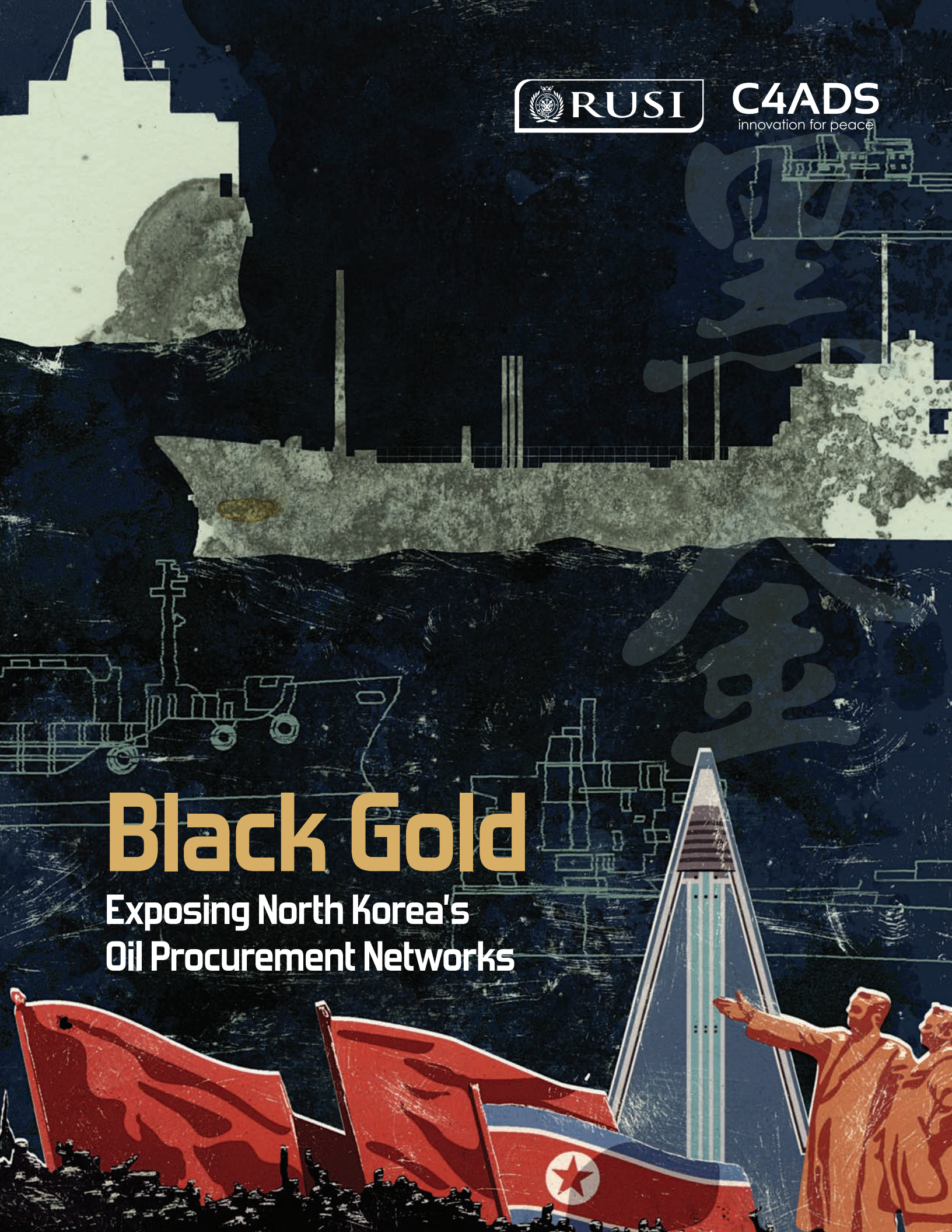




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Exposing North Korea's
Oil Procurement Networks



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TRANSLITERATIONS AND TRANSLATIONS

For this report, the authors have processed company and individual names recorded in Chinese. In some instances,

names of companies and individuals have been transliterated or translated. Every effort has been made to ensure accuracy in transliteration or translation, and the authors do not accept liability for any unintentional errors made in this regard.

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AUTHORS

James Byrne is a Senior Research Fellow at the Royal United Services Institute in London.

Joseph Byrne is a Research Analyst at the Royal United Services Institute in London.

Lucas Kuo is a Senior Analyst at C4ADS on the Counterproliferation Cell where he specializes in North Korean illicit shipping, financial, and procurement networks.

Lauren Sung is an Analyst on the Counterproliferation Cell at C4ADS. As an East Asia specialist, she is particularly interested in North Korea's proliferation financing and links to the region's transnational organized crime.



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Definitions

1718 Committee	The United Nations Security Council committee established to devise, recommend, and implement sanctions against North Korea, following the nation's first nuclear test, in 2006. ¹
Arbitrage	Purchasing foreign exchange, gold, financial securities, or commodities in one market and selling them in another market to profit from price differentials between the markets. ²
Automatic Identification System (AIS)	AIS transponders provide information about a vessel, such as identity, position, course, and speed, to other ships and to coastal authorities automatically. In 2000, the International Maritime Organization adopted a requirement for all ships at or above 300 gross tonnage and engaged on international voyages to be equipped with an AIS, effective December 2004. ³
Bunkering	Supplying fuel for use by ships. ^{4 5 6}
Chinese Communist Party (CCP)	The founding and ruling party of the People's Republic of China.
CPPRC Council for the Promotion of Peaceful Reunification of China	An umbrella organization, founded in 1988, to promote Chinese unification between mainland China and Taiwan on terms defined by the People's Republic of China.
Document of Compliance (DOC) holder	An entity that has assumed, from the owner of the ship, responsibility for the ship's technical operation and who, on assuming such responsibility, has agreed to accept all the duties and obligations imposed by the International Safety Management Code. ⁷
Direct delivery vessels	Smaller tankers that load fuel from larger tankers in STS transfers and then travel directly to offload fuel at a North Korean port.
DPRK	The Democratic People's Republic of Korea, also known as North Korea. The terms will be used more or less interchangeably within this report.
Deadweight tonnage (DWT)	The weight in metric tons (1000 kg) of cargo, stores, fuel, passengers, and crew carried by the ship when loaded to the vessel's maximum draft. ⁸
Exclusive economic zone (EEZ)	Area that extends up to 200 nautical miles off the coast over which a state assumes jurisdiction with respect to the exploitation and exploration of marine resources, including exclusive authority over all fish and fishery resources. ⁹
Electro-optical (EO)	EO imagery is captured with an electro-optical sensor, specifically a high-resolution camera equipped with a telephoto zoom lens. This form of imagery detects the magnitude and color of emitted or reflected light and digitally records the information in the form of pixels. ¹⁰
Feeder vessels	Intermediary tankers that load fuel from other vessels to transfer to a direct delivery vessel.
Flag of Convenience (FOC)	Flag allowing owners of foreign vessels to register a ship despite being domiciled in a state different from that of the flag state. A FOC generally offers competitive advantages to vessel owners due to limited regulatory oversight, ease of registration, and ability to obfuscate beneficial ownership. ¹¹
Flag state	The country for the registry under which the vessel operates. Vessels may appear in more than one registry (parallel registry), although only one of them may be active at a time. ¹²
Free-trade zone (FTZ)	Area within which goods may be landed, handled, manufactured or reconfigured, and re-exported without the intervention of the customs authorities. ¹³

International Maritime Organization (IMO)	The United Nations' specialized agency responsible for developing and preserving a comprehensive framework of regulations and policies for the shipping industry and its activities, such as issues of maritime security, safety, technical cooperation, and environmental concerns, as well as legal matters. ^{14 15}
Maritime mobile service identity (MMSI)	Nine digit number used by AIS and certain other equipment to uniquely identify a ship or a coast radio station. ¹⁶
Mothership	Large tankers that load fuel at ports and occasionally receive fuel via ship-to-ship (STS) transfers. These vessels act as floating gas stations and hold a large volume of oil for purposes of transport to other ships.
New Taiwan Dollar (NTD)	The official currency of Taiwan since 1949.
Operator (in the context of ship ownership and management)	The company responsible for making employment decisions regarding the vessel. Where the vessel is sub-chartered to another company or several companies in a chain, the operator can define where the vessel will be deployed to load and discharge cargo or provide services. As the direct beneficiary of the profits from the operation of a ship, the vessel operator is usually responsible for purchasing bunkers and port services. ¹⁷
Registered Owner	A registered owner provides the legal title of ownership that appears on a vessel's registration documents. A registered owner may be a so-called "brass-plate" company, an entity created on paper and existing as the legal owner of the ship, to potentially limit liability for the owner and/or to enjoy the benefits of offshore tax laws. ¹⁸
PLA People's Liberation Army	The armed forces of the Chinese Communist Party.
PLAN People's Liberation Army Navy	The naval branch of the People's Liberation Army.
Renminbi (RMB)	The official currency of the People's Republic of China; also known as the Yuan.
Secrecy Jurisdictions	A jurisdiction using secrecy as a prime tool to provide facilities enabling people or entities to escape or undermine the laws, rules, and regulations of other jurisdictions. ¹⁹
Ship Manager	The company, which may be an owner-related company or a third-party manager, designated by the ship owner as responsible for managing the ship. ²⁰
Ship-to-ship (STS) transfer	The transfer of cargo between two vessels positioned alongside each other. ²¹
Synthetic Aperture Radar (SAR)	Utilizes radar signals to generate high-resolution imagery, regardless of time of day or atmospheric conditions. ²²
Technical Manager	The company designated by the ship's owner, operator, or manager as specifically responsible for the technical operation and technical superintendency of a ship. ²³
UN Panel of Experts Established Pursuant To Resolution 1874 (2009) (the Panel)	A group of up to eight experts gathering, examining, and analyzing evidence from United Nations Member States to assist and make recommendations supporting the Security Council Committee established pursuant to Resolution 1718. ²⁴
United Front Work Department (UFWD)	The Chinese Communist Party agency responsible for co-opting and neutralizing sources of potential opposition to the Party's policies and authority. The UFWD focuses mostly on managing potential opposition groups inside China, but it also has an important foreign-influence mission. ²⁵
United Nations Security Council (UNSC)	Responsible for the maintenance of international peace and security, the UNSC is tasked with the power to enact sanctions and issue binding resolutions on all member states.
US Dollar (USD)	The official currency of the United States.

