

Diploma

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"If you deconstruct Greece, you will in the end see an olive tree, a grapevine, and a boat remain. That is, with as much, you reconstruct her..."

~Odysseas Elytis~

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The opinions and conclusions contained in this magazine solely express the author of each article, who bears the legal responsibility and should not be interpreted as representing the official position of the Democritus University of Thrace, of the IAS DUTH SBC, of the Advisor or the editors of this magazine.



Industry
Applications
Society

SBC•DUTH



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Letter
from
the
Advisor

Dear friends of the IEEE Industry Application Society Student Branch Chapter of Democritus University of Thrace, Greece,

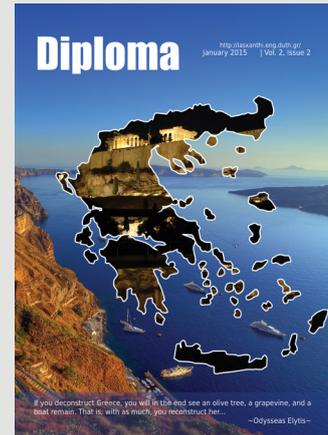
Another issue of our Diploma Magazine is ready. This year, IEEE Industry Applications Society celebrates 50 years of existence, while our Student Branch Chapter only three. Nevertheless, we are proud to believe that this Chapter became a live cell of this big organization from its first steps, from its first activities. Those activities were highly appreciated and supported from the IAS Chapters and Membership Development Department and to this aspect the printed edition of our Magazine is financially supported from CMD and distributed during the last two IAS Annual Meetings. The feedback from the scientific and professional community that participated in these Annual Meetings and read our Magazine is so encouraging that will certainly motivate our Student Members to produce more issues in the future.

Prof. Athanasios Karlis

Chapter's Advisor

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DIPLOMA



On the cover:
Acropolis of Athens and
Santorini Island

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INTRODUCING THE NEW BOARD

by Aristotelis Farmakis, DUTH SB IAS Chapter Chair

This year's DUTH IAS Chapter's annual roster elections were held on November 28th. We had the pleasure to witness a unique eagerness and participation from young and energetic newcomers. This foresees a rich future for our Chapter. We are pleased to state that we had to expand the strategic positions in our board, as more members than ever, showed active interest to get involved with IAS in key-roles with responsibility. We proudly announce the new board members and their respective positions:

- **Aristotelis Farmakis**, former Vice Chair, was elected **Chair** of our Chapter ,
- **Galini Kondyli**, former Chair, was appointed **Vice Chair**,
- **Christina - Panagiota Malliou**, former Chair and P.R. Manager, is currently **Financial Manager** and
- **Christos Pnevmatikos** remained at his position as our **Webmaster**(mostly instructional) and was also appointed **Membership Development Officer**.

We are pleased to let you know that new members were also voted as best fit for the rest of the positions in the board and we even felt the need to expand our board to hold an additional position as well:

- **Georgios Barlas** is currently **Young Members Officer**,
- **Dimitra Chatzichrysou** assumed the position of **General Secretary**,
- **Antonios Glioumpas** holds the position of our **Junior Webmaster** and
- **Emmanouil Matzouranakis** holds the position of our **P.R. Manager**.

On behalf of our new board, I assure you that we all shall try to strengthen the chapter as our predecessors did. We set the bar higher each time. In a few words we aim to organise more events, invite more distinguished lecturers and IAS members, plan more educational trips, attract more active members, achieve biggest participation in conferences, international contests and even host an international event, if we may. In general, we will be looking for more things to keep us moving, both locally and globally.

Furthermore, this new board bares a tough burden, that of composing the internal Rules of Procedures of our Chapter, meaning that we aim to standardise all important

procedures so that the future board generations will have a ready-to-step-on plan. This way, we hope to take the Chapter's coordination to the next level and secure the its heritage.

When I joined the DUTH SB IAS Chapter I had no idea what IAS was. In a short time, as I followed their work, I was intrigued by their activities. I feel very lucky to have an IAS chapter in my university since it gives me the opportunity to extend my skills as an Electrical Engineer. Making projects and getting in touch with engineers from other places it is ideal for me. Now, as a Young Members Officer, I hope I would be able to provide this opportunity to all my younger colleagues.

Georgios Barlas
DUTH SB IAS Chapter Young Members Officer

As a new member of IAS, I am really excited that I was elected General Secretary of DUTH SB IAS Chapter. I am a freshman so IAS gives me the opportunity to expand my knowledge, improve my teamwork skills, share ideas, set goals and achieve them. So far remarkable work has been done by the older members of DUTH SB IAS Chapter and I hope that new ones will continue it!

Dimitra Chatzichrysou
DUTH SB IAS Chapter Secretary

Two years of previous experience as member of the board was simply not enough. I feel there is still more to be done in DUTH IAS SB Chapter and I know I am prepared to steer this year's effort, as Chapter's Chair, to achieve maximum, continuing the great job of my predecessors. We have managed to build a fresh, eager and active team that will, through combined effort, keep expanding students' opportunities for participation and involvement in our University. Technical assets, professional networking and volunteer's spirit comes as bonus to everyone involved.

Aristotelis Farmakis
DUTH SB IAS Chapter Chair

I now complete one year of active action in the DUTH SBC. I had many great experiences during this year. Among other projects I took place, I had the opportunity to organize the Design team of our chapter whose purpose was to enhance our department's prototyping and innovating spirit through electronics projects. Last month I was elected as the junior webmaster and I'm pretty excited I must confess.

Antonios Glioumpas
DUTH SB IAS Chapter Junior Webmaster

WHAT'S NEW

After a successful course as DUTh SB IAS Chapter Chair, I decided to step back and allow new members to take up responsibility. However I will remain in the board as Vice Chair, in order to help DUTh SB IAS Chapter. I am really glad that new members are now part of the board and want to contribute with their fresh ideas. I believe that this year will be as good as the previous two!

Gialini Kondyli
DUTh SB IAS Chapter Vice Chair

Starting my third year as a volunteer with IEEE IAS, having served as DUTh SB IAS Chapter Chair and Public Relations Manager respectively, I am delighted and proud to see the results of our efforts. Every year more and more members not only are motivated to be a part of IAS, but they are also inspired to become active volunteers and take up responsibilities. This is one of the biggest rewards for us. I hope that this year will be as productive as the previous ones and that the cooperation between the chapter board members will be once again successful and fruitful.

