Weekly Media Report – June 30-July 7, 2020

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COMMENTARY:

1. [Navy SEAL Who Oversaw the bin Laden Raid Says He's the 'Biggest Fan of the Millennials You'll Ever Meet'](#)

(Business Insider 30 June 20) … David Choi

Retired Adm. William McRaven, a former US Navy SEAL commander and head of US Special Operations Command, emphasized that he remained optimistic in leaving the country's future to the younger generation even with the challenges of fighting coronavirus and systemic racism. According to one study published by the Naval Postgraduate School in 2012, the average age of US troops who were injured or killed in Afghanistan or Iraq was 25 years.

COVID-19 REGULATIONS

2. [Navy Updates Order After Religious Freedom Complaint From Law Firm Chaplains](#)

(Fox News 6 July 20) … Caleb Parke

The Navy updated its coronavirus restrictions after chaplains and a religious liberty law firm complained last week alleging that service members were being unlawfully prohibited from attending indoor religious services. (Follow up from last week's story; Maj. Schultz is currently a student at NPS)

RESEARCH:

3. [Teaching a Computer to Read Your Mind](#)

(Signal Magazine 1 July 20) … Kimberly Underwood

Scientists conducting basic research at the Johns Hopkins University Applied Physics Laboratory (APL) are examining how to build characteristics into a robotic system to improve human-nonhuman teaming. While artificial intelligence and machine learning applications can be trained to perform a task, those kinds of systems are not yet able to collaborate with humans and cannot anticipate human intent or what they will do. To advance the APL's basic research, the cognitive psychologist passed the platform on to the Naval Postgraduate School in Monterey, California, to run follow-on experiments and gain more data.

4. [Mapping Gray Maritime Networks for Hybrid Warfare](#)

(CIMSEC 1 July 20) … Chris Callaghan, Rob Schroeder, and Dr. Wayne Porter

In light of the current National Security Strategy and the 2018 National Defense Guidance, the impact of hybrid warfare and 'gray-zone' maritime activity in support of great power competition among nations has become an increasing area of concern. This includes the need for an increased focus on the identification and tracking of vessels of interest (VOI) and their associated owners, operators, and activities. (Authors are NPS lecturers and faculty)

5. [Navy Lieutenant Honored for Gun Launched Guided Projectile Success](#)

(NAVSEA 4 July 20) … NSWC Dahlgren Corporate Communications

DAHLGREN, Va. – Lt. Paul Cross was awarded the Naval Surface Warfare Center Dahlgren Division (NSWCDD) C. J. Rorie Award for his impact on the Navy's Gun Launched Guided Projectile program, command officials announced. Cross first heard about NSWCDD while working on his master's degree at the Naval Post-Graduate School.

FACULTY:

6. **Top Economist Reveals Key to Post-Coronavirus Recovery**
(Fox Business 3 July 20) … Bill McColl

A former member of President Ronald Reagan's Council of Economic Advisers believes in order to really get the economy to recover from the coronavirus, Americans need to be encouraged to go back to work. David Henderson told FOX Business' Gerry Baker during "WSJ at Large" it's important to end a government program aimed at helping those who lost their jobs because of the pandemic. Henderson, who is a research fellow at the Hoover Institution and an economics professor at the Naval Postgraduate School, explained those payments are a strong disincentive for unemployed to go back to work.

7. **Keith Womer Named Interim Dean of the College of Business Administration**
(UMSL Daily 2 July 20) … Steve Walentik

A familiar face is set to take over the leadership of the University of Missouri–St. Louis' College of Business Administration on an interim basis while a national search begins for a permanent dean. Dean Emeritus Keith Womer, who served as dean from 2004 to 2013, will return to the role left vacant with the retirement of Charles Hoffman at the end of June. He previously spent 18 years at the University of Mississippi, including as interim dean from 1999-2001, and before that worked at Clemson University, the Air Force Institute of Technology and the Naval Postgraduate School after earning his PhD in economics from The Pennsylvania State University in 1970.

ALUMNI:

8. **Goble Takes Charge of KPD**
(The Garden Island 2 July 20) … Sabrina Bodon

LIHU'E — Heading the Kaua'i Fire Department requires more than just overseeing land operations. It's overseeing lifeguards saving swimmers swept out to sea and sending teams aboard Air 1 to save injured hikers. And to new arrival Fire and Ocean Safety Chief Steven Goble, that's part of the job's appeal. Goble received a Masters of Arts in Homeland Security and Defense from Naval Postgraduate School.

9. **When Police Are Hackers: Hundreds Charged as Encrypted Network Is Broken**
(New York Times 2 July 20) … Adam Nossiter

PARIS — The police in Europe said Thursday they had arrested hundreds of people on suspicion of drug trafficking and other crimes after successfully hacking into an encrypted phone network being used by organized criminals around the world. (Andy Kraag is a 2012 Graduate of NPS' Defense Analysis Program)

10. **Hoffman Relieves Acevedo as Commanding Officer of Naval Surface Warfare Center, Port Hueneme Division**
(DVIDS 30 June 20) … J.W. Marcum

PORT HUENEME, Calif.—Capt. Andrew Hoffman relieved Capt. Ray Acevedo as commanding officer of Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) June 30 during a small ceremony on station. attended the Naval Postgraduate School in Monterey, Calif. where he earned a Master of Science in applied physics in 2006.

11. **Chesterfield Native Promoted to U.S. Navy Lieutenant Commander**
(NBC12 6 July 20) … NBC12

PORT HUENEME, Calif.—Capt. Andrew Hoffman relieved Capt. Ray Acevedo as commanding officer of Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) June 30 during a small ceremony on station.

"Harney, a 2008 graduate of Longwood High School and 2017 graduate of Naval Postgraduate School, joined the Navy to pursue a career in orthodontics," a release from the Navy said.

12. [GTT Appoints Ernie Ortega Interim Chief Executive Officer, Expands Executive Leadership Team](#)
(Global News Wire 06 July 20) … GTT Communications

MCLEAN, Va., July 06, 2020 (GLOBE NEWSWIRE) -- GTT Communications, Inc. (NYSE: GTT), a leading global cloud networking provider to multinational clients, is pleased to announce that GTT's Chief Revenue Officer Ernie Ortega has been named as the interim CEO while the Board continues its search for a new CEO. The Board of Directors also announces that Don MacNeil has joined the GTT leadership team as chief operating officer (COO). Mr. MacNeil holds an MBA from the College of William and Mary, Williamsburg, VA, and a Master of Science Physics from the Naval Postgraduate School, Monterey, CA.

UPCOMING NEWS & EVENTS:
July 7: [Hybrid Energy Warfare and NATO](#)
July 9: [Q&A with CNO, Adm. Michael Gilday](#)
July 21: [V-SGL with HOF Grads Army Gen (ret) Keith Alexander and Vice Adm (ret) Jan Tighe](#)

COMMENTARY:

Navy SEAL Who Oversaw the bin Laden Raid Says He's the 'Biggest Fan of the Millennials You'll Ever Meet'

(Business Insider 30 June 20) … David Choi

Retired Adm. William McRaven, a former US Navy SEAL commander and head of US Special Operations Command, emphasized that he remained optimistic in leaving the country's future to the younger generation even with the challenges of fighting coronavirus and systemic racism.