Executive Summary

North Korea relies on the outside world to import fuel.²⁶ With no demonstrated oil reserves and limited domestic refinery capacity, imports of refined petroleum products are vital to the regime's stability and survival. As in all modern economies, energy—predicated on a constant flow of fuel into the country—underpins North Korea's domestic and export economy, as well as Pyongyang's capacity to train and field armed forces and develop weapons of mass destruction (WMD).

The international community's efforts to cap North Korea's oil and petroleum products imports in 2017 forced Pyongyang to adapt its fuel-procurement strategy. This report finds that North Korea has been engaging organized criminal networks and participating in a regional fuel smuggling market in violation of international sanctions, and that the nation is demonstrating increasingly sophisticated and previously unseen tactics to evade detection.

Even by conservative estimates, Pyongyang appears to have successfully bypassed fuel sanctions and exceeded the cap imposed by the United Nations Security Council (UNSC) each year since the introduction of the limit.²⁷ Despite the challenges posed by the coronavirus pandemic and by North Korea's restrictions on port traffic, analysis of high-resolution satellite imagery of oil terminals and import facilities suggests North Korea has once again breached the import cap in 2020. Through analysis of AIS data and satellite imagery, the authors found that the proportion of fuel deliveries to North Korean ports by foreign-flagged tankers is significant and has been increasing.²⁸ This phenomenon raises important questions about the entities behind these sanctions violations, and it calls for scrutiny of how smugglers continue to evade detection and identification while transporting fuel within some of the most heavily monitored waters in the world.

In this investigation we find the following:

- 1. North Korea has tapped into an existing fuel smuggling economy in East Asia to procure fuel at volume.** Different national-level regulatory and pricing regimes for fuel in the region create arbitrage opportunities that smugglers have long exploited to generate immense profit. These smugglers divert fuel from the licit market to sell to various customers, one of which is North Korea.
- 2. Taiwan appears to be a key locus in this regional black market for fuel.** The country's preferential fuel policies price refined petroleum products lower than those of its neighbors, creating opportunities for arbitrage and offering smugglers a cheap and readily available source of fuel. Additionally, several of the networks and entities engaged in DPRK-related fuel smuggling operate from or out of addresses or ports in Taiwan. The country's waters are also being exploited by illicit actors conducting DPRK-related, ship-to-ship (STS) transfers of fuel in a multilayered shuttle system that bisects both "dirty" vessels traveling directly to North Korea and "clean" vessels discreetly supplying those direct-delivery tankers with fuel on the high seas.
- 3. North Korea's illicit fuel supply chain has links to organized crime.** Several of the key actors in North Korea's fuel procurement originate from, and maintain connections to, Fujian province, China and, in particular, the city of Shishi. Shishi and the nearby coastal cities of Fujian province have long been a regional smuggling hub for illicit goods, such as cigarettes, wildlife products, drugs, and fuel. These actors appear to constitute a loose criminal federation whose interests and activities intersect to smuggle fuel to North Korea.
- 4. A key node in this DPRK fuel procurement network appears to be the Winson Group, a major regional oil trader.** The Winson Group is headquartered in Singapore and has offices across East Asia; it has links to several shipping and oil trading companies in the region, as well as businesses registered in secrecy jurisdictions, through which it has connections to possible STS transfers of fuel that ultimately end up in North Korea. The founder of the Winson Group also has a documented history of cigarette and fuel smuggling and alleged connections to illicit DPRK-related commercial activities.

This report finds that North Korea's shipping and maritime sanctions evasion tactics are highly adaptive and growing increasingly sophisticated in response to pressure from and enforcement by the international community. While these outcomes indicate the sanctions regime has complicated and increased the cost of illicit business for North Korea, the demonstrated adaptability of the country's maritime trade networks also underscores, in dramatic fashion, the growing cost of monitoring, detection, and enforcement.

This report also highlights the need for authorities to better explore the connections between North Korea, underground economies, and transnational organized crime, and it adds to the existing but underexplored literature of the country's links to organized criminal networks. Relying on sanctions to block North Korea's licit avenues of procurement creates a supply-and-demand dynamic between providers of illicit goods and services—often criminal organizations—and Pyongyang. To stay abreast of North Korea's evolving tactics for evading sanctions, this report recommends that international, government, and civil regulators proactively monitor criminal networks that provide the country with contraband goods and services, while closing regulatory loopholes in the international sanctions regime, rather than reactively investigating instances of sanctions evasion.

North Korea and the Regional Fuel Smuggling Economy

Fuel has historically been an important currency of engagement and denuclearization talks between the international community and North Korea. Satellite images of the Korean peninsula at night, showing the land mass north of the 38th parallel plunged in darkness in stark contrast to its neighbors, are perhaps the most recognizable symbol of North Korea's perpetual energy shortages. With no proven oil reserves of its own, North Korea has been largely reliant on domestically mined coal and imported petroleum to power its military, energy, and transportation infrastructure.²⁹ Yet, like all states, energy security remains critical to the regime's survival, and Pyongyang remains extremely vulnerable to oil supply shocks. In part for these reasons, North Korea has committed in the past to dismantling some of its nuclear facilities at Yongbyon in exchange for shipments of heavy fuel oil in both the 1994 Agreed Framework and the Six Party Talks (2003- 2007).^{30 31}

These shipments were ultimately suspended when North Korea, which the US deemed to be maintaining an active uranium enrichment program, subsequently conducted numerous nuclear and ballistic missile tests. In December 2017, in response to North Korea's launch of an intercontinental ballistic missile the month prior, the UNSC adopted Resolution 2397, imposing an annual cap of 500,000 barrels of refined petroleum products and 4 million barrels of crude oil on North Korea.³² The aim was to put pressure on the Kim regime by curbing North Korea's fuel imports.



Satellite image of the Korean peninsula at night on 9 March 2021. Source: Imagery provided by NASA.

Every year since Resolution 2397 was passed, certain Member States have presented data to suggest that fuel exports to North Korea have likely far exceeded the imposed caps. US authorities reported that between 1 January and 18 August 2018, DPRK-flagged tankers delivered fuel at least 148 times to North Korean ports, which was likely sourced from illicit ship-to-ship (STS) transfers.³³ Even if these tankers had only been carrying one-third of their capacity, North Korea would have reportedly breached the 500,000-barrel cap before the end of May 2018.³⁴ In the following year, the same authorities, relying on equally conservative estimates of fuel capacity, judged that the cap had been breached even sooner, by April 2019.³⁵ US authorities report that the total volume could have been as high as 2.27 million barrels throughout this eight-month period in 2018 (354 percent over the oil cap)³⁶ and 1.09 million barrels during the four-month period in 2019 (118 percent over the oil cap) if the tankers had been fully laden.³⁷ Moreover, these estimates are based only on DPRK-flagged tankers in North Korean ports, meaning that deliveries from foreign-flagged tankers did not factor into this assessment. Given that more than half of North Korea's oil fleet capacity is represented by foreign-flagged tankers today, these estimates provide an incomplete picture of North Korea's potential to acquire fuel.³⁸

How does North Korea procure oil at such volume? Who are the actors behind the sale of this sanctioned commodity? And how is the fuel transferred to North Korea?

North Korea need not search far for suppliers; cross-border arbitrage in fuel in East Asia has created a regional black market which can be readily accessed by any party willing to pay. Although English-language reporting has been limited on this subject, a robust and well-established fuel smuggling economy has been operating in East Asia for decades, with China and Taiwan as its nexus. The key driving factors behind this illicit business are price controls in China, which set a floor for retail fuel prices, and the availability of subsidized fuel in other countries such as Taiwan.

For example, two sources of preferentially priced oil are available in Taiwan's maritime sector:

1. Subsidies and Tax Exemptions for Domestic Fishing Vessels. To support domestic fishermen and fisheries, Taiwan has, since 1958, subsidized diesel and marine fuel oil for sale to domestically flagged fishing vessels.³⁹ From 2008 to 2020, the Taiwanese government provided a 14 percent subsidy on fuel sold to fishing vessels. In 2016, in accordance with the Agreement on Subsidies and Countervailing Measures set by the World Trade Organization, the Taiwanese government announced plans to reduce these subsidies to 5 percent on 1 January 2021.⁴⁰ The price of fuel is set by CPC Corporation (台灣中油股份有限公司), Taiwan's state-owned oil and gas company, while rate adjustment and subsidy termination are determined by the Executive Yuan.⁴¹ In addition to subsidies, domestic fishing vessels are exempt from commodity and business taxes on purchases of diesel and marine fuel oil, as well as business taxes on gasoline.^{42 43}

2. Tax Exemptions on Fuel for Foreign Tankers in Free-Trade Zones (FTZs). Taiwan has seven FTZs, of which six are seaports—Kaohsiung, Taichung, Taipei, Anping, Keelung, and Su'ao.⁴⁴ These FTZs are designed to encourage maritime free trade and use of Taiwan's ports, and the government has sought to attract foreign tankers by allowing them to purchase diesel at port duty free.⁴⁵

Just across the Taiwan Strait, in China, the price of fuel is notably higher. As is the case in Taiwan, the Chinese government controls the price of oil, and policymakers protect domestic refineries by ensuring that the price of fuel never falls too low. According to one Taiwanese media report, in 2018, the price of diesel per liter in China was approximately 43 percent higher than it was in Taiwan, suggesting an economic incentive for smugglers to purchase cheaper fuel in Taiwan and then sell it at a higher price in China.^{46 47} As the units of fuel involved are typically in the thousands of tons, the profit margins for these transactions are in the hundreds of thousands to millions of USD.⁴⁸ The volumes of fuel smuggled

in this manner from Taiwan but also from other duty-free fueling ports have reportedly resulted in losses of over 30 percent of the domestic market share in China, held by Sinopec and PetroChina.⁴⁹

Smugglers have exploited this cross-border arbitrage for well over a decade. The business model is simple: Taiwanese fishing vessels and foreign-flagged tankers load up on fuel at preferential prices and then sell the fuel for a profit in Taiwan's exclusive economic zone (EEZ) or in nearby international waters. Historically, some of the largest smugglers of oil products are reported to have been the Chinese armed forces,⁵⁰ who moved vast quantities of fuel into China to exploit this arbitrage opportunity. The practice was so widespread that it reportedly pushed China's energy monopolies toward bankruptcy and eventually led the central government to direct the military to cease smuggling and commercial operations.⁵¹ Today, Chinese vessels remain a key customer base, but the clientele also includes vessels engaged in illegal, unregulated, and unreported (IUU) fishing, as well as DPRK-flagged or DPRK-linked foreign-flagged tankers.⁵²



The China Coast Guard intercepting a tanker suspected of fuel smuggling.
Source: CCTV.⁵³

Although authorities on both sides of the Strait have attempted to crack down on fuel smuggling activities, ongoing price controls in China have created continuous demand for cheap oil products. Moreover, even in instances where Taiwanese fuel smugglers have been caught, penalties are typically limited to administrative sanctions and fines—arguably justifiable levels of risk when the rewards are so high.^{54 55 56}

In recent years, these seasoned smugglers have found a willing client in North Korea, and several high-profile cases of alleged North Korean fuel smuggling have featured Taiwanese vessels, entities, and Taiwan-sourced fuel, examples of which are detailed below.

