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Is this the end of crisis?
Is this the beginning of recovery?

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Post-crisis Greek foreign policy: Challenges and prospects

Greek foreign policy and its many unresolved issues (Greece's relations with Turkey, Cyprus, the question of FYROM), the relations with Russia, the situation on the Middle East and energy issues in the Eastern Mediterranean were the topics of the round-table discussion organised by The Anglo-Hellenic League and the Hellenic Observatory of the London School of Economics on Greek foreign policy in London

By Eugenia Anastassiou

The timing of the round-table discussion organised by The Anglo-Hellenic League and the Hellenic Observatory of the London School of Economics on Greek foreign policy in London could not have been more apt as a prelude to the landmark visit of Turkish President Recep Tayyip Erdogan to Athens in early December.

A group of preeminent experts both Greek and English made up the panel, some of whom had participated in numerous negotiations and international summits on Greece, Cyprus and their relationship with Turkey and the EU, including the recent talks on the reunification of Cyprus in Switzerland. Led by *the chairman, former British Ambassador to Greece and High Commissioner to Cyprus Sir David Madden,* panellists *Spyros Economides*, *Emmanuel Karagiannis* and *James Ker-Lindsay* looked at the Greek situation beyond debt and austerity. Undoubtedly, these are important and pressing concerns but they do not paint the whole picture of Greece and its role, both in Europe and the world.

Greek foreign policy has many unresolved contentious issues: its relations with Turkey, the question of FYROM, Cyprus, but also a heady mix of broader regional issues, such as the discovery of energy in the Eastern Aegean, Russia, the Middle East and the impact of its instability in the region.

Greek foreign policy in the crisis period

Regarding Greek foreign policy, the first question to answer is: "Does Greece need its own foreign policy?" – since the EU sets the agenda and Greece just follows, regardless of the economic situation. This is a very simplistic statement as elements of Greek foreign policy have continued and others have discontinued because of the influence of the EU. The one thing that has affected the Greek negotiating position vis-à-vis the EU is that it has become weaker because of the crisis.

Internationally-driven policies and their impact on Greece's position means change is necessitated by international reaction to events – such as the refugee crisis, relations with other countries beyond the neighbouring ones

For example, the EU would like certain Greek foreign policy matters cleared up, such as the question of FYROM, which has now been going on for 26 years. They want Greece to agree on a name, but this has stalled because the Greek economic crisis has pushed it from the agenda.

As to the direction of the political agenda shaping Greek foreign policy, it is important to note that there are two types of foreign policy – one is domestically driven and the other internationally driven,

On the foreign policy "domestic" front, since PM Alexis Tsipras is not particularly interested, it is all dealt with by the ministry of foreign affairs. Policy is focused on a very regional basis, mainly Cyprus, Turkey, FYROM, Albania and the Balkans, and it does not stray from this narrative.

Internationally-driven policies and their impact on Greece's position means change is necessitated by international reaction to events – such as the refugee crisis, relations with other countries beyond the neighbouring ones, the relationship with the EU and energy treaties; these are centred in the corridor of policy making.

When SYRIZA originally came into power in 2015, it was obvious that it had a very different ideology from previous governments and it seemed very goal-driven, especially towards ideologically left countries like Russia and China. Two years later, the relationship with both those countries is half-hearted. When once Greek and Serbian links were strong, now with Greece's political recognition of Kosovo, they have weakened. So despite the radical rhetoric, the SYRIZA government's foreign policy has not really stepped out of line.

There has been no dramatic differences or significant change, no radicalisation, just pontificating and interest-driven policies.

Relations with Russia

The Greek relationship with Russia runs deep, both historically and as co-religionists, with 65% of Greeks being pro-Russian and viewing it as a friendly nation. Bizarrely, this "Russophilia" unites disparate ideological views in Greece, from right-wing Golden Dawn through to left-wing SYRIZA, right through to the Orthodox Church, which favours Russia in Greek foreign policy.

Finding oil and gas has changed the relation dynamics in the Eastern Mediterranean, particularly in the development of bi-lateral relations between Greece, Cyprus and Israel

In 2015 SYRIZA was demonstrably pro-Russian, with many government ministers being former members of the Communist Party viewing Russia as an alternative to the West. This included vetoing sanctions against Russia, which were implemented with the annexation of Crimea and the proposed Russian-backed trans-Greek energy pipeline project, which led the international community to fear that Greece could be moving closer to the Kremlin. Over six months, Greece and Russia negotiated bi-lateral relations in loans, which were used as bargaining chips against the EU.