Christina - Panagiota Malliou
DUTh SB IAS Chapter Financial Manager

After two years of active action on other Electrical Engineering organizations I decided to include also IEEE IAS in my life, taking the part of Public Relation Manager. I love teamwork and I am positive that we all together will lead DUTh SB IAS Chapter and generally IAS even higher! I believe that all together old members and new members of board will have a very good and creative cooperation!

Emmamouil Matzouramakis
DUTh SB IAS Chapter P.R. Manager

I want to congratulate all our members for their efforts and our continually growing development, which I am glad to see as a Membership Development Office. Hope we have another productive season with lots of activities and awards.

Christos Pnevmatikos
DUTh SB IAS Chapter Webmaster



In our first board meeting: Filling the new board members in

IAS DUTH SBC ACTIVITIES

by Christina - Panagiota Malliou, DUTH SB IAS Chapter Financial Manager

On May 20, 2014 we had the pleasure and the honour to attend a series of lectures by **Dr. Theocharis Dalakouras** and **Dr. Vasilis Katos** on “**Criminal Law and Internet - Cybercrime**”.

Dr. Theocharis Dalakouras, professor at the Department of Law of DUTH, explained to the attendees basic ideas of the criminal law, focusing on the cybercrime while using the necessary examples so that the attendees could understand all the notions. **Dr. Vasilis Katos**, associate professor at the Department of Electrical and Computer Engineering presented the problem of cybercrime and the ways malware and hackers use to invade our privacy. At the end he suggested tips for using the internet with safety.

At the end of the lecture the **attendees, students and professors, expressed some concerns** while **asking questions** and both the attendees and the lecturers began a **dialogue about cybercrime**.



“Criminal Law and Internet - Cybercrime” by Dr. Dalakouras and Dr. Katos



Showing our **support to the local IEEE Student Branch** we co-organized a meeting entitled "**CAREER GOES DUTH**" with **lectures and workshops**, in order to connect the students and the graduates of our university with employers. During the meeting, **representatives of companies presented the job possibilities for graduates of Electrical and Computer Engineering.**

The meeting that was held in co-operation with the **Employment and Career Center of DUTH**, started in the morning with greetings and introductions followed by a brief presentation of the DUTH Employment and Career Center by **Mr. Dimitris Tsitsis, the head of the DUTH Career Center.** He informed the students about **career possibilities in Greece and abroad**, focusing on the work that their Center is doing, connecting students with employers and other universities, by establishing strong relationships and assuring a great future for the graduates. Subsequently, there was a greeting from **Mr. Konstantinos Karpouzis, the founder of IEEE SB of Thrace**, who is now working abroad. He congratulated the Student Branch and mentioned the qualifications and experience he acquired from IEEE. There was also an IEEE Greece Section presentation about the Student Activities.

Afterwards, there were **presentations of companies, that employ electrical and computer engineers.** The speakers **presented the work opportunities for electrical engineers and the required qualifications** that render someone the perfect candidate. They also mentioned the work and the products of each company.

In addition to the academic and occupational activities, there was **a presentation of the IEEE Students Branch of Thrace and the IAS DUTH SB Chapter, called "IEEE Open Hour".**



The **lectures and the companies** were:

- **Mr. Ioannis Makridis**, from **Sunlight Systems S.A.**, a company in Xanthi that focuses on energy storage systems and energy power systems.
- **Mr. Panagiotis Kalaitzidis**, from **Prisma Electronics S.A.**, a company in Alexandroupoli that focuses on electronics.
- **Mr. Dimitris Karelis**, Director of Education of the **Public Power Corporation S.A** in Greece.
- **Mr. Stavros Kounis**, from **More That (just) Themes**, a startup company that provides web design and development services.
- **Mrs. Theodora Kouloura**, Deputy Director of **Strategic Planning of Management Systems and Authorization**.

Last but not least, there was a workshop entitled **“Electrify your Career - Empower your Future“**, by **Gre Recruitment**, a company that connects employees with employers all over the world. They carried out **interviews with students, giving them tips and teaching them how to present themselves in the best way possible**. As a result they proposed to companies abroad some of the candidates that had all the required skills.

The best way to close our academic year was an **educational trip to “Thrace Plastics”**. “Thrace Plastics” was founded in 1977 in Xanthi and is a **member of “Thrace Group”**, a company that **produces and distributes all over the world products such as** E Bags, FFS film, FIBC liners, Shrink film, Top Cover, Stretch Hood and Shrink Pallet Cover Film and offers a **wide range of packaging solutions** for chemicals, animal feed, minerals and foodstuff.

Members of the company guided us through the process while answering questions.





Our first event for the new academic year was an **educational trip to Xerias Hydro Power Plant**, close to the city of Kavala. It was arranged so that the participants would have a full scale tour of the facilities that complete the above mentioned Small Scale - Hydro Power Plant.

The power plant was out of order and that gave us the chance to **approach the facilities closer than usual** and **visit the engineering control systems as if they were under construction for the first time.**



Xerias' Hydro Power Plant **is fully automated, designed to function with no human personnel since it started its operation.**

Although traditionally our academic year starts with our Autumn Meeting and our elections, this year our Autumn Meeting and thus the elections was held on Friday, November 28th. **Our Chapter's Advisor, Prof. Karlis** gave a passionate and welcoming speech to the new members of IAS willing to contribute to the team's effort. **Our past Chair, Ms. Galini Kondyli** also held a short speech so that the interested members would have the chance to get an inside view on what DUTH SB IAS Chapter is all about, offering guidance on future queries.

A number of renewals and new applications to join IAS, were filled that day, refreshing the active face of our chapter.

After the elections, we organized our **first board meeting**, during of which we discussed the **articles for this magazine**, the "older" board members **informed the new board about their responsibilities** and we started planing our next activities.



On December 1, we organized a lecture on **“Energy Efficiency and Electric Cars”** by **Dr. Georgios Ageridis**.

Dr. Georgios Ageridis is the **Director of Energy Efficiency at the Center for Renewable Energy Sources and Saving (CRES)** and **Chairman of**

the Greek Institute of Electric Vehicles (ELINIO). He explained the attendees the basics of the **global climate change, the need for alternative energy sources and “Eco-friendly behaviour”** and focused on the **advantages of electric cars’ efficiency over the alternatives** so that the attendees could get a more advanced idea on the subject.