LIGHTHOUSE WINMORE (IMO 9635987) (2017): The LIGHTHOUSE WINMORE, flagged to Hong Kong at the time, was impounded by South Korean authorities in December 2017 on charges of transferring 600 tons of oil to a North Korean tanker, the SAM JONG 2 (IMO 7408873).⁵⁷ The LIGHTHOUSE WINMORE was chartered by a company incorporated in the Marshall Islands, with a controlling interest reportedly held by Chen Shih Hsien (陳世憲), a Taiwanese individual who allegedly also

operated two fisheries in Kaohsiung, Taiwan.⁵⁸ Ultimately, Chen was prosecuted on a number of charges, including sanctions violations under Taiwan's Counter-Terrorism Financing Act.⁵⁹ His assets were frozen, and he was sentenced to approximately four months in prison, but committed suicide in 2019.^{60 61}

JIN HYE (IMO 8518572) (2017): The JIN HYE was a Sierra Leone-flagged tanker that reportedly sold 7,000 tons of diesel oil to a North Korean tanker, the CHON MA SAN (IMO 8660313), in the East China Sea after fueling at the Taichung Port FTZ.^{62 63} The operator of the JIN HYE, Vanguard Shipping Safety Management Consultant Co., Ltd. (汎德船舶安全顧問管理公司), is the same Taiwanese company that served as the Document of Compliance (DOC) holder of the LIGHTHOUSE WINMORE during its alleged STS transfer with a North Korean tanker.⁶⁴ According to court records, Chuang Chin Hung (莊錦宏), a Taiwanese national, was allegedly responsible for the purchase of the JIN HYE in late 2017.⁶⁵ In the same document, Chuang alleged that the buyer of the oil was a Hong Kong citizen named "Mr. Tsoi."⁶⁶ Chuang was tried on charges of forging the export declaration on the JIN HYE's oil shipment, but was acquitted in 2019.⁶⁷

SHANG YUAN BAO (IMO 8126070) (2018): The SHANG YUAN BAO, a tanker then registered in Panama and beneficially owned and controlled by Taiwanese individuals, allegedly transferred over 2,700 tons of oil, in two STS transfers (both in May 2018), to North Korean tankers: the SAE BYOL (IMO 8823783) and the PAEK MA (IMO 9066978).⁶⁸ In addition, the SHANG YUAN BAO allegedly met the DPRK-flagged MYONG RYU 1 several weeks later, on 2 June 2018.⁶⁹ In October 2020, three Taiwanese individuals, reportedly involved in the ownership and management of the companies involved in this transaction, were indicted for sanctions violations and for falsifying the SHANG YUAN BAO's destination when it conducted STS transfers.⁷⁰ The SHANG YUAN BAO, three companies involved in its ownership and management, and the legal representative of those companies—Huang Wang Ken (黃旺根)—have also been sanctioned by the US Department of the Treasury's Office of Foreign Assets Control (OFAC).⁷¹

POLARIS (IMO 8408636) (2018): Flagged to Dominica at the time, the POLARIS was photographed conducting what appeared to be STS transfers with the DPRK-flagged MYONG RYU 1 (IMO 8532413) in the East China Sea after purchasing fuel at the port of Taichung.⁷² Six individuals involved with operating the POLARIS—four from Taiwan, one from China, and one from Burma—were indicted on charges of using false customs declarations to illegally export fuel.⁷³ In addition to perpetrating the photographed transfer, prosecutors alleged the individuals behind the operation and management of the POLARIS conducted at least 21 other STS transfers of fuel, selling up to 92,000 tons of oil and reaping approximately NTD (New Taiwan Dollar) 1.7 billion (USD 61 million) in profits.⁷⁴ However, in October 2020, the court found the individuals not guilty, citing insufficient evidence to prove that they were selling fuel to North Korea.⁷⁵

These cases represent only a fraction of the players involved in the regional fuel smuggling economy, but they highlight key typologies of these smugglers, including their:

- Immediate links to Taiwan's fishing fleet and bunkering operations;
- Use of third-country jurisdictions for the registration of vessels and companies used to own and manage them;
- Connections to networks in Kaohsiung, Taichung, and other port-cities; and
- Reliance on common maritime service providers to interact with the global shipping system.

While these individual instances of alleged North Korean sanctions evasion have been investigated and documented by regulators, little work has been done to date on measuring the extent to which these conditions sustain North Korea's illicit fuel supply. This report utilizes satellite imagery, Automatic Identification System (AIS) transmission data, corporate records, vessel documentation, and a variety of other publicly available sources to better understand North Korea's ongoing attempts to evade sanctions. From there, the authors use case studies and network analysis to explore the methods used in and the entities facilitating the illicit flow of fuel into North Korea.

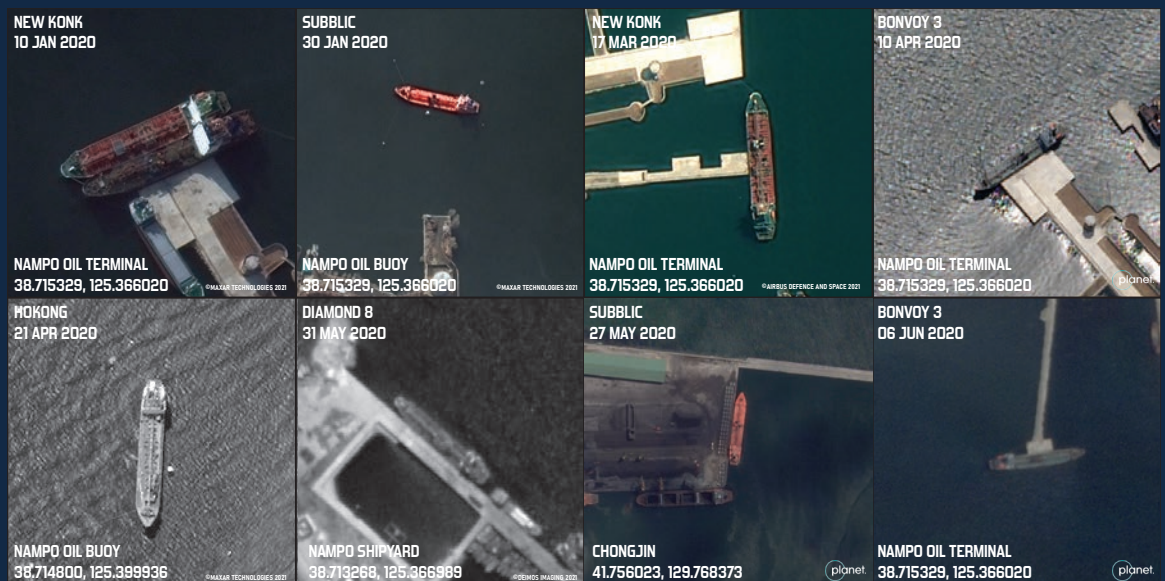
Section 01 North Korea Oil Cap Breach in 2020

How do we accurately determine how much fuel is imported into North Korea? Since many previously published estimates of North Korea's fuel imports are based on classified information or materials otherwise unavailable to the public, the authors generated an independent open source estimate of oil tanker deliveries to North Korean ports by collecting high-resolution satellite imagery of vessels from January through December 2020. Reviewing over 200 high, medium, and low resolution images, the authors identified at least 100 instances of what appear to have been oil tanker deliveries to the facilities in Nampo, Wonsan, Chongjin, Hungnam, and Munchon, suggesting that, in combination with reported exports of fuel ("reported deliveries") to North Korea, the total volume of oil acquired by North Korea in 2020 could have been as high as 2.33 million barrels (364 percent over the cap).

In this analysis, vessels were counted as having delivered fuel to North Korea if they were observed in high-resolution satellite imagery within areas where previous instances of oil deliveries to the country had reportedly occurred. This includes areas such as the offloading buoy at the Nampo oil terminal, which has dedicated offloading infrastructure, and the East Pier at Chongjin, where vessels are frequently observed alongside tanker trucks shuttling fuel around the country.