By 2017, the Russian "honeymoon" was over and now Greek foreign policy has turned pro-West. So what caused this volte face in the Tsipras' government?

- Russia's controversial $2.5 billion deal in arming Turkey with S-400 anti-aircraft missiles, in addition to Russia's State Atomic Energy Corporation (RosAtom) planning to build a $20 billion nuclear power plant in southern Turkey. These factors have changed the Greek view of Russians, now seeing them as "backstabbers".
- The disagreement with the Greek-speaking Orthodox Church and the Russian patriarchate in Moscow.

Sir David Madden has been the UK's High Commissioner in Cyprus during 1994-1999 and also held the post of Ambassador to Greece during 1999-2004.

Sir David has extensive experience of working in Europe's "problematic" regions and divided countries, such as the former Yugoslavia, Berlin, Cyprus and Bosnia. As the British High Commissioner in Cyprus, he played a full role in negotiating a settlement for Cyprus and its accession to the EU. As British Ambassador to Greece, he was instrumental in helping the Greek government in its fight against terrorism and assisted with planning security at the 2004 Olympic Games.

He is now involved in South Eastern European Studies at Oxford and continues participating in mediation talks involving this region.

- Improving Greek and US relations, highlighted by PM Alexis Tsipras' recent visit to the White House and President Trump.

Relations with Israel

Greece has had a historically "tricky" relationship with Israel, recognising the Jewish state in 1949, although the improvement in relations began from the signing of a defence cooperation treaty in the 1990s and since 2008 they have formed the strongest collaboration in the Eastern Mediterranean.

However, Tsipras has pro-Palestinian sympathies and together with many of his ministers have openly supported Hamas. Even though both Greece and Israel collaborate in military operations and both countries are part of the Energy Triangle which refers to the extraction of oil and gas from both Israel and Cyprus, yet the Greek government is in the incongruous position of supporting both Israel and recognising Palestine.

Energy in the Eastern Mediterranean

Finding oil and gas has changed the relation dynamics in the Eastern Mediterranean, particularly in the development of bi-lateral relations between Greece, Cyprus and Israel.

Relations between Ankara and Nicosia have deteriorated due to disagreements over the exploitation of offshore gas deposits south of Cyprus, as have those between Israel and Lebanon. Energy companies, whether state-backed (like Russia's Gazprom) or private companies, all play a part in the geopolitical factors of excavating for oil and gas in the region.

The fallout of the Cyprus talks

Since 1974 Greek policy towards Cyprus has been that Nicosia decides and Athens follows. Greek Foreign Minister Nikos Kotzias has a very keen interest in Cyprus; in fact, he has made it a career ambition to resolve this thorny ongoing international problem and there have been both positive and negatives steps towards this goal.

One of the positives is that the current Greek administration has made some conciliatory moves to understand the Turkish-Cypriot viewpoint. When SYRIZA originally got into power, Tsipras made the customary first visit to Cyprus and included seeing representatives of Turkish-Cypriot NGOs to hear what they had to say. It was carefully handled, so Tsipras met no officials and this was seen as a symbolic yet significant gesture on the part of the Greek government.

Dr Spyros Economides is Director of the Hellenic Observatory, and Associate Professor in International Relations and European Politics at the LSE.

His work has concentrated on the international affairs of South Eastern Europe and the EU's external relations in the field of foreign and security policy, as well as writing on the impact of the Balkan conflict on the EU.

Dr Economides acted as Specialist Adviser to the House of Lords EU Committee in its report "Responding to the Balkan Challenge: The Role of EU Aid" and is a regular commentator on issues relating to the EU's external relations and foreign policy, South Eastern Europe and Greece, in the media.

However, the reunification talks in Switzerland earlier this year ended in stalemate over disagreements on Turkey maintaining military intervention rights on the island and the guaranteed security of Greek-Cypriots.