At the end of the lecture, **the attendees, both students and professors, expressed their concerns, followed by their questions leading to a very interesting and productive conversation.**

The last activity organized by the previous board was **a lecture sponsored by the Digital Factory - Factory Automation of Siemens**. The lectures, **Dr. Tsigkalis Argyrios and Dr. Passalidis Kostantinos** gave us a very **interesting and educational presentation, as well as the insight on what working for Siemens actually feels like.**

The presentation was divided in **two parts**. During the first part, we had the chance to **get to know how Siemens works, the departments and the role of each department, the expectations and the opportunities that Siemens has from a new engineer.** The second part was focused at the **Industrial Automation Technologies** and how they are used in a **motorway tunnel project.**



AWARDS AND CONTESTS

by Galini Kondyli, DUTH SB IAS Chapter Vice Chair

Ever since our Student Branch Chapter was founded in July 2012, we are constantly trying to improve our SBC in every way possible.

Following the remarkable course that our SBC had in 2012 and 2013, we are proud to say that the past year was a very fruitful year, since we managed to keep up the good work and expand our chapter.

With the organization of many events, such as meetings, lectures, workshops, educational trips, the creation and update of our magazine DIPLOMA and our webpage (<http://iasxanthi.eng.duth.gr/>) we have managed to stay active and expose our chapter to more students. With the participation of our members in many meetings (in the Annual Meetings, in Sarajevo Meeting, in the 1st Region 8 Mediterranean SBC Workshop in Rome) our representatives have been present in the last year in many IAS events all over the world.

Industry Applications Society has acknowledged our efforts and has rewarded us with the following awards.

- **“2014 IAS Continued Performance - Outstanding Student Branch Chapter Award”**, for continuing the good work we started less than two years ago.
- **“The Most Happening IAS Chapter of the Year 2014, 1st Prize Award”**, for all the activities we have organized in the past year.
- Ever since the creation of our SBC, we have made our webpage, which is a great way for students and others to find out more about our chapter. Our webpage contains information about IAS, our SBC, our university and our activities, along with the membership form and much more and is available in 4 languages. For all the great work that our members and our webmaster (**Christos Pnevmatikos**) have done we received the **“2014 IAS Chapter Web Contest, 1st Prize Award”**.
- Our chair at the time, **Galini Kondyli** has received the **“Outstanding Student Branch Chapter Chair of the Year 2014”** for her work while being the chair of the SBC.

In the Annual Meeting, many of our members have presented their papers and posters in the “Student Technical Session”. All of them received **“Certificates of Appreciation”** for their work. There were three teams:

1. Antigoni Noula, Galini Kondyli, Christina-Panagiota Malliou, Nikolaos Papanikolaou, Athanasios Karlis with their paper: *“Vector analysis and control of an induction motor drive system using DSpace”* and their poster: *“Studies of the Vector Analysis and Vector Units of an Asynchronous Motor Drive”*.
2. Christos Pnevmatikos, Paschalis Pelitaris, Christina-Panagiota Malliou, Ilias Kosmatopoulos with their paper *“Smart House Network: A Smart House Network Using Wired Sensors Based on Arduino Architecture”* and their poster: *“Indoors Environmental Quality Control”*
3. Aristotelis Farmakis with his paper: *“IAS Goes Mobile”* and his poster: *IASpass*

After all the presentations, **Aristotelis Farmakis** has received the **“Student Sessions Best Presenter Award”** for his explanatory and vivid presentation of his paper and his work.

In the Inter-Cultural Event and Contest in the CMD Dinner, our team has made a video presenting the Greek culture and all attendees voted for the best video. Our SBC received the **“IAS Annual Meeting 2014, Inter-Cultural Event and Contest, 1st Prize Award”**.

In March 2014, IAS Young Professionals Program (YPP) was founded. The YPP committee has organized a **Logo Contest**, where IAS members from all over the world could submit ideas for a logo. The winner of the contest was one of our members; **Makrina Sekeri** submitted the winning logo and will have the chance to attend the Annual Meeting 2015.

We are very glad and proud that we have received these awards for our course in 2014. It was a great recognition for our efforts and our team work.

**Congratulations
to everyone!!**



IAS DUTH SBC ANNUAL PRESENTATION

by Aristotelis Farmakisi, DUTH SB IAS Chapter Chair

On October 22nd, 2014, in the afternoon, **IEEE IAS Student Annual Presentation was embodied**, as planned. The event's concept, once more, **a welcoming introductory gathering for freshmen, as well as the "elderly ones", interested in participating in general.** Along with that, an informative presentation about our chapter's doings, current members' vision of what is yet to come, activities and awards. This time, the event was organized by three active student organizations: the **IEEE DUTH SB of Thrace, the IAS DUTH SBC and EESTEC LC Xanthi.** Representative of our Chapter was Aristotelis Farmakisi.

The event took place in one of our Department's Amphitheaters and students got to network in a friendly and enthusiastic atmosphere. We are happy to report that the event had a **pretty successful impact, especially on freshmen and newcomers societies-wise**, as more than a few showed true interest in our Chapter's





work and many filed an application to join or renew their membership.

We consider worth mentioning, that **our Chapter's presentation attracted not only Electrical Engineering students, but students from different engineering Departments as well** and we expect to see more of them in the following events. The future of IAS DUTH SBC, holds activities that will satisfy the interest of students in various engineering faculties surrounding this of EE.

The year of 2015 seems promising as students in Democritus University of Thrace show greater interest in student organizations, operating in the area, in general. Both formal(through technical papers and events) and "informal" education(such as presenting, leading/participating in a team, volunteering and more) are provided in a society as the one we belong in. This attracts students, along with the opportunity to participate in a multicultural sharing experience, provided when travelling to a conference abroad.

Events as this one are what helps students make a step closer to what comes next in life and fuels the spark that moves us all into actively participating and achieving more. We hope we get the chance to have many more Annual Presentations and the means to fulfil our eager newcomers' visions.