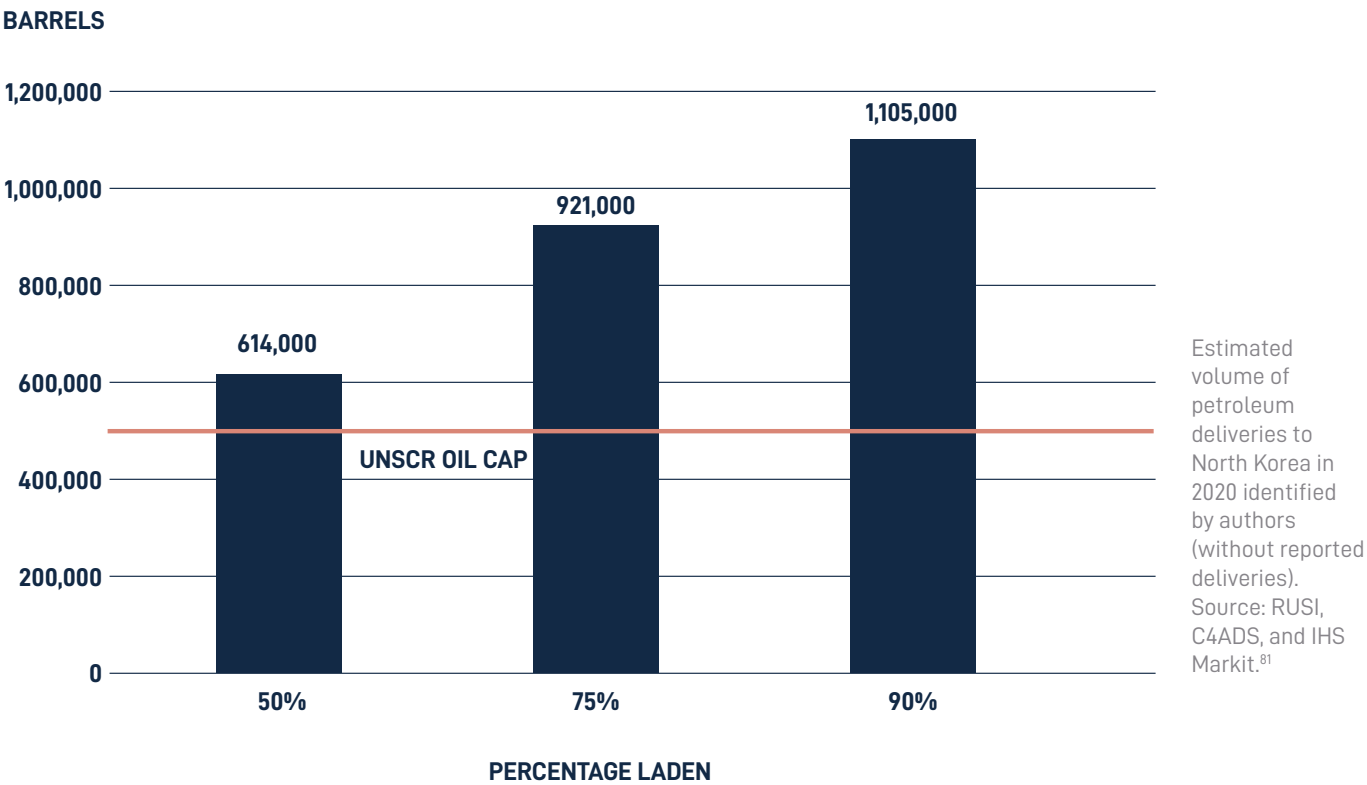
The oil tankers in question were then identified using a combination of detailed shipbuild information from maritime databases and other open sources, including information released by the Panel, the US Department of the Treasury, and the Japanese Ministry of Foreign Affairs.⁷⁶ Once these vessels were identified, their registered deadweight tonnage (DWT) was used to estimate the volume of oil and petroleum deliveries to North Korea in 2020.⁷⁷

Satellite imagery of foreign-flagged vessels at Nampo and Chongjin ports in North Korea in 2020. Source: Imagery provided by Maxar Technologies, Planet Labs, Airbus Defence and Space, and Deimos Imaging.

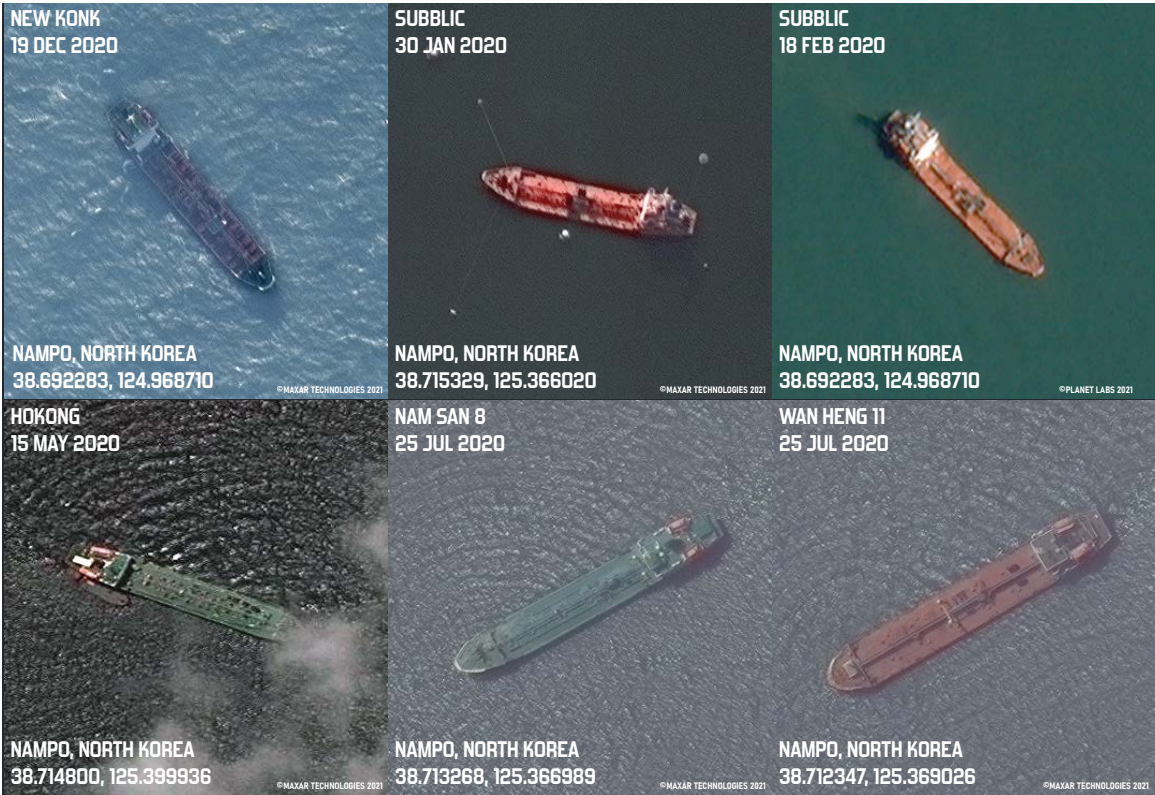


In early 2021, after a prolonged disagreement between China, Russia, and the US,⁷⁸ the United Nations Security Council (UNSC), as required by Resolution 2397, reportedly agreed on a barrel-to-ton (metric) conversion rate of 7.98 barrels to the ton with which to calculate the volume of petroleum products in barrels delivered to North Korea each year.⁷⁹ Using the DWT of vessels identified, the authors estimated the amount of petroleum each vessel could carry and deliver throughout 2020. Based on this information, the findings of this investigation suggest that the 50 identified visits accounted for 614,000–1,105,000 barrels of oil and petroleum products, assuming the vessels were, on average, 50–90 percent laden.⁸⁰

Estimated Barrels of Petroleum Delivered to North Korea, (Without Reported Deliveries), January to December 2020



In fact, imagery collected outside Nampo’s West Sea Barrage and at the Nampo oil terminal suggests that visiting oil tankers are often fully laden when arriving at North Korea, indicating that the higher estimate is more likely.⁸²



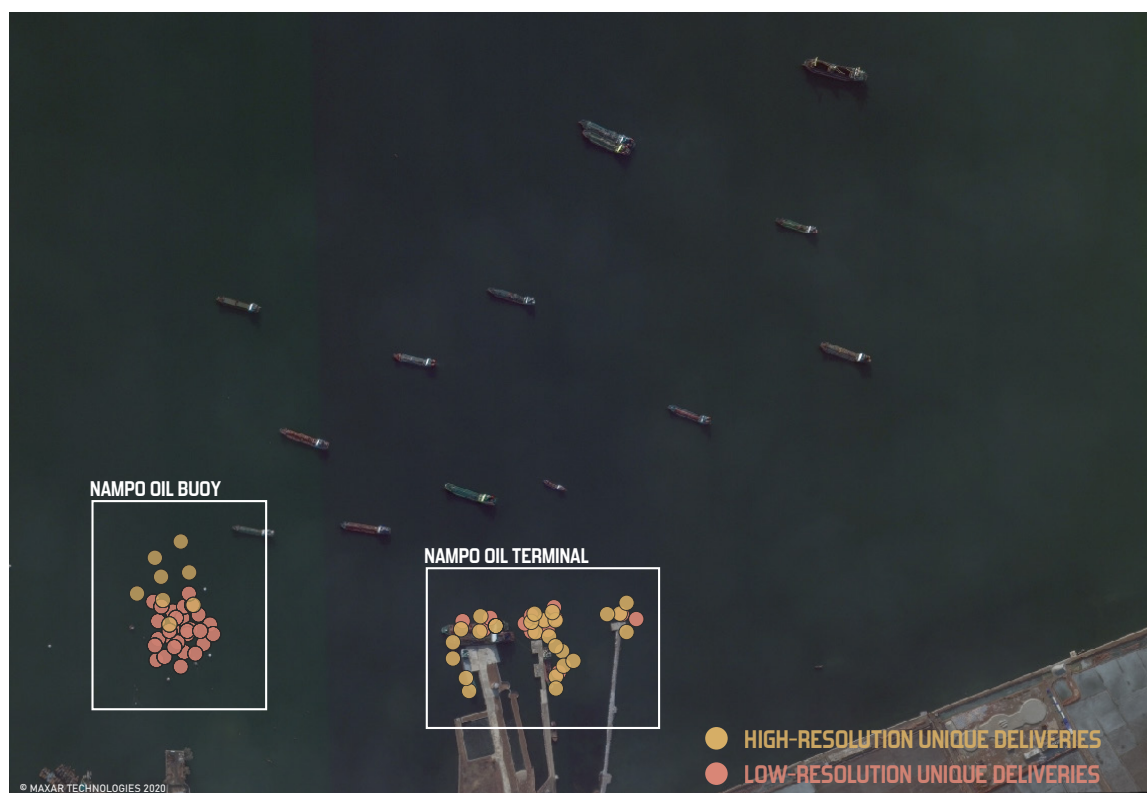
Satellite imagery of heavily laden tankers arriving at Nampo port, North Korea. Source: Imagery provided by Maxar Technologies and Planet Labs.