So, what was the Greek foreign policy stance in the Swiss talks? Nikos Kotzias has strong views and has a definite blueprint of how the Cyprus question should be settled and this was seen as one of the factors in the collapse of the negotiations. Additionally, it must also have been a surprise for someone of his Communist background to have hardliners and "rejectionists", such as former Nea Dimokratia PM Antonis Samaras

Dr Emmanuel Karagiannis is Senior Lecturer in Defence Studies at the Department of Defence Studies. King's College London.

Over the course of his career, Dr Karagiannis has held research positions in prestigious US universities, which include Pennsylvania, Yale, Columbia, Princeton, as well as six years as an Investigator at the University of Maryland's National Consortium for the Study of Terrorism and Responses to Terrorism (START Centre).

Dr Karagiannis has published extensively on political Islam, radicalisation and terrorism, Russian foreign and security policy, and energy geopolitics. He has been interviewed by various international media outlets, such as *The Wall Street Journal, Newsweek,* Al Jazeera, The Voice of Russia and the BBC.

and Nikolas Papadopoulos of Cypriot DEKO, both right-centrists, supporting him on his position on Cyprus.

Members of the panel, being academics as well, sympathise with Kotzias' position; as a former professor, he is used to being listened to and for his students to lap up his views, but that is not how diplomacy works – he wants to see a settlement but on his own terms and how he envisages it.

At present, dealing with Cyprus is low priority in the Turkish foreign policy agenda. It has been superseded by more pressing matters such as Syria, Iraq and the Middle East. Although Turkey does see the benefits in resolving the Cypriot dispute, recently there has been another angle to a possible resolution: instead of negotiating to unite the island, it should be "officially" partitioned and for the northern Turkish-Cypriot zone to be recognised internationally.

However, there is a danger with the unpredictability of the Erdogan regime: that he could demonstrate a nationalistic show of strength by creating another "Crimean" situation and annexing the whole island.

Turkey and Geopolitics

Since 1991 there was some hope for rapprochement, especially during the 18 years of talks surrounding Turkey joining the EU. Even throughout this time there was no significant progress on sovereignty of the Aegean Sea – the Continental Shelf and airspace. There was a possibility of resolution if Turkey had joined the EU, but this is unlikely to become a reality now with the deteriorating relationship between Erdogan and Europe.

Turkey has become increasingly unpredictable, especially under Erdogan, and it could veer on to a dangerous path. It has become progressively assertive in pressing its claims and strengthening relations with the Muslim world, together with its anti-Israeli and anti-Western stance. Additionally, it also has a large population and a strong, well-equipped military force. In the meantime, Greece has been weakened by years of economic crisis, which has eroded military spending and defence, coupled with its asymmetric relationship with the EU.

Historically, Greece has always been on the side of the Western powers, especially supported by the political elite in Greece. One could argue Greece has a "schizophrenic" relationship with the West, blowing hot and cold

So, what does this mean in the great scheme of events, especially now that the dynamic of Russian and Turkish relations has changed? Geopolitically, Turkey is using this improved relationship with Russia as leverage vis-à-vis Europe and its NATO partners; whereas Putin sees Turkey as a wedge he can drive into NATO and trans-Atlantic solidarity.

Geo-strategically, Turkey has morphed into an unknown quantity and cannot be relied on by the West, as it once was