WHAT'S NEXT?

by Christina - Pamagiota Malliou, DUTH SB IAS Chapter Financial Manager

We have some **more events planned** for the semester to come and **numerous ideas for activities!**

Continuing the successful co-operation with the Sapienza University of Rome, after the success of the **web seminar given by Prof. Ing. Parise during the past academic year**, we are planning to organize a series of lectures by Distinguished Lectures and of course another series of **web seminars**. Our goal is to help our students can learn as much as they can for every **aspect of electrical engineering and of course industry applications** even if they cannot leave the campus. We also aim to **establish a connection with more universities and chapters worldwide**.

After the first lecture on Cybercrime and the great impact that this lecture had not just to our students, but also to our professors, we are planing to organize another series of lectures about the law and **a demonstration of a cyber attack from our students**.

Although our Design Team was merged with the newly formed team of the local IEEE Student Branch we plan to keep working in groups in order to submit more projects to the Myron Zucker Design Contest since the last Annual Meeting gave as even more ideas, inspiration and of course motivation to work on new projects.

Regarding our environmental awareness, **we plan to organize a tree planning at our university during spring**.

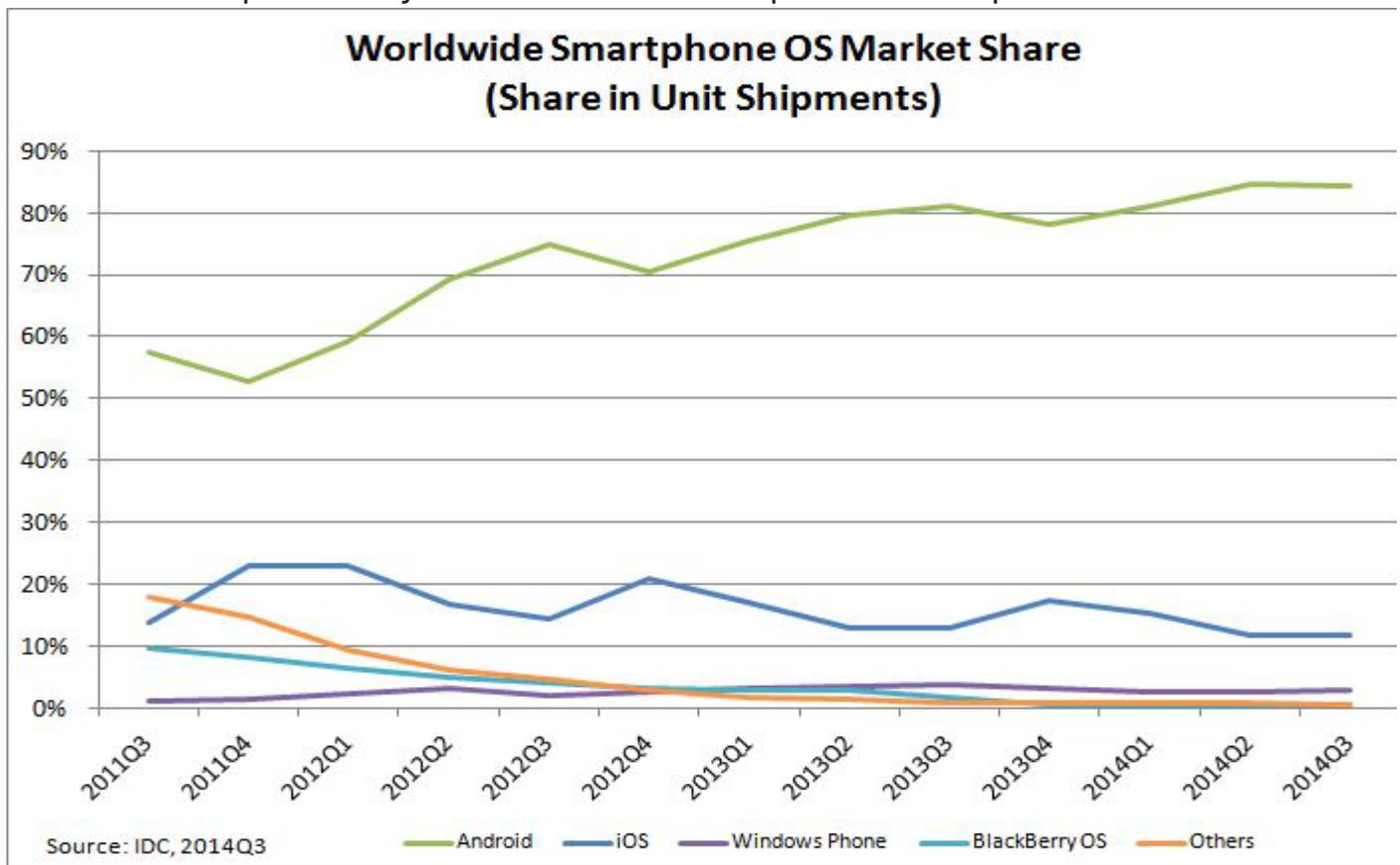
In our Student Branch Chapter it is very important to create a link between theory and practice. Having this in mind, we plan to **visit local companies and industries that are successful in their fields to present their development course**.

Last but not least, we plan to organize **common activities with the recently re-activated Women In Engineering Student Affinity Group**.

MOBILE DEVELOPMENT: WHY TO DEVELOP ON ANDROID?

by Emmanouil Matzouramakis, DUTH SB IAS Chapter P.R. Manager

Cell phones from before 10-15 year are totally different from smartphones that the biggest part of the planet is holding these days... New operating systems came to our lives, allowing us to do our work and our everyday life much easier such as communicating, designing and handling documents easily. But nothing is perfect, sometimes these systems are buggy and there is always place for development. To some people is not clear what platform to choose to develop on. This article explains why it is better to develop on android platform.



1. Larger market share



According to idc.com the largest market share currently is on android operating system and that makes clear that there are many more devices running on android than any other operating system. There are over 1 billion android devices low/mid/high-end for all “wallets” with low prices from 60\$ till over 1000\$ according with the amount of money anyone is about to spend for something. In that way it is much more possible that anyone’s app will be downloaded and tested by more people because of that huge number of devices.

2. Easier for developing and advertising

Android development is easier with all the tools given by the programs (eclipse and android studio the most known ones) so the user isn’t obligated to have the knowledge to build anything such as folders or tiles and the folder motion because it is made automatically by the platform and there is a big variety of motions for this! Moreover for advertising, Google Play provides its users over 12% more ad inventory than iOS which makes it relatively easier and cheaper to advertise your app. Imagine this power and how it can be used to devise a workable marketing strategy to make your app really sell.