"I've said it before, but I'm the biggest fan of the millennials you'll ever meet," McRaven said during a virtual broadcast of the Aspen Ideas Festival, referring to the generation born from 1981 to 1996.

McRaven, who is 64 years old and served 37 of them in the Navy, said his belief "surprises a lot of people" due to a faulty belief that the younger generation, particularly millennials, are "entitled" and "little snowflakes."

"Well, I'm always quick to point out then you've never seen them in a firefight in Afghanistan, or you've never seen them try to make a better life for themselves going to one of our great schools in the state of Texas," McRaven, who was formerly the chancellor of the University of Texas' school system, said.

Over 775,000 US service members have been deployed to Afghanistan at least once during the nearly 19-year conflict — a number that represents more troops than those who served in the American Revolution of 1775 and the Spanish-American War in 1898, combined.

According to one study published by the Naval Postgraduate School in 2012, the average age of US troops who were injured or killed in Afghanistan or Iraq was 25 years.

"This is a remarkable generation," McRaven said. "They're not a lot like my generation — in many ways, they are better. They care so much about their friends, they care about the issues, they question things in a way that I'm not sure we baby boomers questioned. They will take a stand on issues."

"And so whenever ... I get a little bit concerned about the direction of the country, I just have to reflect back ... and know that we're going to be okay," McRaven added.

McRaven admitted that despite some disagreements with some members of this select group, he was "proud of what they're doing ... and I think it will make for a better country in the future."

"I've seen the young men and women that are coming up, that are going to take the place of us old guys out there and there is some remarkable Americans," he added.

McRaven's tenure in the US Navy spanned numerous leadership positions within the special operations community, including overseeing the successful military raid that killed al-Qaida leader Osama bin Laden in 2011.

https://www.businessinsider.com/navy-seal-william-mcraven-on-millennials-war-2020-6

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COVID-19 REGULATIONS:

Navy Updates Order After Religious Freedom Complaint From Law Firm Chaplains

(Fox News 6 July 20) … Caleb Parke

The Navy updated its coronavirus restrictions after chaplains and a religious liberty law firm complained last week alleging that service members were being unlawfully prohibited from attending indoor religious services.

Capt. Sarah Self-Kyler, director of Fleet Public Affairs, told Fox News the temporary measures have been in place since late March to protect the health and safety of sailors and their families, noting that conditions still "prohibit Sailors from attending off-base indoor religious services, and remain necessary given existing medical information about the current rise in COVID-19 cases in certain locations throughout the country."

However, if conditions are met locally, as they are by several Navy installations across the country, "Sailors are not prohibited from attending off-base indoor religious services," she said.

On June 29, Major Daniel Schultz, USAF, currently assigned to a Navy command, requested a religious accommodation to attend the church where he leads worship alleging an newly issued order banned attending indoor services while permitting house parties and protests.

Two days later, the U.S. Fleet Forces told Fox News it updated the order for in-residence gatherings, limiting it to 10 people and removing the word "social."

"The Navy works to support every Sailor's religious practices to the broadest extent possible within the bounds of military readiness, health, and safety," Self-Kyler said. "These provisions, among others outlined in the original message, are essential to safeguarding the health, safety, and welfare of our service members and ensuring the Navy's operational readiness."

Mike Berry, the First Liberty Institute general counsel who sent a letter on behalf of Shultz last week, expressed assurance that the Navy would do the right thing in light of President Trump's executive actions.

"Under the leadership of Commander in Chief Trump, we are confident the Navy will follow the President's executive order on religious liberty in support of the men and women of the U.S. Armed Forces," Berry told Fox News.

https://www.foxnews.com/us/navy-coronavirus-religious-freedom-restrictions

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RESEARCH:

Teaching a Computer to Read Your Mind
(Signal Magazine 1 July 20) … Kimberly Underwood

Researchers are using digital game playing between humans and computers as a foundation for training systems to incorporate human intent.

Scientists conducting basic research at the Johns Hopkins University Applied Physics Laboratory are examining how to build characteristics into a robotic system to improve human-nonhuman teaming. While artificial intelligence and machine learning applications can be trained to perform a task, those kinds of systems are not yet able to collaborate with humans and cannot anticipate human intent or what they will do.

At the crux of the matter is trust, and principles of Theory of Mind, offers Julie Marble, senior scientist at Johns Hopkins University Applied Physics Laboratory (APL). A long-time human computer interface researcher and cognitive psychologist, Marble holds a doctorate degree in human factors from Purdue University. Theory of Mind is the ability to infer what another person is going to do, and that ability is trust-dependent, she explains.

"For trust to arise between humans and machine, two key elements are needed," Marble says. "First is a mathematical model of the impact of risk, collaboration, cooperation, success/failure, communication and trust of autonomously acting nonhuman teammates. This will inform the development of more complex robotic behaviors, increase technology adoption and allow for synergistic and opportunistic teaming of humans and robots. The second element is the ability of a machine to model or estimate human planning and cognition within the task."

Using 3D virtual reality gaming, APL researchers have developed several platforms to explore how trust develops between humans and simulated machines. They examined the variables theorized to underlie the development of such trust and then performed experiments in the platforms to allow a calibrated, mathematical model of the effect of these variables on the development of trusts in teams, she explains. They also are exploring whether artificial Intelligence (AI) agents informed by a model of human cognition make better teammates and collaborators with humans than agents that do not have such an internal model of human cognition and performance.

Prior to joining the APL, Marble was a program officer at the Office of Naval Research where she ran a program for human computer or human machine interaction and teaming. She finds virtual reality to be a great environment in which to test how humans trust machines and vice versa. And using games in particular that require collaboration helps to advance a machine's employment of human intent.

"Because I wanted to look at trust arising between humans and robots, I knew we had to put the human in a position where they could be vulnerable," she states. "And institutional review boards don't like it when you put people at risk. But in virtual reality, you can make people feel like they're going to fall off cliffs and they're really at no risk because it's just the game, but they feel like it."

For one of Marble's projects called Escape with Partner, she and fellow researchers built a 3D virtual reality game with four puzzles which were essentially a digital escape room. A player would team up with a partner and they had to move boxes, use lasers and assemble structures to escape the room. In order to leave the room, the teams had to pursue actions that would support one another.

"Escape with Partner is the experimental suite for collaboratively achieving puzzle exercises with the platform assessing relationships and trust with noneconomic risk," she explains. "What I was looking at there was how does trust evolve and develop between human and robotic teammates. Trust is not just whether or not you think your teammate, or your partner can do what it is that you're trying to do. Trust is actually a willingness to make yourself vulnerable to unpredictable actions of another entity. If the machine or your partner cannot do what it is supposed to do, then trust is also irrelevant."