Of the 50 deliveries observed in high-resolution imagery, only nine were made by foreign-flagged vessels, suggesting that North Korea's domestic tanker fleet accounted for the bulk of this count. However, these nine deliveries are estimated to have accounted for one-third of the total delivered petroleum, highlighting the significant capacity of foreign-flagged vessels compared to their North Korean counterparts.

Overcoming Limitations

The high-resolution imagery collected for this assessment is limited to those taken on largely cloud-free days over North Korean ports, thus omitting deliveries made on cloudy days or deliveries made outside the hours of normal satellite passes.⁸³ As a result, this analysis likely undercounts possible oil deliveries to North Korea and provides only a conservative baseline estimate of deliveries to the country at specific points in time and at specific ports.

To overcome these limitations, the authors also used low- and medium-resolution electro-optical (EO) and synthetic aperture radar (SAR) data collected from January through December 2020 over the Nampo oil terminal.⁸⁴ Because of the higher cadence of this imagery, analysts collected over 200 additional images during the year and identified additional deliveries not captured by high-resolution imagery.



Points representing location of observed deliveries to the Nampo oil terminal in high- and low-resolution imagery over the course of 2020. Source: Imagery provided by Maxar Technologies, Planet Labs, Airbus Defence and Space, and ESA Sentinel.

To mitigate the possibility of double counting, a vessel identified in low- or medium-resolution imagery was only assessed to have delivered oil to North Korea if the vessel (1) was present at one of three exact areas of interest (AOI) used for offloading petroleum at the Nampo oil terminal and (2) was absent in one image and present in the next. Analysts recorded a unique delivery for the vessel if it fulfilled both criteria.

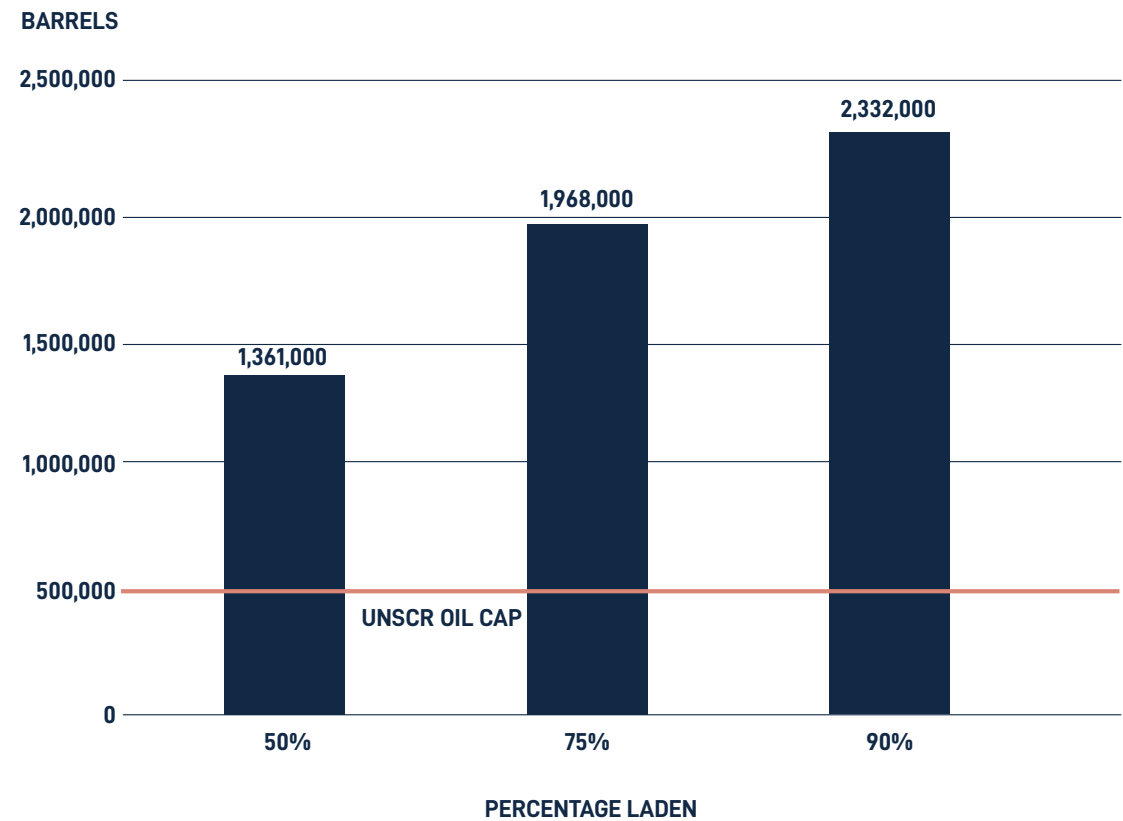
Using this method, analysts identified 50 additional unique deliveries to the Nampo oil terminal during 2020. Using the median deadweight tonnage (3,003) of all tankers previously identified in this research, these additional 50 visits could have accounted for 600,000–1,000,000 delivered barrels of oil products, assuming the vessels were 50–90 percent laden.

Total Estimated Deliveries Indicate North Korea Breached Oil Cap

None of these combined 100 unique deliveries appear to have been reported to the UN over the course of 2020, in violation of resolutions passed in 2017;⁸⁵ however, both China and Russia have reported their petroleum exports to North Korea, which have in turn, been published on the website of the 1718 Sanctions Committee.⁸⁶

When combining estimated illicit delivery volumes with the official statistics published by the 1718 Committee, it would appear that North Korea imported between 1,361,000 and 2,332,000 barrels of oil throughout 2020. At the highest estimate, this would represent over four times the amount permitted under UNSC Resolution 2397.⁸⁷

Estimated Barrels of Petroleum Delivered to North Korea, (With Reported Deliveries), January to December 2020



Estimated volume of petroleum deliveries to North Korea in 2020 identified by authors (with reported deliveries). Source: RUSI, C4ADS, 1718 Sanctions Committee, and IHS Markit.⁸⁸

Foreign-flagged Tankers Are Key to North Korean Fuel Procurement

Comparing North Korea's domestic fleet and foreign-flagged tankers making deliveries to the country underscores the importance of these foreign vessels to Pyongyang's ability to procure fuel in violation of international sanctions.

Since 2019, at least 13 foreign-flagged vessels have made direct deliveries to North Korea in contravention of UNSC resolutions, and most of them have done so on several occasions. Notably, the average capacity of this foreign-flagged fleet is more than double that of North Korea's domestic fleet.⁸⁹ With their larger capacity, these vessels can import a significantly greater volume of petroleum products, and in fewer journeys, thereby enhancing North Korea's ability to evade sanctions.



The NEW KONK (IMO 9036387) - a 8,057 DWT oil tanker identified visiting the DPRK in recent years - would only need to make nine full deliveries to breach the current oil petroleum cap.⁹¹ The DIAMOND 8 (IMO 9132612), the largest foreign-flagged tanker delivering to North Korea, would need approximately eight deliveries to reach the cap.⁹² Publicly available evidence collected for this report thereby suggests these foreign-flagged tankers are integral to North Korea's oil import strategy. Additional import and storage infrastructure built at the Nampo oil terminal over the past year potentially indicates a need to expand the capacity required to handle these larger volumes of imports.⁹³

Notably, most of these tankers are over 25 years old, with the newest vessel in the fleet, the WAN HENG 11—now renamed the KUM JIN GANG 3—built in 1996.⁹⁴ Most of these tankers also once flew a Sierra Leone flag, with seven doing so while delivering oil to North Korea; and in five of those cases, foreign-flagged tankers publicly identified as having delivered oil to the country went on to officially enter the North Korean fleet.

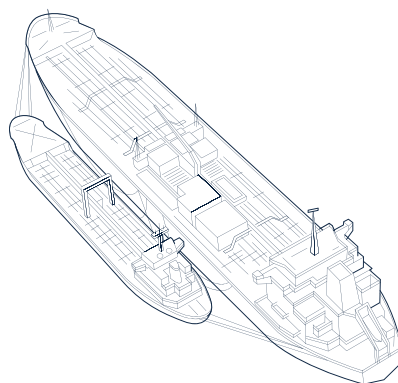
Section 02

The Shuttle System: North Korea's Illicit Oil Supply Chain

North Korea relies increasingly on foreign-flagged tankers to procure fuel; thus, understanding the people and entities controlling and operating these tankers is critical to disrupting the country's illicit fuel supply chain. Unfortunately, in many cases, the identity of the real owners and operators of these tankers is hidden behind a veil of corporate secrecy. Nonetheless, a closer look at the history of these vessels and their activities offers some initial trend-level insights into this fleet and highlights their role in the broader supply chain of fuel diverted by illegitimate means to North Korea.

To highlight these trends, this section outlines the typology of DPRK-linked tankers fueling and delivery activities, and it explores the case study of the DIAMOND 8, the largest foreign-flagged tanker to have been recorded making deliveries to North Korea.

Understanding Motherships, Feeder Vessels, and Delivery Vessels



Our analysis of fuel deliveries to North Korea revealed that three types of tankers are typically involved in the supply chain. These tankers serve in the following capacities:

Motherships

Motherships are large tankers that load fuel at ports and occasionally receive fuel via ship-to-ship (STS) transfers. These vessels act as floating gas stations (海上加油站)⁹⁵ and hold a large volume of oil for purposes of transport to other ships.