3. Discoverability of the app and how it can updated quickly

Any developer’s concern is about how many user will see the app and how can it be promoted. Google play has the big advantage of sorting the app according to the user’s interest and not always to the ranking of the app. This way is much more possible for new apps to be viewed. For updating apps Google Play provides a perfect environment for apps in their early stages: developers can react to feedback quickly and have an app update available on Google Play literally in a few hours in contrast with Apple’s App store with the approval frequently takes over a week. For developers who expect to refine their apps through rapid feedback and frequent iterations, Google Play is the perfect proving ground and the best helper for beginner developers

4. Tutorials for everything

Android is a popular platform and there are many groups at social media as well as other websites and forums to take help for any problem and search for tutorials about every topic for your app and there are thousands of experienced developers are already developing on it. Communities like stack overflow are filled up with many experts who are

Android Development

Innovative mobile development



willing to answer your questions immediately. Unlike other platforms, android also has a advantage of a lot of Java experts who can suggest you alternatives in case you are not able to figure out a way to do things in Android.

5. Lots of devices to work on

We see now android at smartphones, android on watches, android on mp3 players and we are going to see that in many more devices in the future, providing to developers the opportunity and a huge variety of options and devices to work on.

6. The advantage of JAVA

Since Android uses Java as its programming language, it has almost all the advantages of Java. Specially in terms of a lot of free and open source java libraries that can be used to develop any kind of app you are thinking of. Though not all java libraries are compatible with Android, many of them can be used as is and some of them can be easily translated into “Android language” system.



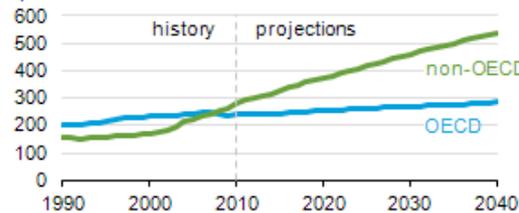
All these reasons make simpler for everyone who starts his own carrier on developing to choose the platform that is easier to work on, more accessible, easier to advertise and easier to get help at any case of problem.

NUCLEAR ENERGY THE FUTURE?

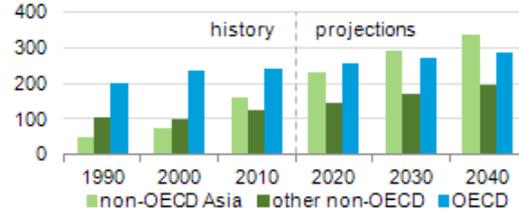
by Konstantinos Papatheologou

Demand for electricity in the emerging economies is growing very strongly (2.3% each year, on average) and will continue to rise in the future. Moreover, the majority of these countries have goals to improve energy security and avoid emissions of greenhouse gases and other air pollutants. It is impossible to rely solely on natural gas or sources of renewable energy, to meet this demand. Nor is it possible to rely exclusively on coal, the most carbon-intensive fossil fuel. But is nuclear energy the solution to this problem?

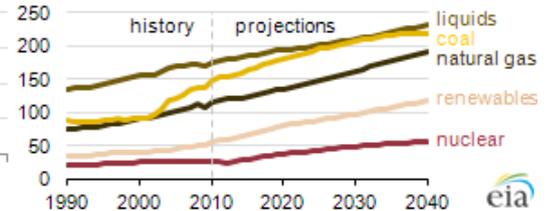
World energy consumption
quadrillion Btu



World energy consumption
quadrillion Btu



World energy consumption by fuel
quadrillion Btu



Today, nuclear power is not an economically viable solution. Unlike other energy technologies, nuclear power requires paramount regime involvement because of safety, proliferation, and waste concerns. Despite the high level of sophistication of the safety systems of nuclear power plants, the human aspect has always an impact. Facing an unexpected event or managing a nuclear

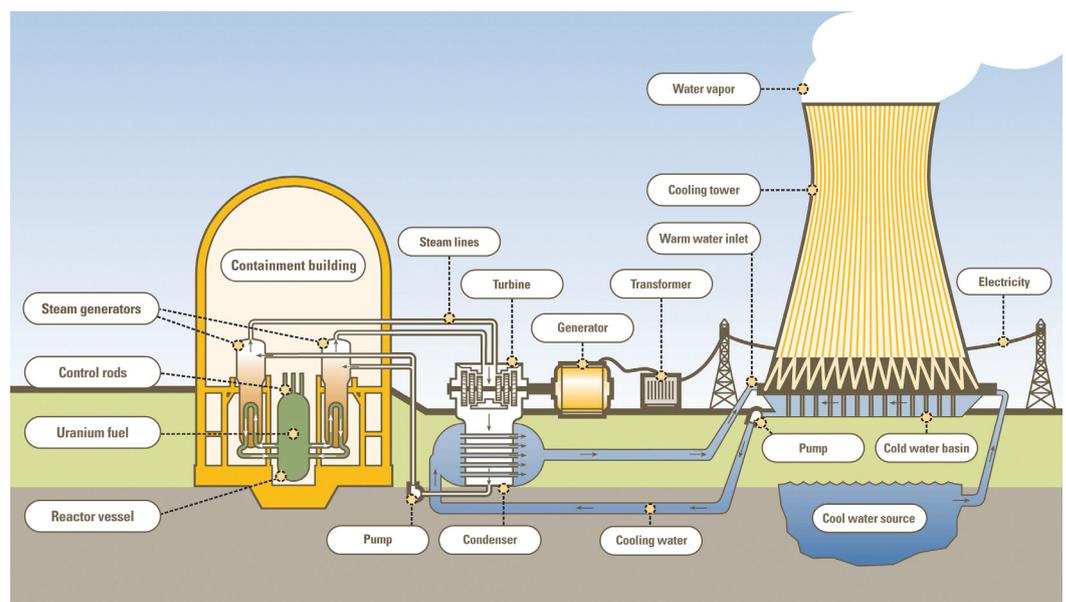
accident, we don't have any guarantee that decisions we took are always the best. Two good examples are Chernobyl and Fukushima.



One of the main disadvantages, as mentioned above, is the difficulty in the management of nuclear waste. It takes many years to eliminate its radioactivity and risks. Also the constructed nuclear reactors have an expiration date. Then, they have to be dismantled, so that main countries producing nuclear energy could maintain a regular number of operating reactors. Current nuclear reactors work by fission nuclear reactions. These chain

reactions, that occur in case control systems fail, generate continuous reactions, causing a radioactive explosion that would be virtually impossible to contain.