The project looked at whether humans would choose a robot partner and if they would know they were blindly given a digital partner. The researchers sometimes would pair them with a computer, not revealing that it was not a human partner with which they were playing.

"We asked them which puzzles did you play with a human, and which puzzles did you play with a robot," she shares. "And they could not tell what rounds they played with a robot or a human. What was more interesting was that the rounds of the puzzles where they thought they did best were when they thought that they played with a robot. So, there's something else going on there, and I don't exactly know completely what."

To advance the APL's basic research, the cognitive psychologist passed the platform on to the Naval Postgraduate School in Monterey, California, to run follow-on experiments and gain more data. Marble then developed an extended platform based on Escape with Partner called PARTI, which will use more sophisticated autonomous digital teammates than the original platform. "The bot that you played with when you played to the bot, it wasn't anything super intelligent," she clarifies. "It was technically a hierarchical state machine, and it could get stuck."

Instead of virtual reality, the PARTI platform uses a flat screen game. Although once again the goal of the game is to escape the room, this time teams of three players get a more detailed look at how trust and teaming are related. "We just finished that, and we're looking at actually running subjects with it this year," Marble states.

Another project she is leading is called Learning to Read Minds, which uses a digital collaborative card game called Hanabi. The project builds on work stemming from a 2017 Grand Challenge from Google Brain and DeepMind in which researchers from Facebook, Google Brain, DeepMind, APL, Carnegie Mellon University and elsewhere created AI agents that could play in DeepMind's Hanabi Learning Environment.

"Hanabi is an interesting card game," Marble acknowledges. "The rules to the game are very simple. But compared to many other card games like bridge or poker, those are adversarial games where you are playing against other people. Hanabi is completely collaborative. You and everyone playing on a team are trying to get a communal score. And there's high uncertainty in the game, and there's very little communication. The whole game is predicated on your ability to infer what other people can know."

The Grand Challenge participants found that the AI agents could play Hanabi but were not able to play well with humans. To break through that inherent problem, the APL is creating a platform this year to replicate those findings "and demonstrate that our AI are trained up and can play this game very well," Marble says. "And we're leveraging open-source AI for the DeepMind and the Facebook algorithms."

The APL also is creating an interface to allow platforms from the other Challenge participants—such as Rainbow, Bad, FireFlower—to play together with APL's agent. "We want to see how well for

example, the FireFlower agent plays with the Rainbow agent," she notes. "I expect that when we run this experiment, we will have demonstrated that in self play these agents play very well, but that when they play with another agent, they won't play as well because they are implementing slightly different policies. The other thing that we're doing is the interface will allow the AIs to play with humans, and that leads us to the next question. How do we give AI an insight into the human so that it can anticipate and work with the human? This becomes really important because if we're going to have AI or machines as teammates, we're going to be using them in situations that are unexpected."

Marble hopes that this basic research will lead to improvements in how digital teammates could help in urban search and rescue applications. The APL researchers want to develop a platform that does not require tremendous amounts of data to predict how people are going to perform.

"What you need instead is a way for the machine to be able to anticipate the human's cognitive processes," she suggests. "And so next year we're going to explore several different ways to do this. I think a more robust way to perform this would be to basically create a process model of human cognition, and we can do that using architectures that already exist. And first, we have to figure out which type of cognitive architectural process model would be best for modeling human play in this game state. What I want to do is create a machine that is capable of teaming with a person in an unpredicted context. We call it rogue teaming, but it would be rapid operations where you haven't been able to practice before."

Ideally, the Learning to Read Minds project would move from using the Hanabi card game up to using more applied and realistic games, Marble shares. In particular, she mentions exploring two games— one used by surgeons called Airway, which teaches surgeons how to make decisions during operations. Another game, called Command & Conquer, which virtualizes air and surface warfare. "And then from that we would step off into more real-world situations," she adds. "We are on the edge of a paradigm shift where we go from having machines as tools to actually having machines as teammates where they should be able to anticipate what we are trying to do and what our goals are and assist with that."

https://www.afcea.org/content/teaching-computer-read-your-mind

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Mapping Gray Maritime Networks for Hybrid Warfare

(CIMSEC 1 July 20) … Chris Callaghan, Rob Schroeder, and Dr. Wayne Porter

Introduction

In light of the current National Security Strategy and the 2018 National Defense Guidance, the impact of hybrid warfare and 'gray-zone'[1] maritime activity in support of great power competition among nations has become an increasing area of concern. This includes the need for an increased focus on the identification and tracking of vessels of interest (VOI) and their associated owners, operators, and activities. Traditionally, maritime domain awareness (MDA) has consisted of intelligence, surveillance, and reconnaissance of activities at sea with limited cross-domain link analysis[2] of events, carriers, and sponsors (Wallace & Mesko, 2013). While this methodology enables analysts and operators to sift and structure vast data from increasingly complex systems, it fails to consider how ties between similar entities create gray (non-transparent) shipping networks capable of supporting state-directed hybrid warfare.

This is not to say that a network perspective has been absent from the maritime domain. Researchers from diverse analytic disciplines have conceptualized various constructs as networks, such as historic trade routes (Rivers, Evans, & Knappett, 2016; Wang, Notteboom, & Yang, 2016), global shipping patterns (Ducruet, Rozenblat, & Zaidi, 2010), cruise ship itineraries (Rodrigue & Notteboom, 2014), and logistics involved in global shipping (Ducruet & Lugo, 2013). Yet, much of the focus behind this work has been on understanding transparent (licit) networks.[3] For their part, network researchers leveraged social network analysis to gain an understanding of dark networks – that is, covert and/or illicit organizations (Raab & Milward, 2003). This has included, for example, the study of terrorist groups (Krebs, 2002; Roberts & Everton, 2011), narcotic distribution networks (Morselli & Petit, 2007), street

gangs (Papachristos, Hureau, & Braga, 2013), and cyber criminals on the dark web (Dupont, 2014) to name a few.

We drew on network analysis (NA) to examine gray maritime networks (alternately operating licitly and illicitly) in relationship to two NATO-led exercises in 2018: BALTOPS and Exercise Trident Juncture. As previously demonstrated through research focused on mapping gray maritime networks in the South China Sea (Porter, et al., 2019), NA methods can be leveraged to develop longitudinal network depictions of vessels loitering in sensitive or disputed areas. Here, we leverage commercially available geo-temporal data, open-source databases, and home range detection algorithms to generate depictions of the subgroups of owners and operators associated with gray activities.

Although methodology driven, this research was not intended to provide solely an academic contribution but also to demonstrate how NA can improve real-time awareness and tracking for operational purposes. The methods and analysis presented here should enable a rich discussion of current and future methods for enhanced MDA. As such, we begin with a description of our data collection and methods then proceed to discuss findings and practical implications for MDA. Finally, we conclude with a series of recommendations for further research.