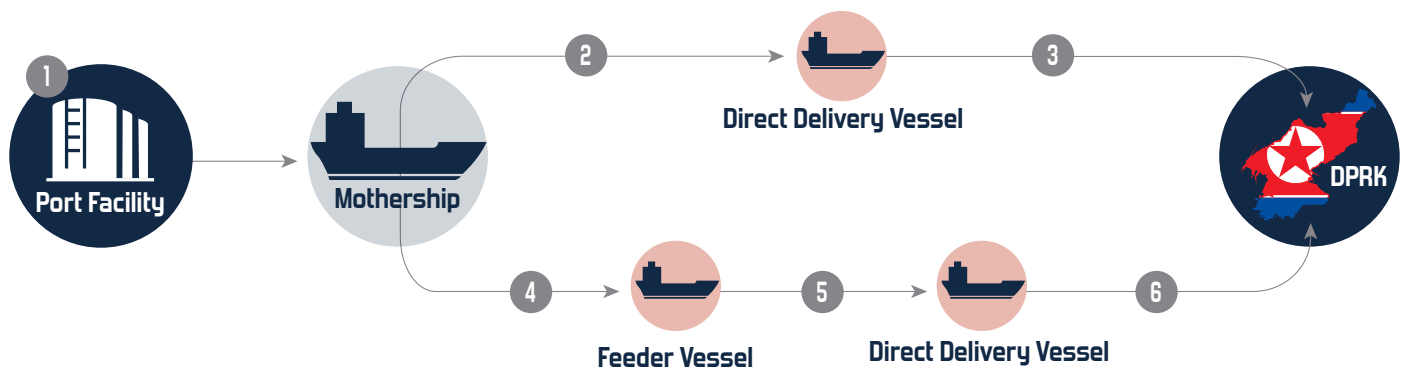
Feeder vessels

Feeder vessels are intermediary tankers that load fuel from other vessels to transfer to a direct delivery vessel.

Direct delivery vessels

Direct delivery vessels are smaller tankers that load fuel in STS transfers and that travel directly to North Korea to offload their holdings at North Korean ports.

These ship types and their methods of offshore fuel transfer are critical to understanding how North Korea mitigates the risk of detection or interdiction associated with ships entering ports to load fuel directly from refineries. Additionally, many of the vessels involved in these apparently illicit supply chains have been designated “dirty” vessels, or recommended for such designation (or they otherwise face activity restrictions), meaning they are forbidden from entering port to fuel directly from oil terminals. Even if these vessels are not prohibited from entering port, they risk detection and seizure by entering a state’s territorial waters and maritime enforcement zone; thus, these tankers rely on other foreign-flagged tankers—“clean” vessels—to shuttle fuel at volume from shore to open waters, encountering less scrutiny and oversight from regional authorities, coast guards, and multinational sanctions monitoring patrols.



- 1 Motherships load fuel at volume typically from oil terminals at regional ports and travel out to open waters
- 2 Sometimes, direct delivery vessels load fuel from motherships in STS transfers
- 3 These direct delivery vessels then travel to North Korean waters to offload their cargo
- 4 Other times, feeder vessels load fuel from motherships
- 5 Those feeder vessels subsequently meet with the direct delivery tankers to transfer fuel
- 6 Direct delivery tankers take this fuel to the DPRK



North Korea fuel supply chain model. Source: RUSI and C4ADS.

In the shuttle system above, foreign-flagged vessels are involved with each stage of North Korea's supply chain for illicit fuel. Generally speaking, the supply chain begins with a mothership loading fuel at a port and sailing to designated locations offshore where it will conduct STS transfers with either feeder or delivery vessels. Direct delivery vessels may then transport the cargo directly to North Korean ports, while a feeder vessel, acting as an intermediary, may transfer the cargo to a direct delivery vessel. Feeder vessels add another buffer between motherships and vessels traveling to North Korea; they connect DPRK-linked fuel smuggling networks to the licit oil market. With each STS transfer, feeder vessels establish another link in the supply chain that further obscures the origin and path of the fuel as it travels to North Korea.

The above distinction between motherships, feeder vessels, and direct delivery vessels, as well as the general placement of these ships in the supply chain, simplifies the regional bunkering landscape; other cases have shown that more than one feeder vessel can be involved in the supply chain or that motherships may load fuel from other vessels.⁹⁶ The lucrative profit margins in fuel smuggling can attract unscrupulous actors beyond the licit oil industry, leading some smugglers to repurpose or convert non-tanker class vessels to obscure the movement of fuel by carrying petroleum cargo.⁹⁷ Another notable trend in transporting petroleum products is the involvement of non-tanker vessel types, such as fishing vessels and cargo ships.⁹⁸ Lastly, the supply chain described above should not be construed as representing all fuel smuggling activity in this region. Other buyers, such as Chinese fishing vessels, are also significant players in the regional illicit fuel market, and their supply chains may not be governed by the same pressures as those involving North Korea.⁹⁹

Direct Delivery Vessels: Who are They?

Since 2019, at least 13 foreign-flagged oil and product tankers appear to have delivered fuel to North Korea,¹⁰⁰ with most seeming to do so more than once. Although the companies behind these vessels do not have common shareholders or directors, most were owned and operated by recently registered Hong Kong companies that exhibited features typically associated with front companies, such as using a corporate secretary address in place of a physical office in Hong Kong, having no demonstrable online business profile, and likely using nominee shareholders or directors. For example, many of the shareholders and directors of these Hong Kong companies are Chinese nationals from small, provincial villages, with no apparent previous connections, as directors or shareholders, to the oil or shipping industry.¹⁰¹ In several other cases, these tankers have been owned or operated by companies registered in secrecy jurisdictions.

In many instances, the vessels are of similar size, age, and specification¹⁰²; the behaviors, or patterns of life, exhibited by these vessels also bear striking similarities and indicate potential illicit activities. Such activities include fraudulently flying a flag of convenience (FOC) without the permission of the flag registry, as well as regularly switching between legitimate flag registries, or “flag hopping.”¹⁰³

These vessels have also been known to undergo regular changes to their corporate ownership and management structures, passing between various shell companies or other entities registered in secrecy jurisdictions.¹⁰⁴ Additionally, many of these vessels do not broadcast their AIS signals for extended periods of time, and some even conceal their true identities and activities by utilizing AIS identities not registered with the International Maritime Organization (IMO) or by employing other spoofing techniques to avoid detection on maritime data platforms.

When these vessels do broadcast under their registered or falsified identities, they appear to travel between similar areas of interest and exhibit consistent behaviors, including:

1.

Frequent visits to Taiwanese waters, in particular near the ports of Kaohsiung, Taichung, and Taipei.

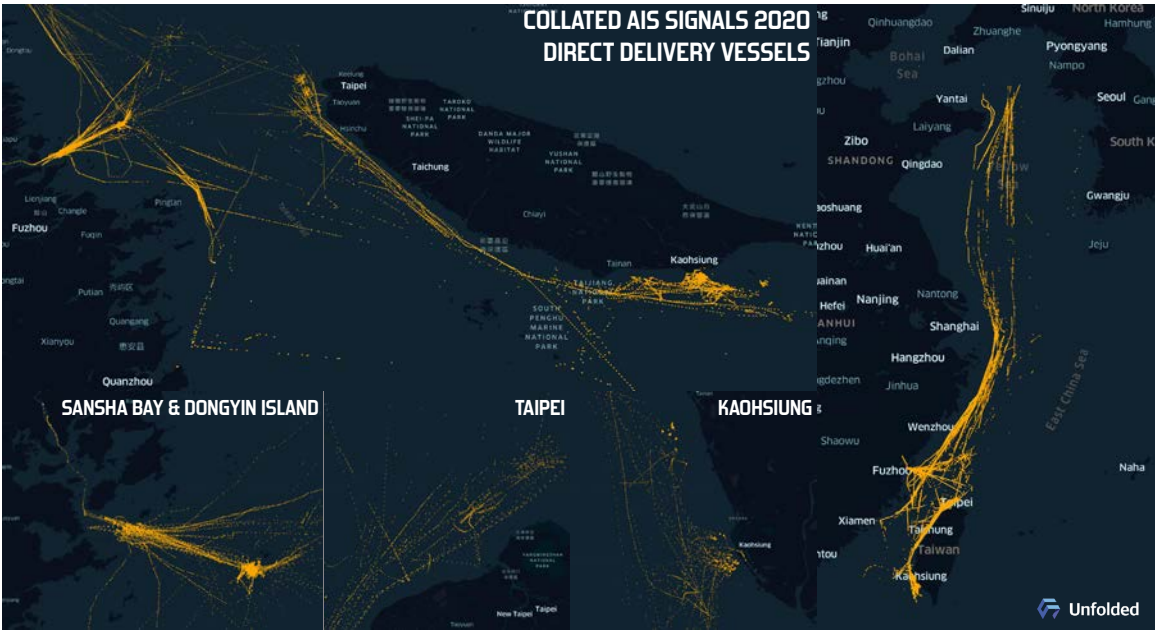
2.

Loitering in Chinese territorial waters off the coast of Fujian province.

3.

Losing their AIS signal as they approach North Korea's EEZ.

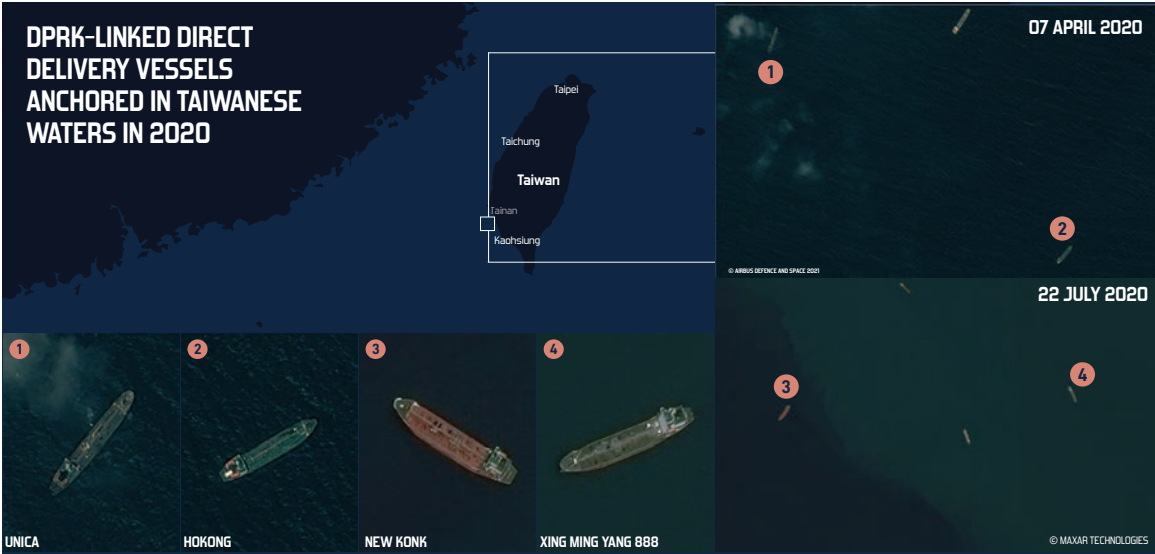
Collated AIS signals of direct delivery vessels identified in footnote 100 throughout 2020. Source: AIS data provided by Pole Star Space Applications, Windward, and Geolcollect.