On the other side, there are many benefits using nuclear energy instead of the current conventional fossil fuel and renewable energy. The generation of electricity through nuclear energy reduces the amount of energy generated from fossil fuels (coal and oil). Less use of fossil fuels means lowering greenhouse gas emissions (CO₂, CO and others). Currently, fossil fuels are consumed faster than they are produced. As a result, in the near future these resources may be reduced or the price may increase becoming inaccessible for the biggest part of the population. Another advantage, is the required amount of fuel, as less fuel offers more energy. It represents a significant save on raw materials, as well as in transport, handling and extraction of nuclear fuel. The cost of nuclear fuel (uranium, overall) is 20% of the cost, of the generated energy. In addition to that, the production of electric energy is continuous. A nuclear power plant is generating electricity for almost 90% of annual time. It reduces the price volatility of other fuels, such as petrol. This continuity benefits the electrical planning. Nuclear power, also, does not depend on natural aspects, like renewable energy.



IAS DAY SARAJEVO

by Antonios Gilioumpas, DUTH SB IAS Chapter Junior Webmaster

Our trip started from Thessaloniki, northern Greece. We traveled to Istanbul for a correspondence flight to Sarajevo.

After our arrival we checked in Bristol Hotel. In the afternoon we met Dr. Magyar, Mr. Lloyd, professors from other Bosnian universities and some of the guys from the IAS Sarajevo Chapter as well. After a brief sightseeing in the city we had dinner in one of the most famous restaurants in Sarajevo. The food, the music, the company, all was perfect.



Next day, we had an early waking up for attending the IAS Day Sarajevo. The event was held in the Electrical Engineering faculty inside Sarajevo University's Campus.

The event included:

- A Bosnia and Herzegovina presentation by Dusanka Boskovic, IEEE BH Section Chair by Petar Matic, IAS/PELS Joint Chapter Chair

- A presentation of the University of Banja Luka / IAS / PELS Joint Chapter by Petar Matic, IAS/PELS Joint Chapter Chair
 - A presentation of the University of Sarajevo by Merima Ocuz
 - A presentation of IAS by Lloyd Blake, IAS President and Peter Mgyar, IAS CMD Chair
 - A lecture about technical English
 - A technical lecture about the effects of modern variable speed drives on high voltage motor winding insulation by Lloyd Blake, IAS President
 - A presentation of the IAS SB Chapter of Democritus University of Thrace, Greece by Anthony Glioumpas, Nizar Almesry, Georgios Barlas and Charalampos Theodoropoulos
 - An IAS SB Chapter's Presentation of the University of Sarajevo by Nada Hodzic
- A Faculty of Electrical Engineering Laboratory Tour by Vedad Becirovic, IAS SB Chapter Advisor



Next, we went in a City Walk Tour with all the participants. We had the opportunity to gain a bunch of new knowledge about the history of Sarajevo as well as visit some of the most iconic places and monuments of the city. The girls who shouldered the tour did an excellent job despite the bad, rainy weather. The

evening ended with the team having dinner in the commercial and cultural centre of the city. Even though our trip was supposed to end the next day, we decided to stay a little bit more in order to venture more into the city and have fun with our new friends. It was a trip to remember thanks to our wonderful hosts and their excellent organization.

IAS ANNUAL MEETING 2014

by Galini Kondyli, DUTH SB IAS Chapter Vice Chair
Christina - Panagiota Malliou, DUTH SB IAS Chapter Financial Manager

Since 2012, the **DUTH SB IAS Chapter is being represented every year by student members in the IAS Annual Meetings**. This year, the IAS Annual Meeting was held in Vancouver, Canada, and our chapter had 8 representatives: **7 student members** (Antigoni Noula, Aristotelis Farmakis, Christina - Panagiota Malliou, Christos Pnevmatikos, Christina Semertzidou, Galini Kondyli, Paschalis Pelitaris) **and our chapter's advisor** (Athanasios Karlis). The representatives attended the meeting, presented the chapter and some of their projects. The IAS Annual Meeting is **a great opportunity to gain experience and meet new people from all over the world!** We got the opportunity to meet people from other countries and exchange knowledge while learning about other cultures!

The trip to Canada was long and difficult but the Annual Meeting experience was totally worth it!

On the first day, we attended the **CMD Chapter's Workshop, where many CMD Officers presented their work in IAS and informed us about Chapter Promotion, Membership Development and some special projects**. During the CMD Chapter's Workshop there were presentations from the **Area Chairs, Chapters and Student Branch Chapters, such as our Student Branch Chapter**.



The DUTh SB IAS Chapter was presented by **Ms. Galini Kondyli, Chair and Ms. Christina Semertzidou, Program Organizer**. They gave an oral presentation about the **Chapter's activities and its progress over time**. During the presentation, our Chapter's representatives **distributed the third issue of DIPLOMA** to all the attendees.

After the presentations, all the participants took a group picture!

In the afternoon there was the Welcome Reception along with the Student Poster Session. Three posters were presented by the Chapter's representatives

- **“Indoors Environmental Quality Control”** by Paschalis Pelitaris, Christos Pnevmatikos, Christina - Panagiota Malliou that was supervised by Dr. Elias Kosmatopoulos.
- **“Studies of the Vector Analysis and Vector Units of an Asynchronous Motor Drive”** by Antigoni Noula, Christina - Panagiota Malliou and Galini Kondyli that was supervised by Dr. Nick Papanikolaou and Dr. Athanasios Karlis
- **“IASpass”** by Aristotelis Farmakis

Our posters received positive feedback from the attendees. We also received “Certificates of Appreciation” for our efforts.



During the second day, **the student members participated in the Student Technical Session, where they made oral presentations about their technical papers and answered questions about their projects**. There were three oral presentations by the DUTh SB IAS Chapter representatives. One team (Antigoni Noula, Galini Kondyli, Christina - Panagiota Malliou, Nick Papanikolaou, Athanasios Karlis) presented their paper en-

titled **“Vector Analysis and Control of an Induction Motor Drive System Using DSpace”**. Another team (Christina - Panagiota Malliou, Paschalis Pelitaris, Christos Pnevmatikos, Elias Kosmatopoulos) presented their paper called **“Smart House Network: A Smart House Network Using Wired Sensors Based on Arduino Architecture”**. Last but not least, Aristotelis Farmakis presented his paper **“IAS Goes Mobile”** and received the **“Best Presenter Award”** for his presentation.