Generating Networks: Data and Methods

We use commercially available ship tracking data as the cornerstone of our analysis; specifically, in the process of identifying and tracking VOIs. Our team collected the feeds from commercial automatic identification system (AIS) transceivers from 13 March 2018 through 7 January 2019.[4] These data points are particularly salient as AIS transmitters are required as navigation and anti-collision systems for all vessels exceeding 300 gross tonnage operating internationally, any vessels exceeding 500 gross tonnage not conducting international voyages, and all passenger ships regardless of size. To narrow the scope of our data set, we geofenced our data to include the Baltic Sea and the North Atlantic Ocean. The resulting daily AIS tracking logs provided both spatial and temporal variables relevant to our analysis; namely, a VOI's date and time of transmission, maritime mobile service identity (MMSI) number, speed over ground, longitude, and latitude.

Once the data was decoded and filtered, we proceeded to explore traffic patterns using the Time Local Convex Hull (T-LoCoH) method originally developed for the study of movement patterns in GPS-tracked ranging animals. T-LoCoH integrates time with space into the construction of local hulls (geometric shapes containing a location distribution within a home range) while accounting for an individual animal's speed, which facilitates the use of metrics for revisitation and loitering duration (Lyons, Turner, & Getz, 2013). In our work, the AIS data that tracks vessel traffic over time and space is analogous to the GPS data used to analyze ranging animals. As such, we leveraged the application of this method to identify spatio-temporal patterns of ships loitering in areas proximal to NATO-led military exercises.

To reduce traffic noise, we only included AIS transmissions for non-NATO nation commercial vessels transponding with a speed over ground less than or equal to two knots. We then generated spatial loitering polygons which may represent ports, anchorages, or other areas where a VOI loitered during the window of research (see Figure 1). As expected, areas exhibited differing loitering densities with some being dense (depicted as yellow on Figure 1) and others less dense (depicted in red). These loitering polygons served as the basis for developing a list of VOIs using their MMSI identification numbers as unique identifiers.

Figure 1. Loitering isopleths during BALTOPS (click to expand)

Matching loitering isopleths with the original AIS transmissions used to generate them yielded a ship-to-loitering location table (see Table 1) with a ship's unique identifier, the AIS message date and time, and the loitering polygon identity.

MMSI	Date-time	Polygon
123456789	T=1	Polygon A
987654321	T=1	Polygon A
123456789	T=2	Polygon B
123456789	T=3	Polygon C

Table 1. Sample ship-to-loitering location table

From this table, we extracted a location-to-location network where loitering areas were interconnected if a VOI traveled from one location to the other location. Next, to examine the underlying organizations linked to the VOIs, the team gathered open-source information on the companies who own and/or operate these ships using the Lexis Nexis Advance Research Database. This corporate information was then joined to the ship data. The corporate information was used to create connections between companies if they were tied to the same ship, one was a subsidiary of the other, one had a major financial stake in the other, shared the same physical address, or had members of their boards of directors in common. The findings and analysis of these data follow in the subsequent section.

Analysis: Shedding Light on Gray Maritime Networks

From the AIS data on ship movements we extracted two networks for further analysis: the location-to-location network composed of loitering areas observed during BALTOPS (31 May 2018 through 16 June 2018) and loitering areas observed during Operation Trident Juncture (22 October 2018 through 25 November 2018). Most of the VOI activity was concentrated within the Baltic Sea (see Figure 2). These findings are to be expected considering the geographic range of operations. While most VOIs in the sample set remained in the Baltic Sea, a few were also observed loitering off the coast of Norway during NATO exercise Trident Juncture.
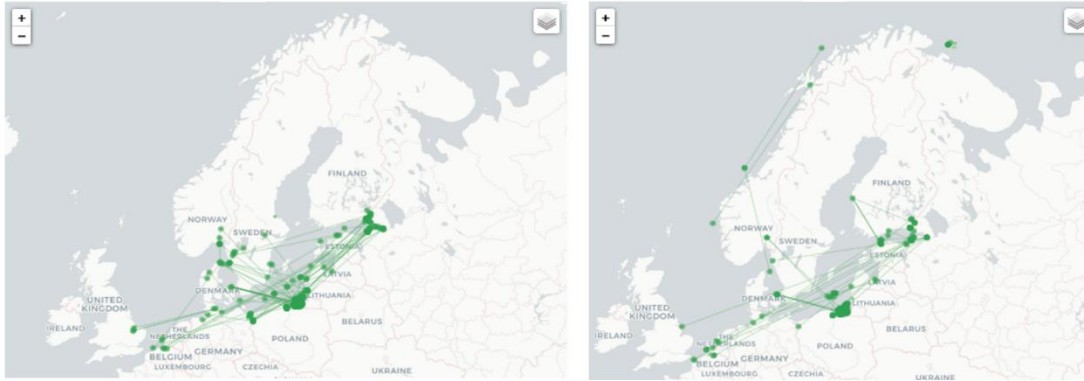
Figure 2. Location-to-location networks during BALTOPS (left) and Operation Trident Juncture (right) (click to expand)

Upon closer examination, the VOIs active off the coast of Norway during Trident Juncture appear to have loitered near sensitive military locations and displayed abnormal movement patterns. For instance, Figure 3 illustrates the movements of two VOIs with abnormal tracking patterns. The first is an oil tanker owned by the Russian government and operated by a registered shipping company in that country. The second is a commercial chemical products tanker registered in the Marshall Islands, a country often used as a flag of convenience, shown loitering north of Norway.

Figure 3. Abnormal shipping patterns off the coast of northern Norway during Operation Trident Juncture, a Russian owned oil tanker (left) and chemical products tanker registered to the Marshall Islands (right) (click to expand)

Finally, Figure 4 is a network representation of connections between the companies associated with identified VOIs. In this graph, we see that many of the companies are related to each other, with the three largest components colored in blue, green, and orange. For instance, the large blue cluster on the right-hand side of the sociogram contains many small companies, all operating from the same address in northern Russia, each with connections to at most a few ships. The large orange component on the bottom left contains clusters of VOI-associated companies interconnected by sharing some of the same board members. In the green component, shipping companies associated with VOIs are connected by sharing parent, subsidiary, or holding companies. Companies occupying an apparent position of structural brokerage are depicted by larger nodes. One such shipping company (highlighted with an arrow), for instance, was connected to the broader family of like-companies, while also being linked to a large multinational oil company through partial ownership ties (Schelle, 2018).
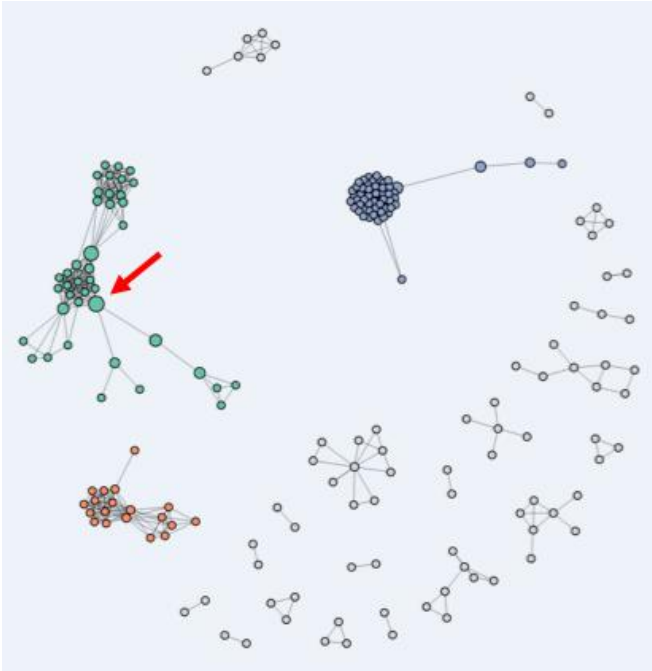
Figure 4. Company-to-company network. The three largest components are colored and nodes are sized by brokerage potential.