Regular Trips to and Loading Fuel in Taiwan's EEZ

Imagery and AIS data indicate these foreign-flagged tankers regularly visit Taiwanese waters, while some have been observed anchored outside major ports.¹⁰⁵ The images below, taken in April and July 2020, show several foreign-flagged tankers with a documented history of travelling to North Korea or engaging in DPRK-related STS transfers clustered together approximately five nautical miles outside Tainan port.¹⁰⁶ These include the UNICA (IMO 8514306), HOKONG (IMO 9006758), NEW KONK (IMO 9036387), and XING MING YANG 888 (IMO 8410847).¹⁰⁷

Above right, bottom right, and boxes 1, 2, 3, and 4: Direct delivery vessels in Taiwanese waters. Source: Imagery provided by Airbus Defence and Space and Maxar Technologies. Above left: Map of Taiwan. Source: Map visualization powered by Unfolded.ai



While in Taiwan, these tankers appear to have either broadcast on fraudulent AIS profiles or failed to transmit positional signals, possibly demonstrating their awareness of higher levels of detection and prosecution risk in Taiwanese waters.¹⁰⁸ These fraudulent AIS profiles often use a combination of fake IMO and maritime mobile service identity (MMSI) numbers, unregistered names, and even the details of other vessels. Available AIS data from the tankers that transmitted under a fraudulent identity show the vessels sailing toward the outer edges of Taiwan's territorial waters before losing their AIS signal,¹⁰⁹ perhaps while loading fuel from other vessels at sea through STS transfers for ultimate delivery to North Korea.

Based on available AIS data and satellite imagery, when these tankers were not loading fuel in or near Taiwan, or delivering fuel to North Korea, they often appear to travel to sheltered waters off the coast of Fujian province.

The "Safe Haven": Loitering in China's EEZ and the China–Taiwan Shipping Corridor

In addition to Taiwan, Fujian province in China has emerged as a critical logistical hub in North Korea's illicit fuel supply chain. The waters of Sansha Bay in China and Dongyin Island—a township administered by Taiwan—appear to be key staging areas for these foreign-flagged tankers, allowing them to frequently broadcast AIS without apparent concern of being detained.¹¹⁰ High-resolution satellite imagery collected over these areas of interest often shows these apparently DPRK-linked vessels anchored together, possibly awaiting STS engagements with other tankers.¹¹¹

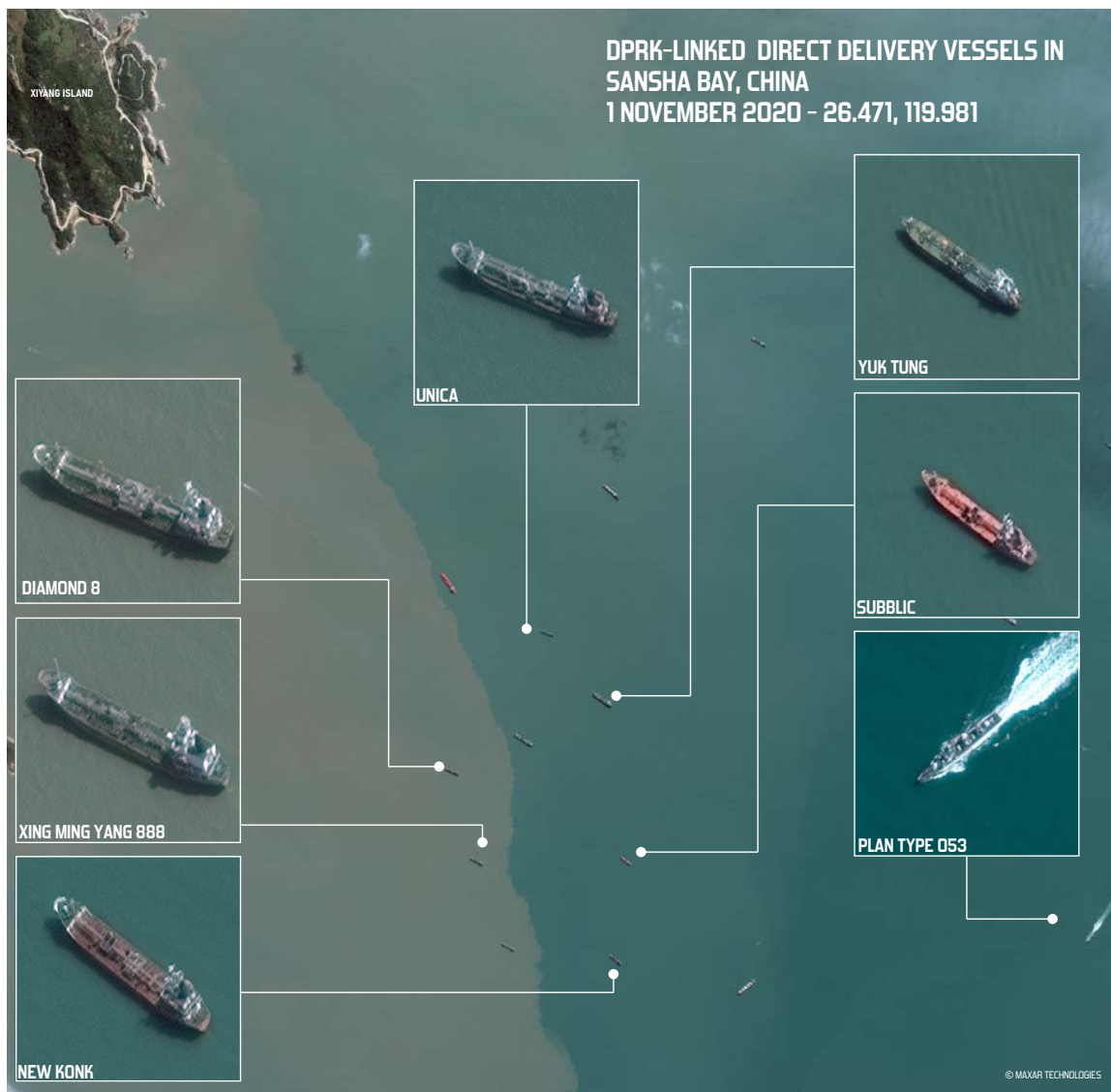


Map of the Taiwan Strait area. Dongyin Island, Taiwan, and Sansha Bay in Fujian province, China, are highlighted. Source: Map visualization powered by Unfolded.ai.

For example, the below image, taken on 1 November 2020, over the waters of Sansha Bay in China shows the UNICA (IMO 8514306), NEW KONK (IMO 9036387), XING MING YANG 888 (IMO 8410847), SUBBLIC (IMO 8126082), DIAMOND 8, and YUK TUNG (IMO 9030591) anchored in proximity. Each of these vessels has either delivered fuel directly to North Korea or has been identified conducting STS transfers with DPRK-flagged tankers.¹¹²

While these vessels captured in imagery appeared largely comfortable with broadcasting their positions within Chinese waters, there were also times when they experienced AIS transmission gaps during which the nature of their activities was unknown. Failure to transmit on AIS is a violation of both domestic Chinese and international maritime regulations.¹¹³ Furthermore, paragraph 9 of UNSC Resolution 2397 dictates that Member States shall seize, inspect, and impound any vessel within their ports if the Member State has reasonable grounds to believe the vessel was involved in activities that violated resolutions pertaining to North Korea. For vessels not directly in port, but within the territorial waters of Member States, the resolution stipulates that Member States may seize, inspect, and impound vessels suspected of violating the same resolutions.¹¹⁴

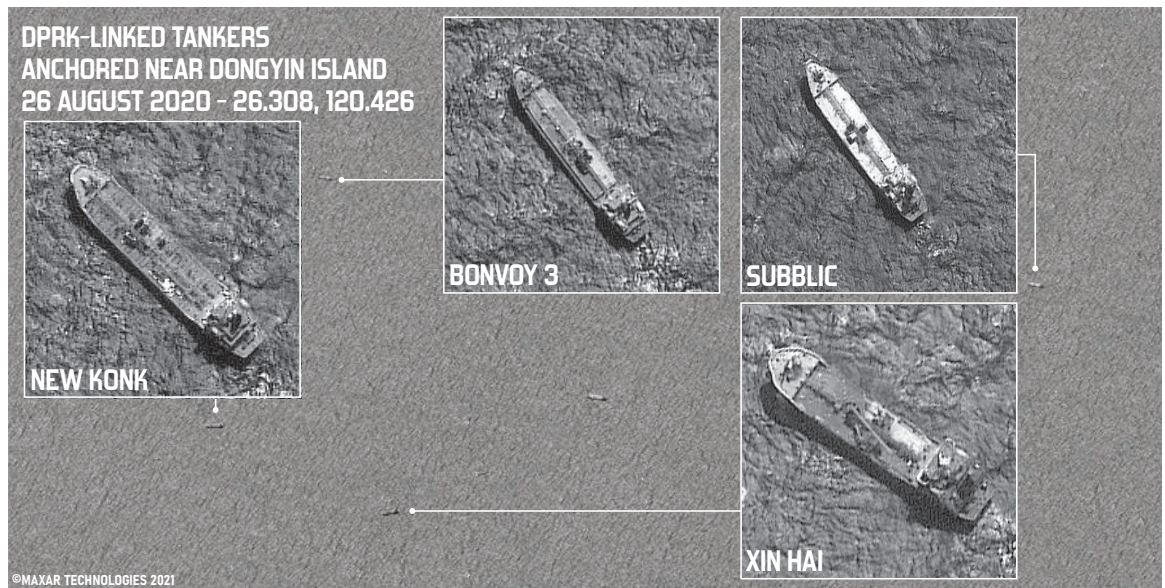
In several instances seen in satellite imagery and AIS transmissions, vessels identified by the UN as having engaged in North Korean fuel smuggling have operated in China's territorial waters seemingly without being detained. This suggests these vessels may be habitually and deliberately using Chinese territorial waters as a safe harbor, which would mean that China is not exercising its full mandate and duty as a part of the international community by taking steps to curb North Korea's evasion of sanctions. In this regard, the following image shows what appears to be a People's Liberation Army Navy (PLAN) Type 053 frigate passing by the cluster of anchored vessels, including the UN-sanctioned YUK TUNG and the XING MING YANG 888, the latter of which was recommended for designation by the Panel for having conducted STS transfers with North Korean vessels in 2018.¹¹⁵



Satellite imagery of direct delivery vessels, the UN- and US-sanctioned YUK TUNG, and a PLAN vessel in Sansha Bay on 1 November 2020. Source: Imagery provided by Maxar Technologies.