CONFERENCES

After our presentations we attended some other **very interesting presentations and were intrigued by other peoples work! All the presenters received “Certificates of Appreciation” for their presentations.** We also attended the **Muron Zucker Student Luncheon**, where we were informed about **possible travel grants.** On that day, our chapter’s advisor, **Professor Athanasios Karlis was the session chair for the evening presentations.**

Moreover, we attended the **CMD Dinner**, where **Dr. Peter Magyar** and **Mr. Blake Lloyd** presented the **awards for the chapters and the officers.** Our **Student Branch Chapter** received many awards.



During the CMD Dinner, the result of the IAS Young Professionals Program Logo Contest was announced and we were really proud to hear that the winning Logo was submitted by Ms. Makrina Sekeri, a student member of our Student Branch Chapter!





In addition to this, **during the Dinner, the Inter-Cultural Contest was held, where our team won the first prize award.**

The third day, we attended the **BC Hydro Stave Falls Powerhouse Tour**, which was a **2-hour guided tour** at the old Hydroelectric Power Plant at Stave Falls. During this visit we were able to travel back in time since the Stave Falls Dam and Powerhouse was in operation from 1912.

From this year it has been upgraded more than three times in order to meet the constantly increasing needs of power. **The facilities and the tour were really nice and everyone enjoyed it!** We also had lunch at a local restaurant. When we returned to the Annual Meeting, we attended some very interesting presentations on **power systems control, lighting and power systems** engineering.



On the fourth day, some of our representatives attended some **energy system** presentations while the others were attending the **power system engineering** session. In the afternoon most of our representatives attended the **power system protection**, a field very interesting for all of our students. In the evening, the representatives attended the **President's Banquet** where some more awards were presented and they informed us about the next **Annual Meeting, in 2015 in Addison TX USA.**

We all hope to get the chance to attend the next Annual Meeting since it was an unforgettable experience!

WITH A LITTLE HELP FROM MY FRIENDS

by Aristotelis Farmakis, DUTH SB IAS Chapter Chair

There comes a time when knowing how to stand on your own feet is simply not enough. At those times, friends, colleagues and people familiar to your field of expertise, your professional network, are the ones you will need to look up for advice.

Through IAS, we get the chance to strengthen our networks, make new friends and connect with colleagues all over the world. The common basis: our mutual interest and passion for engineering fields we have decided to focus on.

Only those of us who had the chance to be part of a convention like the IAS Annual Meeting can really grasp the importance of getting together with people who share so much in common on an academic basis, yet differ so much in aspects of culture and customs. Addressing the same subject in various perspectives helps enrich our understanding, often leading to as close as one can get to “parthenogenesis”, virgin birth of ideas. It is surprising how interaction of a number of individuals, especially with different backgrounds, can exponentially amplify the creative output of the collocation.

This column in our magazine is dedicated to our friends, IAS Chapters abroad, whose help we need to keep getting better at what we do every day. Fruitful competition and innovative actions enhance our volunteers’ spirit and keep us moving. Thus, we promote university students’ activity in a local level, as well. This section “gets us together”, allows us to keep in touch and help each other’s creativity flourish. We achieve all this by finding out how new activities of colleagues of ours, all over the world, have managed to reach completion starting from scratch, often having combined those different ideas, approaches and practices with our own. This collaboration, of some sort, helps inspire our future activities to constantly do something more.

Let me close this opening, in a manner most appropriate for the following articles, by quoting the Beatles song, sharing this article’s title:

“Mmm, gonna try with a little help from my friends”,

“Yes, I get by with a little help from my friends”.



PANDIT DEENDAYAL PETROLEUM UNIVERSITY

by Sumit Chhabria, PDPU SB IAS Chapter Chair

IAS Student Branch at PDPU was established in 2013. PDPU IAS student branch, its core purpose is to serve professionals involved in all aspects of the electrical, electronic and computing fields and related areas of science and technology that underline modern civilization.

The goal of the IAS student chapter programs is to ensure the growth of skill and knowledge in mainly the energy-related technical professions and to foster individual commitment to continuing education among members.



Above: Our college was visited by IAS Office bearers Mr. Peter and Mr. Blake.

GET CONNECTED

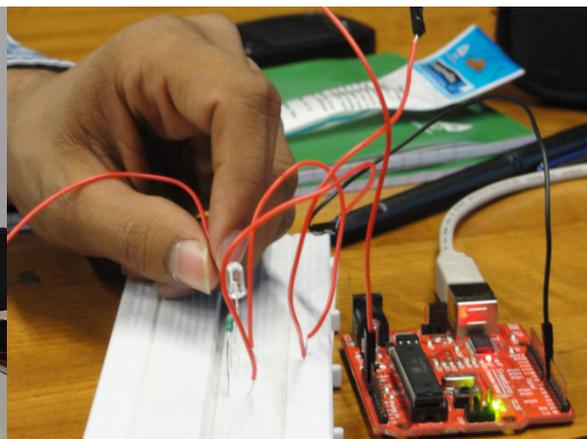
Keeping in mind this vision, PDPU Student branch of IEEE IAS strives to reach out to the technological world and create a sustainable network for the same. We try to imbibe our theoretical knowledge to practical applications helping in better learning at all levels.

Since its commencement it has been successfully organizing different activities and events such as workshops, guest lectures and seminars, which provides students a platform to develop their technical skills. Some of the eminent events are **LabVIEW** workshop organized in collaboration with National Instruments, **Scilab Workshop** organized in collaboration with IIT Bombay, **Arduino workshop** and **IEEE Student Section Congress 2013**.



Student Section Congress

From past two years our students are being selected for Zucker travel awards as well as AMTGP awards and are attending IAS Annual meet. They have also Presented their technical papers as well as posters at these meet. Also Naveen Velumurgan won 3rd prize in zucker student design contest in IAS Annual meet, 2014.



