to be used by youngsters in the future.



It was an amazing visit through which we could appreciate how precise the chip industry has to be as well as a motivational experience to see such a big company built singlehandedly by an OM with dreams as a fuel.

Day 4 14th August 2019

Team Leaders Meeting 8:30



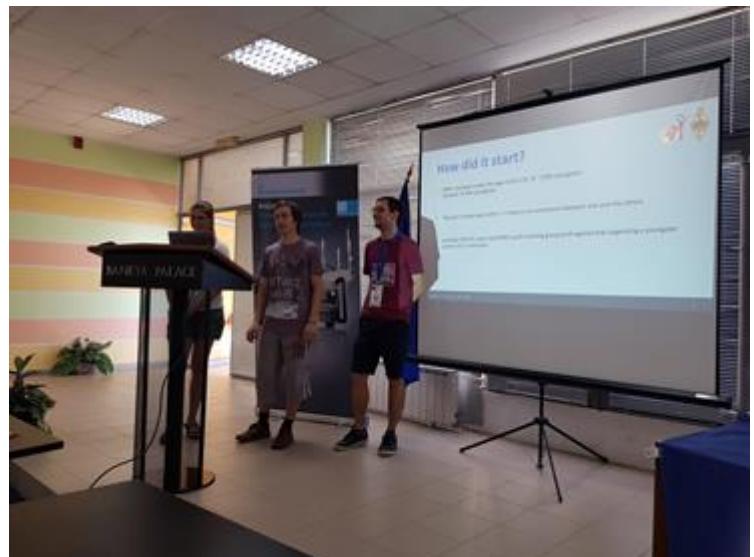
Presentations

Today's Q morning QRZ

Presentation 1 of the German Team

YOTA Subregional Camp DL 2019 15-17 March 2019

- 1000 Youngsters and 400 Licensed but they don't know each other (Problem)
- Location DARC Headquarter.
- Accomodation: Hotel Stadt Baunatal.
- 50 to 60 People they got 55 people.
- Planned on Orga-Team at telegram (Email is too slow), Cloud at DARC Server, Excel Sheet to coordinate shuttles, Telephone conferences, one teamleader, Core team of 5 or 6 people.
- Advertisement: Email to DL Youngsters, ham-yota.com, darc.de/ajw...
- Main facts: Make it international (more attractive), Kept German but used English too, Telegram group for all participants.
- Barcamp style: Every participants can present, choose time and room.



Presentation 2 Rope and knots in HAM Radio by LZ5VK Represents MASTRANT
Kit distribution with 2 ropes

Types of ropes:

- Steel Ropes (resonant on HF frequency, corrosion)
- Kevlar core ropes (like filistran, not able to withstand UV)
- Synthetic ropes (like the one provided) focus on

Things to consider:

- They are elastic
- Close at sharp edge, friction, animals are dangerous
- Always have a metal part when doing installation

Cutting Synthetic rope:

- Consider extra length
- Cut rope using hot edge
- Or use a lighter or candle
- Push it on surface to shape.

Knots:

- Half-Knot: Granny Bad, Leaf knot
- Over hand (used temporary stop knot rope through hole)
- Half hitch
- Figure of 8 (video) : good for stopper knot
- Double overhand: good stopper knot, permanent.
- Figure of 8 loop (not adjustable)
- Bowline (Adjustable)
- Sheet bend
- Double sheet bend
- Figure 8 bend
- Double fisherman's bend
- Clove hitch #1 and #2 (requires tension to operate)
- Constrictor #1 and #2 (similar)
- Alpine butterfly
- Prusik



The larger the angle is the larger the load on the angle would be!

Presentation by OE1KBC



Using Wifi P2P in order to build a network that is parallel to the Internet but not interconnected with it. To provide a high speed network for Amateur Radio Operators in a certain region.

Visit of Sofia

A great visit with a pleasant weather to visit some of the most important monument of Sofia such as the

Day 5 15th of August 2019

Presentation by Finland:

Organization of NOTA 2019 (Nordics On The Air 2019) and the details of how it was done.