Conclusions and recommendations for further research

This analysis highlights the value of NA in real-time awareness and tracking of stakeholders associated with suspected gray maritime activities in a strategic era of great power competition. Using commercially available geospatial data, our team identified 56 VOIs loitering in areas proximal to NATO-led exercises in the Baltic Sea and North Atlantic. These vessels were then linked to over 196 state-owned and private companies/entities. Analysis such as this provides insight into a network of stakeholders that may support hybrid warfare, or so-called grey-zone activities, not directly attributable to a specific nation.

The use of the network analysis methodologies discussed here and the tools developed at the Naval Postgraduate School to identify, map, and track gray maritime networks can be applied to any number of threats. While our earlier research into Chinese reef enhancement activity in the South China Sea has already been cited, Maritime Operations Center (MOC) operators and MDA analysts could adapt this toolset to track and assess maritime and terrestrial networks associated with narcotics trafficking, terrorism, Illegal and Unregulated Fishing (IIU), arms and human trafficking, and other security concerns. Integrating these tools into existing MDA systems would also provide for enhanced awareness of how these networks overlap in multiple geographic areas and in malign activities. Further, and perhaps most significantly, they could provide operators timely and actionable information.

Our research is not without room for improvement. Future iterations of this work should include a richer dataset of state/corporate linkages. This should include a deeper dive into state-sponsored (and military supported) parent-subsidiary company relationships and board memberships, or proximal geographic associations among companies, offices, and ships. Further research is also being considered through the application of system dynamics modeling, wargaming, campaign analysis, and discrete events modeling.

Acknowledgment

Challenge aimed at accelerating technological solutions in support of NATO C4ISR and cyber capabilities.

With more research and interest, these methods can help us better understand the non-linear relationships and feedback mechanisms that contribute to the complexity of great power competition and its manifestations in the maritime domain.

Chris Callaghan is a Research Associate in the Defense Analysis Department's CORE Lab at the NPS. His work leverages open-source data analytics for understanding and modeling a variety of national and homeland security problems.

Rob Schroeder is a Faculty Associate for Research in the CORE Lab within the Defense Analysis Department and a PhD Student in the Information Sciences Department at the Naval Postgraduate School (NPS). He is currently researching how to use open-source information gathered largely from social media in order to understand and map the changing dynamics in conflict areas and exploring the use of network analysis to analyze maritime traffic patterns. He has presented some of this research at conferences (INFORMS and INSNA).

Dr. Wayne Porter, CAPT, USN (ret.) is a Senior Lecturer in the Defense Analysis and Systems Engineering Departments of the Naval Postgraduate School, where he also serves as Co- Director of the CORE Lab and Director of the Littoral Operations Center. He holds a Ph.D in Information Sciences and two Masters of Science degrees – in Computer Science and Joint C4I Systems Technology – from the Naval Postgraduate School. Military duty included Japan, England, Italy, the Balkans, Bahrain (COMFIFTHFLT ACOS Intelligence and MOC Deputy of Operations in the Persian Gulf/East Africa), and three tours on the personal staff of ADM Mike Mullen, including Special Assistant for Strategy to both the Chief of Naval Operations (N00Z) and Chairman of the Joint Chiefs. He subsequently served as Chair, Systemic Strategy and Complexity at Naval Postgraduate School in Monterey, California and retired from the Navy in July 2014 after 28 years of active service. Dr. Porter has contributed to a number of DoD and USN Strategy projects, including serving as systems analyst for the SECNAV's Strategic Readiness Review.

The views expressed in this paper are those of the authors and do not reflect the official position or policies of the United States Navy or the Department of Defense.

Endnotes

1. The opaque area in which illicit of malign activity co-exist with licit activity.

2. An analytical method for interactively curating and querying relational databases (Cunningham, Everton, & Murphy, 2016). In a link diagram, different types of entities (e.g., ports, events, ships, operators, and personnel to name a few) are tied to each other explicitly with the goal of describing the environment.

3. Those operating overtly and legally.

4. All collected AIS logs were encoded in AIVDM (data received from other vessels)/AIVDO (own vessel information) sentences and required decoding for further analysis.

http://cimsec.org/mapping-gray-maritime-networks-for-hybrid-warfare/43695

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Navy Lieutenant Honored for Gun Launched Guided Projectile Success
(NAVSEA 4 July 20) … NSWC Dahlgren Corporate Communications

DAHLGREN, Va. – Lt. Paul Cross was awarded the Naval Surface Warfare Center Dahlgren Division (NSWCDD) C. J. Rorie Award for his impact on the Navy's Gun Launched Guided Projectile program, command officials announced.

Cross is recognized for outstanding leadership as the NSWCDD Projectile Integration Lead Engineer for the Gun Launched Guided Projectile effort, ensuring the success of fielding a guided projectile.

The Rorie Award – named in honor of retired Rear Admiral C. J. Rorie, NSWC commander from March 1975 to September 1977 – was established to recognize military personnel assigned to NSWCDD

whose excellence in the performance of their duties has contributed significantly to he effectiveness of the division's military operations.

The Gun Launched Guided Projectile is used for anti-air and surface missions. The projectile can alter its flight post-launch while traveling at higher-than-conventional round speeds. As a systems engineer, Cross is responsible for ensuring all the round components are successfully integrated into the volume and weight constraints.

"My team and I were commissioned by OPNAV (Office of the Chief of Naval Operations) to do a study surrounding the potential architecture of the overall combat system, its sensor, and other components," said Cross. "We had an aggressive four-month timeline to review possible combat architectures and their project adaptability, find the most successful ones, and present those candidates to OPNAV. There were a lot of long hours. Special thanks to Tim Josey, Nathan Miller, Danna Brown, Charles Reese, Bill Loutzenhiser, and Mark Burks for all their hard work."

Cross started his military career in the Marine Corps, before taking a hiatus to pursue an engineering degree. While in college, Cross joined the Air Force National Guard, serving in Kansas. During his junior year, he found out about the Naval Nuclear Propulsion Officer Candidate (NUPOC) program that would allow him to return to active duty service.

The NUPOC program selects eligible college students and graduates. Candidates are commissioned as Ensigns following their completion of the program to begin their Division Officer tour aboard conventional ships.