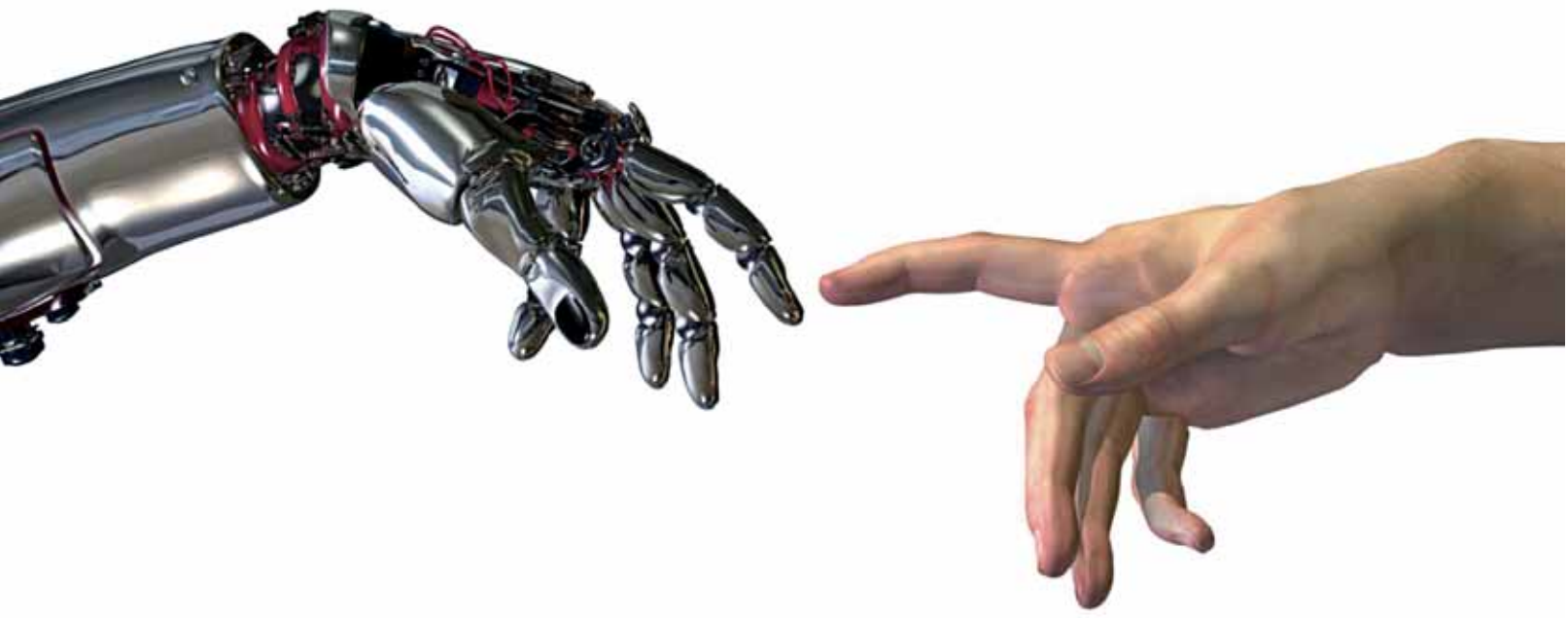
Dr James Ker-Lindsay is Professor of Politics and Policy in the School of Arts and Humanities at the University of St Mary's University, London/

A specialist on issues relating to conflict, peace and security in the Eastern Mediterranean and the Western Balkans, he has authored and co-written numerous books on South Eastern Europe, focusing on Cyprus, Greece and their relationship with Turkey and the EU.

Dr Ker-Lindsay is also a member of the steering committee of the European Consortium for Political Research (ECPR) Standing Group on South East Europe. In addition to having served as an expert advisor to the UN Mission of Good Offices in Cyprus and as a consultant to the Council of Europe, he was the co-ordinator of the Greek-Turkish Forum, a peace support initiative run by the Royal United Services Institute for Defence and Security Studies (RUSI) and the International Peace Research Institute (PRIO).

during the Cold War era. The Turkish status quo has changed as it is becoming less secular and more Islamist in its policies.

Historically, Greece has always been on the side of the Western powers, especially supported by the political elite in Greece. One could argue Greece has a "schizophrenic" relationship with the West, blowing hot and cold, and despite the radical left rhetoric of Alexis Tsipras (a former Marxist), even he sees that Greece needs to be pro-West. However, in this ever shifting political climate, the USA, France, Great Britain and Germany must also see the strategic importance and advantages of improved relations with Greece and Greek foreign policy should find itself in a position of strength in this geopolitical change. bf



Welcome to the Fourth Industrial Revolution!

Health, agriculture, banking, education, transport, energy, retail, law, accountancy, insurance, construction, leisure, travel, manufacturing, the military, shipping, everything will be affected by the Fourth Industrial Revolution in the near future

By Eugenia Anastassiou

In 1998 Kodak was a giant in the photography world, with 170,000 employees selling cameras and films, and supplying 85% of photo paper globally. In 2012 –just 14 years later– Kodak filed for bankruptcy.

In a little over a decade the huge improvements and sophistication in digital camera technology and its subsequent incorporation into mobile and smartphones meant that Kodak was left woefully behind in the tech war "arm's race."

What happened to company giants like Kodak will happen to other industries over the next decade, with Artificial Intelligence (AI) and IoT (the Internet of Things) disrupting most traditional industries and business models in the next five to ten years.