Best voted activities where ARDF and Sauna



Presentation HST

Presentation of High Speed Telegraphy and the different competitions depending on the level of the competitors.

All the aspects of HST were presented and explained Also how to train for it.



Presentation ARDF by Vlad
Direction finding an orienteering

30 x 30 x 30 flag

Hide 5 Transmitters and the competitors have to find them using a receiver and then return to the final line. Rules are different from competition to another.



ARDF Tryout

Our team chose ARDF as an activity because it is a project that we really want to implement in Algeria as it would attract a lot of youngsters and show the hobby in a different way.



Presentation

Start at 17:30

Albania, Estonia, New Zealand (Get something similar to YOTA in region 3), Macedonia, Romania (Contest oriented HST or ARDF), Serbia, Latvia, South Africa (Interactive screens to get kids), Spain, Sweden (Geographical problem reverse of Algerie)

Magazines: German old man 95% knew about YOTA through the magazine

Day 6 16th of August 2019

Presentation on Antenna Making (an Art!)

The process of building an antenna explained a special focus was put on dipoles as they are the simplest and cheapest antenna to make.



Antenna Building Workshop

We built dipoles and tested them with the network analyzer for SWR verification.



Closing Ceremony

At around 21:00 the closing ceremony started. We had a few thankful speeches and were officially named YOTA ambassadors to our respective countries.

And as any great closing ceremony we had a magician and fireworks.



Subjective Notes

This second party would be a try to put thoughts of the ARA team on paper as they attended the event.

YOTA's complicated fight.

In the IARU Region 1, there is a great diversity on the countries and their culture toward Ham radio.

In the European continent ham radio is very well accepted by the governments and is very much appreciated, thus, the issue that most Youngsters find is to convince the societies' boards to help them finance a YOTA project whom are usually quite old and cannot get on the same wavelength with youngsters.

In Algeria, the problem is completely different, the problem we are facing is getting help from the state and sponsors as the hobby is misunderstood and too restricted by the government. As for ARA, its president (7X2RO) is relatively young and encourages Youngsters' projects but the funds to the association are too small to do anything on a large scale.

And it is with this disparity that the YOTA group has to fight in order to solve all these issue, we just hope that our presence and presentation have shown and made clear the issues we are facing.

Ham Radio is diverse.

Through the different activities that we have done as well through the formal and informal discussion we had with other youngsters from other countries in the camp, we have discovered new activities that we were not aware exist in the Ham Radio World.

Some of those activities are more suitable for youngsters and may attract more of them to the hobby and somehow demystify it in their eyes. On his note, we shall start activities such as ARDF and electronic kits assembly and building in Algeria.

Games and Jokes are also important to our (Ham Radio) community. Through this YOTA camp we have experienced a few of them and we think that a booklet shall be developed which would list those games and activities from which other YOTA events could take some idea from and enrich it with their experience.

ARA is going to make such booklet after gathering an important number of those games and fun activities which will, hopefully, be a guideline for some activities to initiate youngsters to the fascinating world of ham radio!

Telegraphy should be revived

CW is only being used now by our community it is true that it is deprecated, but it is a big part of radio communication heritage that we should hold dear and never let it be forgotten.

There is one question that is always asked when introducing CW to beginners, which is "we have other means of transmitting text, why we still need to use Telegraphy?"

I think that through YOTA 2019 summer camp, we have found a convincing answer that doesn't involve our heritage, which is that CW is the best way to understand encoding of data and it is the simplest and fastest that a human being can understand.

There will be a game or two around that to be developed and added to the booklet mentioned above.

[Electronics is the Swiss Knife of Ham Radio](#)

Ham radio operators through history were always the best when it came to telecommunication and have pioneered some of the greatest discoveries that we are taking for granted nowadays.

Those achievements were partly made because Ham radio operators are geniuses of the "Make Do", as was demonstrated so many times during this event. In this perspective, electronics and its understanding are vital to this hobby.