"The opportunity to go active duty again appealed more to me than the civilian industry," said Cross. Halfway through his Division Officer tour, Cross found out about the engineering duty officer community after no longer being able to serve as a nuclear trained officer. "I applied for a lateral transfer into the Engineering Duty Officer community, where I was able to use my engineering degree to shape the Navy's future."

Cross first heard about NSWCDD while working on his master's degree at the Naval Post-Graduate School. "I had a thesis on the railgun. During a school break, I came out to Dahlgren for research, and was impressed by the area and the types of projects being done here. When an opportunity to come here on a military tour came up, I jumped at the opportunity."

"Working at Dahlgren has been a great learning experience because I get to see the background of the Navy that's different than other places I've worked," said Cross. "It's eye opening. I've been able to see the different paths civilian employees took to end up at Dahlgren."

Because Cross is on active duty, he expects to be stationed at NSWCDD for only another year. "Unfortunately, I'll have to move on, but I know I'll always look back at my time at Dahlgren fondly. The work we do and the people we work with are top notch," said Cross. "This has been one of the best tours of my career."

https://www.navsea.navy.mil/Media/News/SavedNewsModule/Article/2246678/navy-lieutenant-honored-for-gun-launched-guided-projectile-success/

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FACULTY:

Top Economist Reveals Key to Post-Coronavirus Recovery
(Fox Business 3 July 20) … Bill McColl

A former member of President Ronald Reagan's Council of Economic Advisers believes in order to really get the economy to recover from the coronavirus, Americans need to be encouraged to go back to work.

David Henderson told FOX Business' Gerry Baker during "WSJ at Large" it's important to end a government program aimed at helping those who lost their jobs because of the pandemic.

"The major thing that will help growth is if they let that $600 per week federal unemployment benefit expire at the end of the month," he argued. "If they do that, the [jobs] numbers, which will come out in September, will be great."

Henderson, who is a research fellow at the Hoover Institution and an economics professor at the Naval Postgraduate School, explained those payments are a strong disincentive for unemployed to go back to work. "There are about 20 million people who would make more being unemployed than being employed," he pointed out.

Henderson is also critical of the overall federal response to help businesses during the crisis.

"What they're essentially practicing is industrial policy because they're singling out who should get these grants and who shouldn't," he said. "I call them grants because, if you look at the details if you walk through certain hoops, you don't have to pay it back."

His suggestion is to make businesses think harder about reaching out for government assistance.

"If you were going to have the federal government do something it would have some kind of loan program where people could borrow 60 to 80 percent of their previous year's tax liability and pay a serious interest rate, [such as] 3, 4, 5 percent, not 1 percent," he proposed. "And then, businesses would have an incentive to say: "How badly do we need this? Do we think we'll be in business in a few months?"

He feels any financial help should be about looking toward helping the economy of the future.

"As you can probably imagine, we're going to have different businesses when we come out of this," he explained. "And we'll probably have major structural changes and we don't know which ones will last and which ones won't."

https://www.foxbusiness.com/economy/coronavirus-economic-recovery-unemployment-david-henderson

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Keith Womer Named Interim Dean of the College of Business Administration

(UMSL Daily 2 July 20) … Steve Walentik

A familiar face is set to take over the leadership of the University of Missouri–St. Louis' College of Business Administration on an interim basis while a national search begins for a permanent dean.

Dean Emeritus Keith Womer, who served as dean from 2004 to 2013, will return to the role left vacant with the retirement of Charles Hoffman at the end of June. Womer will begin his tenure as interim dean on July 6.

"We greatly appreciate Dr. Womer's willingness to lead the college through this time of transition," Provost and Executive Vice Chancellor for Academic Affairs Marie Mora said. "His vast leadership experience is particularly valuable given the challenging and uncertain times we're living through—times when we need proven and dedicated leaders who have a deep appreciation for our students and a commitment to ensuring their success."

Womer had been enjoying semi-retirement in recent years – still teaching classes in the Doctor of Business Administration program, advising DBA students and finding time to play golf.

Mora approached him about returning to the dean's office after Hoffman made the decision to retire after seven years in the position.

"I'm not really out looking for a job at this stage," Womer said. "But given the problems with COVID-19 and the corresponding budget situations, I know there are a number of retired faculty members who've indicated that they'd be willing to help, and I'm one of them.

"There's an interesting array of problems on the table right now. That's always interesting to see how we can go about solving some of those."

Womer, a Navy veteran, has been affiliated with UMSL for the past 16 years. He helped lead the college through AACSB reaccreditation, fund raising, program development and growth during his

time as dean and continued working as a professor of supply chain and analytics after leaving the dean's post.

He previously spent 18 years at the University of Mississippi, including as interim dean from 1999-2001, and before that worked at Clemson University, the Air Force Institute of Technology and the Naval Postgraduate School after earning his PhD in economics from The Pennsylvania State University in 1970.

His more than 50 years of experience in higher education will serve him well in leading the college's faculty and staff as they work through budget challenges, implications from COVID-19, adapting to different modes of teaching as well as new leadership.

Womer expects COBA faculty and staff to do what they can to meet those challenges and maintain an environment where students can thrive.

"What many folks don't understand is the unique role that UMSL plays," Womer said. "We have amazing students. Almost all are working at least part-time and in many cases full-time – and in some cases more than full-time. Many of them have children, have various kinds of commitments and have amazingly complex work schedules where they're balancing family and job and school.

"It's frankly very gratifying to work with these kinds of students that are striving to earn a degree to advance their lives and contribute to society."

While ensuring student success is a top priority, Womer also aims to help COBA continue to advance new programs such as the globally ranked DBA program, entrepreneurship and cybersecurity, which were all created in the past five years to meet the demands of a changing workforce. Other anticipated new programs, such as a master of science in supply chain, are in the pipeline.

"Charlie followed me in the position and was able to build on what I thought was a really strong base, and he accomplished a great deal in the seven years he served as dean," Womer said. "My goal is primarily to try to preserve all of that for the next several months so that the new dean comes in with a pretty well oiled machine."

Mora is focused on ensuring that the national search for the college's next dean will be transparent and inclusive, and she expects to have no shortage of interest in the position.

"Our College of Business Administration has built a reputation for quality teaching and innovative programs," Mora said. "We will identify a candidate who reinforces the college's strengths while helping it continue to evolve to serve the needs of our students, many of whom are non-traditional and first-generation college students, as well as the needs of our business community in the St. Louis region."

https://blogs.umsl.edu/news/2020/07/02/womer-named-interim-dean/

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ALUMNI:

Goble Takes Charge of KFD
(The Garden Island 30 June 20) … Sabrina Bodon

LIHU'E — Heading the Kaua'i Fire Department requires more than just overseeing land operations. It's overseeing lifeguards saving swimmers swept out to sea and sending teams aboard Air 1 to save injured hikers.

And to new arrival Fire and Ocean Safety Chief Steven Goble, that's part of the job's appeal.

"When I look at the responses for the island, the diversity of challenges is something that really kind of excites me," Goble, who took the helm of the department Wednesday, said. "The land I'm most familiar with … then you add in the challenges of the water and the Ocean Safety and then there's an air element here, too."