Top (left to right): Student branch office bearers, Arduino Workshop. Bottom: Labview Workshop

UNIVERSITY OF TEXAS ARLINGTON

by Xim Wang University of Texas at Arlington SB IAS Chapter Chair

The IAS Student Branch Chapter in University of Texas at Arlington (UTA), established on May 2014, counts 9 graduate students (January 2015). Dr. Wei-Jen Lee (Fellow, IEEE) has been a strong supporter by being Branch Chapter Advisor.



Holding a seminar co-operated with IEEE Student Chapter in UTA

GET CONNECTED

The purpose of the Chapter is to promote technical, scientific, literary, and educational activities within the students of UTA. The functions of the Chapter are to promote close cooperation and exchange of technical information and topics advancing the field of electrical and electronic engineering among its members and those of other groups, committees, and divisions of IEEE; hold meetings for the presentation and discussion of papers; co-operate with IEEE Student Branch to introduce electrical and electronic knowledge to both IAS and IEEE student members; be volunteers in IEEE MetroCon to help solve the technical problems; provide for the needs of its members by stimulating research, participating in projects related to the scope of the Chapter, organize and support educational activities and lectures sponsored by UTA in the area specified in the scope of the Chapter.

Our main objective is to organize various technical activities for the benefits of IAS student members including:

- Invite distinguish lectures of the IAS to give seminars.
- Visit local company (Lockheed Martin, Oncor, TI, and many more) to bridge the gap between academy and industry.
- Participate in joint meeting/co-sponsor meetings with UTA IEEE Student Branch



Top:
Holding a seminar co-operated with IEEE Student Branch in UTA

Bottom (left to right):
Wei-Jen Lee, Advisor for IAS Student Branch Chapter in UTA and Xin Wang, President for IAS Student Branch Chapter in UTA

ENIS

IEEE IAS STUDENT BRANCH

CHAPTER

by Nouha Dziri, ENIS SB IAS Chapter Chair



Innovation and leadership has become a core driver of growth, success and valuation. We cannot live without innovate or create because the way to glory will not be easy to achieve.

IEEE is one of the non-profit organizations that help engineers to have an important role in the growth of community through the innovation.

The IEEE Student Branch of the National Engineering School of Sfax (ENIS) was created on April 1st, 2009 and since its creation, it was extensively involved in the organization of many conferences, lectures and workshops. Since 2013, IEEE Tunisian Student Branches Congress (TSBC) is being organized by the IEEE Tunisia section and the IEEE Student Branch of the National Engineering School of Sfax (ENIS).

This year, the second IEEE Tunisian Student Branches Congress (TSBC) was held in Sousse - Tunisia on December 22-23, 2014.

The TSBC 2014 was the biggest engineering event in Tunisia which brought hundreds of IEEE students from different student branches in Tunisia. TSBC'14 was the place where engineering students meet new people with one common purpose, to take a lead forward in education and success.



During two days, 260 attendees from 15 student branches in Tunisia attended the high quality talks presented by 8 distinguished speakers.



One of the speakers was Dr David J. Vaglia, an IEEE IAS Distinguished Lecturer from Westinghouse Electric Company, USA. His lecture was about “IEEE Industry Applications Society (IAS)” & “Nuclear Energy Today and the Future - What in the World is Going on?”

Dr David J. Vaglia has his roots in the energy engineering. He began his career in the coal mining industry, working as an applications engineer in power distribution, and electric train haulage systems, both above and below ground. He has also worked in the renewable energy sector, investigating new concept wind generation applications and solar thermal systems.

He has been an active in the IEEE for nearly 40 years. He is a Senior member serving the Pittsburgh Section (Region 2) in various capacities. Mr. Vaglia’s volunteer positions have included Section Awards Chair, Treasurer, and Section Chair. In the IAS-PES Pittsburgh Joint Chapter, he has served as Secretary, Treasurer, and Chair. He has also served as the General Chair of the 2008 PES Annual Meeting. Mr. Vaglia is presently Chair of the joint chapters of the IAS and PES, Pittsburgh Section.

At the end of the lecture, students and Dr David had the chance to discuss concerns and ideas on the topics introduced in the presentation. The questions asked were highly effective and the participants’ feedback was enthusiastic and positive.



Furthermore, there were also 7 distinguished speakers:

- IEEE” & “Project Management Skills”, By Margaretha Eriksson, 2015/16 IEEE R8 Director-Elect, Sweden
- “How develop your leadership skills?” & “Oral Presentation Skills” By Kurt Richter, IEEE Life Fellow, 1991/92 IEEE Director Region 8, Professor Emeritus from Graz University of Technology, Austria
- “Benefits of IEEE Student Chapters”, “IEEE Power & Energy Society (PES)”, and “IEEE Women In Engineering (WIE)” By Simay Akar, IEEE R8 Student chapter coordinator, Turkey
- “How to Succeed as a Young Entrepreneur” By Lassaad Mezghani, Counselor of Entrepreneurship Development, Ministry of Higher Education, Scientific Research and ICT, Tunisia
- “IEEE Pre-University Activities: EPICS-in-IEEE Program” & “IEEE Technology Engineering and Management Society (TEMS)” By Sohaib Qamar Sheikh, IEEE R8 Pre-University Activities Coordinator, Ove Arup and Partners Ltd, United Kingdom
- “ITU, Innovating Together” By Bilel Jamoussi, Chief, Study Groups Department, ITU-T, Switzerland
- “The Black Dog & Indiscipline Tree” By Nadhem Bardaa, IEEE R8 Professional Speaker, NTraining Manager, Tunisia

In conclusion, TSBC was a successful congress that boosted student activities by training and motivating the student branch members and by enhancing technical and soft skills, and sharing skills and methods.



Greece. A country that recently got known as the poor one of Europe. It is also very well known thanks to its ancestors and their civilization. But, what applies to Greece for today? Well, it has a population of around 11 millions. Athens is the nation's capital and the largest city. It is an extremely beautiful country, with 13,676 km of coastline and numerous islands. Eighty percent of Greece consists of mountains or hills, making the country one of the most mountainous in Europe. As expected, it is a very popular tourist destination. Its economy is mostly based on services such as tourism and merchant shipping and in a smaller part on industry and agriculture. People are very hospitable, and in spite of their financial situation, they like to have fun. It is very interesting that many new artistic movements are born, most of which can be tagged as street art. You can also observe that many small and startup businesses are created based on smart ideas. In general, Greece is a country with many faces, and many aspects to show off. It's up to you which one you prefer to concentrate on.

by Savvas Apostolidis