German futurologist *Udo Gollub* has made observations in trends of exponential technology and asserts that everything will be affected: health, agriculture, banking, education, transport, energy, retail, law, accountancy, insurance, construction, leisure, travel, manufacturing, the military, shipping – no area and no job is really safe from the technological march of the Fourth Industrial Revolution.

He underlines the view that 'the next generation of business leadership needs to be able to navigate these progressive changes and disruptive events faster and more effectively than any time in the past."

We can already see how technology is impacting and disrupting current business practices in industries like banking, tourism and transport.

- PayPal does not own banks but its online presence processes around $315.3 million payments per day worldwide.
- Airbnb does not own any hotels/properties and yet it generated approximately over 100 million nights booked in properties around the world in 2017.
- Uber does not own cars; it is just a platform which enables the transportation of 40 million passengers per month in over 600 cities.

Piraeus-based Jason Stefanatos, Research Engineer at DNV GL

Stefanos Katsiolis

Computers more intelligent than people

Artificial Intelligence (AI) will be the big game-changer in the Fourth Industrial Revolution, with computers becoming increasingly better at understanding and interpreting the world around them – it is predicted that by 2030 computers will become more intelligent than people.

Already Google owned DeepMind Technologies and its Greek Cypriot/Singaporean CEO *Demis Hassabis* have developed the capability for a computer to beat the top players in the fiendishly difficult ancient Chinese game of Go (an abstract strategy game, more complex than chess) which requires intuition, creative and strategic thought. This feat was accomplished ten years earlier than expected, so with exponential growth it stands to reason that the application of this technology will spread to other areas.

The Internet of Things (IoT) is transforming every aspect of day-to-day living by offering remote connections to the people, systems and environments which shape our lives.

Sensors are embedded in physical objects and are linked through wired and wireless networks to the internet. These networks churn out huge volumes of data that flow to computers for analysis, enabling them to carry out a multitude of tasks.

For example, through a connection from a sensor to your smartphone you can already remotely monitor and adjust light switches, air-conditioning, heating, alarms and any domestic device and appliance connected to your phone. Refrigerators are being developed to "tell" your smartphone that you are low on certain foods, so you can stock up. Or better still, the fridge connects to your favourite supermarket and your weekly shop is delivered directly to you.

No area and no job is really safe from the technological march of the Fourth Industrial Revolution

In certain US cities, a smartphone app is already used by locals to directly inform the road repair department about potholes. By using "smart" cement (basically a sensor which will act as a warning system) engineers will know when a bridge or a flyover needs repair. Traffic management will improve and traffic jams reduced when smart cars "talk" to smart grids. Local authorities can issue public warnings and appropriate instructions directly to people of any threatening dangers, such as earthquakes, floods, fires or extreme weather conditions.

The potential uses of IoT are almost limitless: it is thought that by 2020 there will be as many as 30 billion devices which can be connected to share data.

3D Printing is the other major technological innovation; with the price of a basic printer coming down from $18,000 to $400 within the next decade, they will be available to all.

Already spare airplane parts are 3D printed in remote areas; they are used in space stations to replicate parts needed and eliminate valuable storage space for spares – and now that the process has become faster major shoe companies have already started printing shoes using 3D technology.

In China, last year, they have already constructed ten houses in 24 hours using 3D printers and this year they built the world's tallest 3D printed building (a five-storey apartment block) and a 1,100 square meter mansion fully decorated inside and out. For the building and construction industries the possibilities in 3D printing are endless, as well as offering a viable solution to the housing crisis, which affects so many all over the world.

It is predicted that by 2027 10% of everything produced will be 3D printed – even smartphones will have the capability to print in 3D.

Fast technological change

Certain industries are beginning to feel the "winds" of technological change faster than others with traditional car manufacturers, financial services, healthcare being at the forefront of this new industrial revolution.

Car Manufacturing and Transport will see one of the biggest disruptions with the onset of autonomous smart cars.

Companies like Volkswagen, Ford and Honda –just churning out better models of their cars–will be in competition with the likes of tech companies Tesla, Apple and Google, which are building "computers on wheels"; it does not bode well for traditional car-making if the demise of Kodak teaches us anything.

With 2018 seeing the first self-driving car available to the public and the subsequent disruption of the industry in 2020, individual car ownership will become a thing of the past.