In January 2016, Goble retired as Fire Chief from the Henderson Fire Department in the Las Vegas metropolitan for a job in the private sector. Returning to a role in a fire department is familiar.

"A lot of what's going on in this department today are the things I've experienced in my own department," Goble said. "It felt like home."

Goble's 100-day plan begins with listening. Listening to community members, the Kaua'i Fire Commission, local government and his own department.

"I want to make sure I've got big ears," he said. "I need to understand and hear from and learn about what the priorities are for us in our mission."

From there, it's about finding a balance and aligning these goals with the department's objectives.

"I view my role as the fire chief to serve them (my team)," he said. "(I want to) make sure they have the tools and equipment and cast a vision that allows them to do their job the way they need to do their job."

And he knows how to do the job.

In Henderson, Goble oversaw nine fire stations including more than 250 full-time personnel covering more than 105 square miles with a population of more than 290,000 and 600,000 annual visitors after rising through the ranks of the department serving as a firefighter, fire engineer and fire captain in the fire/rescue operation before moving onto a division chief of special operations and deputy fire chief before taking over.

Goble left to work in emergency management at the Venetian Resort in Las Vegas, the largest integrated resort in the nation. Over the course of four years, he worked his way to executive director and was instrumental in building an emergency management program with international coworkers, according to his resume.

In May 2019, a former battalion chief in Henderson alerted Goble of the Fire Commission's search for a new chief. "It didn't click with me that was something I was interested in, but it kept nagging at me," he said.

Then the commission began a second recruitment call last fall. A second chance.

After an application, written responses, and an in-person interview in March, Goble was selected by the Kaua'i Fire Commission of 67 applicants, closing a nearly two-year-long search that began when former Fire Chief Robert Westerman announced his retirement in June 2018. Assistant Fire Chief Solomon Kanoho took on the job of Acting Fire Chief.

"After a thorough interview process, Chief Goble stood out among many qualified applicants," Fire Commission Chair Alfredo Garces said. "We are confident that Chief Goble will bring a wealth of experience to the Kaua'i Fire Department and we welcome him with open arms to our community."

Goble wrapped up his 14-day quarantine on June 26, and spent the weekend before taking the helm of the department exploring. The coronavirus pandemic has affected his ability to get ahead of his arrival, "But you deal with the challenges in front of you," he said.

After 25 years of service, Goble can still remember the first fire he responded to.

"I remember the smoke pouring out of the windows, and the flames shooting out of the side window coming out of the bedroom," he said. He can still remember the address of the medium-sized two-story single-family home. "I can definitely see it."

Then there's the biggest response to a chlorine leak at the Pioneer Chemical plant in 1991, where he helped evacuate and move residents. "I remember reporting to work and there was just this big green cloud over the whole entire city."

And his first rescue: "We opened the door, and there was an unresponsive lady right behind the door overcome by smoke."

But after rising through the ranks and serving as chief for five years, it was time to go, he said.

"I left the city of Henderson feeling that I've accomplished what I needed to accomplish," he said.

Some of the very first people Goble looked up to were firefighters. The seeds, he said, were planted over time from the days of being a Boy Scout touring the fire station to listening to the tenants of the job from a mentor who was a firefighter.

"As I was getting older and trying to figure out what I wanted to do with my life, I looked at what he was doing, and listened to how fulfilling the work was and how different every single day was," Goble said. "I thought, 'You know what, that is something that I'm very, very interested in.'"

Goble went on to receive a Masters of Arts in Homeland Security and Defense from Naval Postgraduate School, a Bachelor of Science in Public Safety Administration from Grand Canyon University and an Associate of Science in Fire Service Management from the College of Southern Nevada.

To Goble, it's about the people, from the department to the people he serves. It's about community.

"When (the community) sees one of the red fire trucks drive by or through their neighborhood, I want the folks in the neighborhood to go, 'Hey, you know what this is? That's our fire department. Those are our guys on that engine.'"

And those KFD engines caught Goble's attention right away.

Because Henderson is part of the Las Vegas metropolitan, each company is differentiated by the look of its fire engine, Goble said. Henderson sported white-and-red-striped engines.

"The fire engines here are red, which I really, really like."

https://www.thegardenisland.com/2020/07/02/hawaii-news/goble-takes-charge-of-kfd/

When Police Are Hackers: Hundreds Charged as Encrypted Network Is Broken

(New York Times 2 July 20) … Adam Nossiter

PARIS — The police in Europe said Thursday they had arrested hundreds of people on suspicion of drug trafficking and other crimes after successfully hacking into an encrypted phone network being used by organized criminals around the world.

The authorities said that by hacking into the network, the police were able to monitor criminal activity and communication as it was happening, allowing them to stop drug deals and even to prevent murder.

Officials said in a statement that "millions" of messages were read in "real time, over the shoulder of the unsuspecting senders," leading to arrests in the Netherlands, the United Kingdom and elsewhere in Europe.

"It was as though we were sitting at the table where the criminals were chatting among themselves, really," said Jannine van den Berg, chief constable of the central police unit in the Netherlands, at a news conference in The Hague. "What makes this investigation unique is that at a large scale we managed to read all of these criminal messages live," she said.

The phone network that was used, known as EncroChat, provided specially altered phones — no camera, microphone, or GPS — for about $1,100. The phones allowed users to immediately erase compromising messages. The network also provided subscriptions with global coverage for about $1,600 over six months, even offering round-the-clock tech support.

EncroChat, since shut down, "promised anonymity and complete secrecy to its users," said Carole Etienne, a French prosecutor. The phones, she added, were "widely used throughout the world" by criminal organizations.

"What seems to be possible only in thrillers and police shows, we actually have seen happen," said Andy Kraag, head of the central investigations division in the Netherlands, which led the operation in collaboration with French authorities.

"These messages that we captured give us a very detailed view of daily life in the criminal world," Mr. Kraag said at the news conference. "We understand better who these people are and how they work."

Officials Thursday spoke in superlatives about the operation.

The authorities had been monitoring the network for over two months before it was shut down, said Tina Hollevoet, a Europol spokeswoman. The data is still being analyzed and is expected to lead to "hundreds" of new investigations in the coming months.

"What is really important for Europol is that we are kind of just getting started," Ms. Hollevoet said. "In this initial phase the focus has been really on acting on those messages which contain live, threatening

content, and the crimes that were really endangering people's lives. But we still have so much data that is being analyzed, processed and transmitted to different countries."

The hacked messages and conversations were shared among the police in Europe through Europol. In Britain, the police made nearly 750 arrests, and seized $67 million in cash, 77 firearms and over two tons of drugs.

The information was also used by the police in Sweden and Norway, leading to arrests in those countries as well.

In the Netherlands, the police were able to make some 60 arrests as a result of the intercepted messages and to seize 22,000 pounds of cocaine, 154 pounds of heroin and 3,300 pounds of crystal methamphetamine, among other substances. They also dismantled 19 synthetic drug labs, seized 25 vehicles with "special compartments" and also "expensive watches," according to a statement from Europol.