It is true that not all operators should know equations on how semiconductors work, because it first and foremost begins with the love of it. But, since we are working with youngsters to whom what is passion might not be obvious yet, it might be important to at least show them what electronics can do. And how the knowledge of it, as basic as it may be, can be very useful to them.

As such at ARA, we are willing to work heavily on telecommunications' electronics workshops. So that at least we would still have a few people who can make basic amplifiers, filter and transceivers.

[Other skill that should be taught](#)

During the fifth day of YOTA, we undertook a presentation/workshop by LZ5VK which revolved around ropes and knots. Through it we understood that it is very important to have at least one person of an expedition team to have a certain set of skills such as (in order of importance):

- Patience.
- Sense of organization.
- Ropes and knots.
- First Aid.
- Fire making.
- Cooking.
- Orienteering.
- Wild life survival.
- A Musician/story teller/ fun person to be around.

Those skills should actually be taught at a certain level and for those who are motivated for them. They would make expedition and the general life within the society more fun.

ARA's YOTA Recommendations

YOTA 2019 Summer Camp was a great success. And as a note to self for the ARA we brainstormed a few recommendations in case such event would be organized by us:

Interview of the participant before the event

It is true that each member society will try to send the best it has to a YOTA camp, but of course they will not learn anything if they are experienced Ham Radio Operators. Thus, it is hard to tailor the event's activities level on an unknown public. That is why we think that it would be wise to interview each participant before confirming their participation in order to see what are the activities that can be followed by most.

YOTA should be fun

YOTA 2019 Summer Camp was everything but boring. Every Activity held its fair share of surprising fun. And we believe that it is something to put on the cover page of the technical specification of such events.

Experienced and unexperienced organizers

In order to keep YOTA events alive, there should always be unexperienced youngsters on the organizing group, in order for them to acquire experience so that one day they could fly by their own wings and organize something similar or better.

Static presentations should be banned

We think that a hands on experience like the ones that were introduced by YOTA 2019 are the best way to attract youngsters and keep them motivated by the hobby. It is also, in our own opinion, the best way to gain experience and knowledge.

It is a multicultural event

We were surprised how well was the event meant for the people coming from every culture, we thought it was impossible to take care of that many different people and still have a sane mind after that, but it was miraculously managed by the YOTA 2019 organizers. This parameter should always be quite high on the priority list.

Conclusion

We decided to close this report here as it became way to long, its length only reflects the amount of knowledge and experience acquired in such a short amount of time. We still feel that a few pages are unfair to describe several lifetimes experience that were inscribed in our little mortal brains. We could go on and on about what we have learned, from the complicated equations that make Electromagnetic waves what we perceive as a human voice on the other side of the planet to the simplest human interactions' complexity in a multicultural environment.

YOTA is a school for all of us: Organizers, Participants, Presenters ... etc. and we would wish to see it kept alive and even stronger not only as time passes but also as every soul embarks in a once in a life time experience.

For their tremendous help sponsoring us, we would like to thank the YASME Foundation, without whom we would've never been able to grow wings and fly to the YOTA Adventure.

We also would like to thank our "Queen", Lisa, who was a mother to us all, caring for every single one of us, a sister whom we had a great time with and the spiritual guide through this memorable YOTA journey.

Alex, what to say about Alex, well in our joint opinion, Italy invented three great things Radio, Pizza and Alex. He had the right mixture of fun and firmness to make this event, so fun, yet instructive.

How would this YOTA be successful without the BFRA, who made us feel like family through their care and love but also as princes and princesses by securing the best facilities for this event to take place. They stayed very late at night away from their families and loved ones to help their second family (us) make this event such an amazing one.

YOTA is a unique event where even participants have their share to add to the experience. Through the discussions shared during a meal or when sitting at the hotel lobby, we learned so much from each other, we discovered how to go beyond of our fear of the other no matter how different we are. And how multicultural is a word tattooed to the end of time on the hobby's figurative skin. Thus, we would like to thank all those who came from far and close to participate to YOTA 2019 and helped shape it to what it became.

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