All that is needed is a smartphone and app, which will get an automated car to your door and drive you automatically to your destination. You only pay for the distance taken, just like Uber or a cab service – which will also eventually make that industry obsolete, since drivers will not be needed. The role of public transport will need rethinking, since the convenience of autonomous driving will affect those services as well.

It is predicted that by 2027 10% of everything produced will be 3D printed – even smartphones will have the capability to print in 3D

With the acceleration of self-driving and as previously mentioned its disruption to conventional taxi services, companies like Uber are changing their business model and are now taking to the air.

Uber plans to introduce Uber Elevate, a new industry of electric, on-demand, urban air taxis, which customers will order up via smartphone, just as they do now, when hailing their existing popular ground-based cab service.

To this end, Uber is working with aviation regulators in the USA and Europe to win approval for its "flying taxi" routes and is currently taking part in a joint industry and government push with NASA to develop software for its intra-city flying taxi services to be operational in 2023.

Smartphone apps: the future doctors

Healthcare is another area where technology is making great innovative changes. Again, this includes big data, AI and diagnostic solution companies creating global health data and centralising research to help physicians and healthcare organisations make better informed decisions in patients' diagnoses, care and management, as well as improving tech wearables and developments in IoT which will monitor and analyse patients' functions, such as heart rates, blood pressure and the like, and connect them to a doctor if needed, even when they are out-and-about.

Already in the USA and the UK, online doctor consultation platforms offer health services and access to medical professionals 24/7 through apps on phones and the internet, via audio, video and chat. Aside from patients being able to contact a doctor with their symptoms at their own convenience, they also offer medicine delivery and home healthcare.

Also, smartphone apps are being developed to be able to take blood samples, retina scans and breath analysis which have the ability to identify most diseases. Already computer analytics programmes, such as IBM's Watson programme, are helping nurses diagnose cancer more accurately than ordinary testing. These advances will save millions in healthcare costs being spent on laboratory services and technicians, as well as making fast, accurate, cheap diagnostic services available for all.

Financial Services, Law and Accountancy

Analysts at the World Economic Forum expect around 35% of skills to be different in the near future and this phenomenon will certainly be reflected in financial services, accountancy and law.

All banks now have financial technology (fintech) divisions; especially with all the compliance changes in banking, fintech has the flexibility to address specific markets and consolidate compliance and regulations quickly.

The banking sector is slowly reducing the amount of manual labour involved in the day-to-day running of their business with RPA (Robotic Performance Automation), by using software with AI and machine learning capabilities to handle high-volume, repeatable tasks which people previously performed. So, the most important job in banking in the future will not actually be bankers but software engineers.

Law is also slowly being transformed by IBM's Watson question answering computer system, where basic legal advice can be obtained with 90% accuracy. In the same way, AI will also impact on accountancy; the more repetitive bookkeeping or tedious process-driven tasks are more likely to be automated. As the machines become more sophisticated, they will creep slowly into the higher-level accountancy jobs.

Only those in very niche and/or specialist areas can survive the technological onslaught or those offering a bespoke customer service – the irony being that in this advanced technological age those with better people skills, emotional intelligence and offering a personal service will come out best in these industries.

Agbots: the agriculture robots

Agriculture is slowly being transformed by agricultural robots ("Agbots"). At the moment their application is confined to harvesting but technological advances will mean weed control, planting seeds, pruning, spraying crops, as well as environmental monitoring and soil analysis will be the next functions Agbots will be developed to tackle.

Certain industries are beginning to feel the "winds" of technological change faster than others, with traditional car manufacturers, financial services, healthcare being at the forefront of this new industrial revolution

Eventually, human labour will be replaced on the more sophisticated tasks such as fruit-picking and together with the use of automated tractors and sprayers this will mean a reduction of agricultural workers. In addition, livestock robotics will also be applied to sheep-shearing and automated milking.

As the cost of technology decreases exponentially in this sector, with the $100 Agbot becoming a reality in the future, it will not be just farmers in the developed world who will be affected by this technological transformation in agricultural. Even in developing countries, farmers will become "managers" of their land and not toiling in their fields all day.