The hacking "allowed authorities to detect and stop potential criminal activities," said Ms. Etienne, the French prosecutor. "More than 100 criminal acts were picked up by Europol."

The investigation into EncroChat began in 2017, and it was initially focused on Lille, a city in the north of France, where the authorities discovered the presence of EncroChat servers. On June 13, the network sent out a warning to its users that it had been "infiltrated" by "governmental entities," and advised customers to immediately get rid of their phones.

"In many of our investigations, but also in other European countries, we were coming across a lot of criminals with EncroChat phones, and after a while that caught our attention," said Maj. Gen. Jean-Philippe Lecouffe, of the French gendarmerie. "We realized that this network was used over 90 percent of the time by criminals to message each other and hide their communications from traditional police wiretapping techniques."

Ms. Hollevoet, the Europol spokeswoman, said the operation has provided deep insight into how organized crime functions, and described the level of detail that law enforcement was able to monitor over EncroChat as "unprecedented."

https://www.nytimes.com/2020/07/02/world/europe/encrypted-network-arrests-europe.html

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Hoffman Relieves Acevedo as Commanding Officer of Naval Surface Warfare Center, Port Hueneme Division
(DVIDS 30 June 20) … J.W. Marcum

PORT HUENEME, Calif.—Capt. Andrew Hoffman relieved Capt. Ray Acevedo as commanding officer of Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) June 30 during a small ceremony on station.

As commanding officer, Hoffman will lead a workforce of more than 2,600 sailors, Navy civilians, and contractors, supporting the U.S. Navy, Department of Defense stakeholders, and allied forces to ensure combat readiness and effectiveness for America's surface fleet.

"I am honored and privileged to work alongside an incredible team of professionals here at Port Hueneme Division, who I now serve," said Hoffman in a post-ceremony address to the workforce. "I carry on the charge of driving our mission forward in lock-step with our Technical Director, Paul Mann."

Hoffman acknowledged the unique circumstances presented with assuming command during a pandemic.

"I take command at an unprecedented time in our Navy and our nation's history," said Hoffman. "The COVID-19 pandemic has altered the landscape of our enterprise, forced us to recalibrate, and work together in new and creative ways, but has also highlighted the resilience of our tremendous team.

NSWC PHD has been on maximum telework status since the middle of March, yet remains open for business to ensure constant fleet support is maintained.

"We have learned many things over the past several months, but what is now more apparent than ever is our ability to overcome any obstacle," he said. "Moving forward, I will continue to communicate regularly and in accordance with greater Navy and DOD directives to ensure the health and safety of our greatest asset; the people of this nation. Together we will continue to move forward in support of our Navy."

Hoffman is a native of Brandon, Miss. He attended the University of North Carolina, earning a Bachelor of Arts in public policy analysis and was commissioned in 1999. He also attended the Naval Postgraduate School in Monterey, Calif. where he earned a Master of Science in applied physics in 2006.

NSWC PHD is a field activity of Naval Sea Systems Command and provides the U.S. Navy fleet with in-service engineering, test and evaluation, and product support for combat systems. The command is located at Naval Base Ventura County and oversees the Naval Agility (NavalX) Ventura Tech Bridge, which encompasses Fathomwerx Laboratory in partnership with the Port of Hueneme and other industry associates. The Ventura Tech Bridge is one of six new technical regions for the Navy announced in May, established to connect industry, academia and stakeholders with the U.S. Navy's nationwide NavalX network of partners.

https://www.dvidshub.net/news/373118/hoffman-relieves-acevedo-commanding-officer-naval-surface-warfare-center-port-hueneme-division

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Chesterfield Native Promoted to U.S. Navy Lieutenant Commander
(NBC12 6 July 20) … NBC12

PERSIAN GULF (WWBT) - A Chesterfield native serving in the United States Navy has been promoted to the rank of lieutenant commander during a ceremony held on board USS James E. Williams, a guided-missile destroyer, currently deployed in the Persian Gulf.

Lt. Cmdr. Sean Harney has served in the Navy for 11 years now and is a department head responsible for 55 sailors and combat systems on the ship.

"My favorite part is the people that I work with," Harney said. "The job is challenging, however, the sailors are the backbone of what makes the ship run. Their motivation and willingness to adapt and overcome obstacles is amazing."

"Harney, a 2008 graduate of Longwood High School and 2017 graduate of Naval Postgraduate School, joined the Navy to pursue a career in orthodontics," a release from the Navy said.

https://www.nbc12.com/2020/07/06/chesterfield-native-promoted-us-navy-lieutenant-commander/

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GTT Appoints Ernie Ortega Interim Chief Executive Officer, Expands Executive Leadership Team
(Global News Wire 06 July 20) … GTT Communications

MCLEAN, Va., July 06, 2020 (GLOBE NEWSWIRE) -- GTT Communications, Inc**.** (NYSE: GTT), a leading global cloud networking provider to multinational clients, is pleased to announce that GTT's Chief Revenue Officer Ernie Ortega has been named as the interim CEO while the Board continues its search for a new CEO. The Board of Directors also announces that Don MacNeil has joined the GTT leadership team as chief operating officer (COO). Mr. MacNeil will lead GTT's network operations, service delivery, assurance and vendor management teams, as well as GTT's product organization.

"I am delighted to name Ernie Ortega as interim CEO and Don MacNeil as GTT's chief operating officer," stated H. Brian Thompson, GTT Founder and Executive Chairman of the Board. "Both Ernie

and Don have a track record of delivering successful organizational change and operational improvement for national, international and global businesses. Their industry experience and leadership will accelerate our drive to operational excellence, a clearly outstanding client experience, continuous improvement of our services, and the achievement of our organic growth goals."

Mr. Ortega joined GTT in June 2019 as division president, Americas, and has extensive industry experience with a strong record of delivering revenue growth. Prior to joining GTT, Mr. Ortega was CEO of Towerstream and previously held senior executive roles at Colt Technology Services, Cogent, and XO Communications, after beginning his career at MCI.

Prior to joining GTT, Mr. MacNeil was chief executive officer (CEO) at FiberLight, after having served as COO, driving its business of designing, building and optimizing fiber-optic networks. He has held several executive leadership roles over his career including COO, CMO and head of customer operations for managed network provider XO Communications. Mr. MacNeil also served as chief technology officer (CTO) for EdgeConneX, a global data center solutions provider.

Mr. MacNeil graduated from the United States Naval Academy, Annapolis, with a Bachelor of Science degree in naval architecture. He went on to serve 27 years in the U.S. Navy, both on active and reserve assignments, attaining the rank of captain. He holds an MBA from the College of William and Mary, Williamsburg, VA, and a Master of Science Physics from the Naval Postgraduate School, Monterey, CA.

https://www.globenewswire.com/news-release/2020/07/06/2057880/0/en/GTT-Appoints-Ernie-Ortega-Interim-Chief-Executive-Officer-Expands-Executive-Leadership-Team.html