Employment prospects in the Fourth Industrial Revolution will usher in a Brave New Different World, as the re-

Shipping gets smart

At the beginning of December 2017 China launched the 38,800 dwt "Great Intelligence", the world's first cyber-enabled bulk carrier. This revolutionary smart ship has an operation and maintenance system in-built within its network which utilises advanced sensing and data analytics to make it both energy and cost efficient.

It incorporates various intelligent navigation systems applying up-to-date information technology, including real-time data transmission and collection, large-capacity calculations, digital modelling and remote control. For one, these applications boost the management of the ship's equipment, providing effective monitoring of energy consumption. For instance, efficient control of fuel consumption and emissions, as well as better decision-making support.

The vessel's Intelligent Navigation System provides smart functions such as providing information for optimising the ship's route to avoid adverse weather conditions and enables the voyage to be completed in the shortest time, economically and with minimal fuel consumption. However, responses to the data provided by the Intelligent Navigation System, which is gathered and analysed both on-board and by shore-based service stations, will still be taken by people.

***Piraeus-based Jason Stefanatos, Research Engineer at DNV GL* (the maritime classification society Det Norske Veritas), has spent the past two years developing digitalisation projects for the industry. He asserts that "the perception of new technologies as the enemy of people is not correct. On the contrary, smart shipping is the enabler of improving life at sea. The crew's responsibilities on board are so great that there is a need to better utilise people on essential work and release them from tedious, repetitive, administrative, and dangerous jobs."**

Stefanatos adds further that "the cornerstone of smart shipping is to enhance safety at sea by helping people in life-threatening situations and conditions. It will enable proactive shipping operations that combined with crew experience will contribute towards safe operations even in harsh and extreme conditions."

Global classification societies, such as DNV GL, are already ahead of the technological curve by creating new business areas and programmes to support shipowners and managers in this new technological revolution. DNV GL has gathered one thousand experts in this field to deliver "pure data smart and digital solutions." Examples include electronic certificates, drone-based surveys, "Smart Survey" online bookings, pioneering industry guidelines on additive manufacturing, such as 3D printing.

China's first smart ship

The technological revolution in shipping is moving so rapidly that under a month after China's launch of the ground-breaking "Great Intelligence", Dalian Shipbuilding Industry announced that it is working to develop the first smart crude oil carrier.

According to Guan Yinghua, deputy chief engineer at Dalian Shipbuilding, "We must seize the chance to innovate and upgrade our products. Unmanned vessels will be built as automation and intelligence keep improving and auxiliary decision-making becomes more effective."

So where does that leave the Greek shipping industry? Jason Stefanatos is optimistic, as he sees through conferences and technical committee meetings that Greek shipowners and managers are at the forefront of smart shipping, running their own strategic projects, and furthermore they are already in a position to see some tangible benefits in their daily operations. He says: "In contrast to the past, large Greek owners get to become the trend-setters, who test and trial various innovative technologies. It is interesting to see that participating early in the development may lead to earlier adoption, faster maturity and also increased knowledge base for the owners."

Not only are Greek shipowners adopting high-tech innovation on-board but Greek-based technological startups are pioneering systems to help out the shipping industry. *Stefanos Katsiolis* has set up XYZ, a company which uses a combination of extremely precise laser scanning technology, photography and 3D modelling to enable mapping out spaces, such as engine rooms.

Ships are complicated structures which consist of numerous compartments, thousands of metres of pipelines, cables and conduits. By using these precise scanning methods, engineers and naval architects can take a Virtual Reality tour of the vessel to determine exactly where and how to adapt the ship's infrastructure and to trouble-shoot problems.

This is a great example of how "new" jobs in these innovative technologies, which never existed before, are coming to the forefront propelling the Fourth Industrial Revolution.

cently published World Economic Forum report on *The Future of Jobs* states: "We cannot forecast the jobs of the future, but we believe that jobs will continue to be created, enhanced and destroyed much as they have in the last 150 years."

Software, computer and technological engineering will be premium skills in the future. So, coding and computer science should become a must in schools – the educational system must adapt accordingly to the needs of industry and the business world.

The developing tech economy will need robotics engineers, smart-farming experts, technologically aware city planners, application developers, software designers and data scientists, to name just a few. At present, standing on the precipice of this Industrial Revolution entrepreneurs and business innovators must ask themselves: "In the future, will we need this?" If the answer is "yes", how can you make it happen sooner? Also, any idea that does not work with a smartphone should be forgotten! bf