Similarly, in August 2020, a satellite image taken over Dongyin Island shows the NEW KONK, BONVOY 3 (IMO 8714085), SUBBLIC, and XIN HAI (IMO 9129213) nearby and anchored in close proximity. While the XIN HAI has not previously been publicly identified as visiting North Korea, evidence collected for this report suggests it did so in 2020.¹¹⁶

Satellite imagery of direct delivery vessels anchored near Dongyin Island on 26 August 2020. Source: Imagery provided by Maxar Technologies.



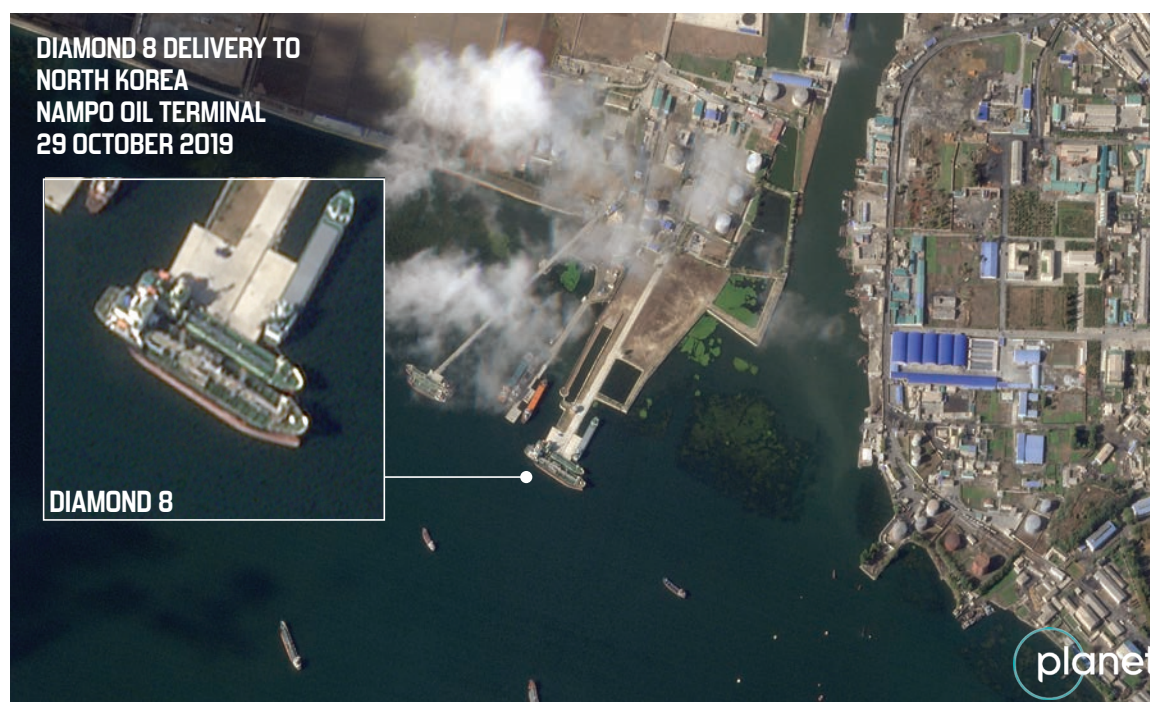
Sansha Bay and Fujianese coastal waters have previously been presumed to be a safe haven and likely staging point for illicit transfers. In April 2019, two UN-sanctioned vessels, the NEW REGENT (IMO 8312497) and the SHANG YUAN BAO (IMO 8126070),¹¹⁷ were imaged in the area while anchored near another China-flagged tanker, the YUN HONG 8.¹¹⁸ The Panel later identified the YUN HONG 8 as a direct delivery vessel shuttling oil procured from STS transfers at sea to Nampo port in North Korea.¹¹⁹

China has inconsistently participated in the North Korean sanctions regime. It is no coincidence that these high-risk direct delivery tankers often loiter in Chinese territorial waters and EEZ, outside the reach of authorities in other states and multilateral enforcement efforts. China's EEZ and, in particular, some areas in the East China Sea and Yellow Sea, are often hotspots for other forms of North Korean maritime sanctions evasion, such as the country's export of coal.¹²⁰ The ability of direct delivery tankers to find sanctuary in Chinese waters represents a critical vulnerability in the international sanctions regime; among tanker types involved in the supply chain, these vessels are likely the ones most directly associated with North Korean interests and also most important to the country's fuel procurement operations.

The following case study of the DIAMOND 8 (IMO 9132612), a UN-identified direct delivery tanker, shows how the vessel and its owners and manager appear to have exploited the shuttle system to procure and deliver fuel to North Korea, as well as their apparent efforts to conceal their activities in doing so.

The Shuttle System in Action: The Case of the DIAMOND 8

According to the Panel, the DIAMOND 8, formerly a Sierra Leone-flagged oil products tanker, delivered refined petroleum to North Korea three times between October 2019 and March 2020.^{121 122 123} The DIAMOND 8 is one of at least 13 foreign-flagged tankers, the largest by DWT, which contributed to North Korea's breach of the oil sanctions cap in 2020.¹²⁴ As noted above, when fully laden, the DIAMOND 8 alone could breach the UN-imposed cap on petroleum imports with only eight deliveries.¹²⁵



Satellite imagery of the DIAMOND 8 in Nampo port, North Korea on 29 October 2019. Source: Imagery provided by Planet Labs.

The DIAMOND 8 displays many of the characteristics of direct delivery vessels highlighted in this section; it receives fuel from larger tankers, via STS transfers, off the coast of Kaohsiung and travels north up the Taiwan Strait, through the East China Sea, and into the Yellow Sea, before traveling to North Korea, presumably to unload fuel. The DIAMOND 8's AIS transmissions are intermittent and often missing during the most incriminating parts of its journey, as it conducts STS transfers and when it appears to travel to North Korea.¹²⁶ Between its journeys to Taiwan and North Korea, the vessel has often anchored in Sansha Bay and other areas off the coast of Fujian province.¹²⁷

However, using satellite imagery and AIS data, this investigation discovered three previously unreported potential STS transfers between the DIAMOND 8 and foreign-flagged tankers in Taiwanese waters taking place in 2020. One of these meetings preceded a direct delivery to North Korea, while the remaining two occurred after the Panel had publicly recommended the vessel for designation.¹²⁸ These apparent STS transfers demonstrate how the shuttle system described in the previous section has enabled a tanker recommended for designation, such as the DIAMOND 8, to procure fuel in Taiwanese waters. They also raise the question of whether the supplier vessels are facilitating the DIAMOND 8's deliveries of fuel in violation of UNSC sanctions.

The DIAMOND 8's Historical Connections to North Korea

Like many of the oil tankers identified above, the DIAMOND 8 has, since 2019, been a regular visitor to the waters of Sansha Bay in China and Taiwan. Although the DIAMOND 8 was identified by the Panel as having made its first petroleum delivery to North Korea in October 2019, the vessel's AIS transmission history reveals it may have conducted DPRK-related shipments as early as 2017.¹²⁹

Between March 2011 and August 2016, the DIAMOND 8—then named the ANGEL 22—was reportedly operated by an organization named the Winson Group.¹³⁰ The vessel's AIS transmissions during this period show it was active in the middle of the Pacific Ocean and off the coast of South America, likely engaged in bunkering operations for fishing vessels.¹³¹

In July and August of 2016, when the vessel moved to a new ship manager and operator, registered in Samoa,¹³² its activities changed dramatically. The vessel appeared to begin sailing almost exclusively in the Taiwan Strait after loitering outside Taiwanese ports, such as Kaohsiung and Taichung. The vessel's pattern of AIS transmissions also experienced a marked change: regular transmissions stopped and large gaps opened up in its positional signals, particularly as the vessel sailed toward Chinese waters.¹³³ This change in pattern was mirrored elsewhere, as the vessel repeatedly changed names while varying its flags, operators, managers, and owners.¹³⁴ In two instances, the vessel's new owners, with registration first in Samoa and then in Seychelles, changed the vessel's name to the ROYAL PRINCESS and the ROYAL ACE, respectively, adopting the prefix used by Winson in its wider fleet.¹³⁵

The DIAMOND 8's first trip to North Korea appears to have been in 2017, when the vessel was named the ROYAL ACE.¹³⁶ Satellite imagery taken before this trip, in May 2017, over a shipyard in Kaohsiung, Taiwan, shows the ROYAL ACE being repaired in the drydock, potentially in preparation for an extended journey of six months.¹³⁷ Shortly after this visit to the shipyard, the ROYAL ACE sailed from Taiwan on 27 May 2017, toward the Russian Far East, visiting an oil terminal in Slavyanka on 1 June 2017.¹³⁸



Left: Satellite imagery of the DIAMOND 8—then known as the ROYAL ACE—anchored in Kaohsiung, Taiwan in May 2017. Source: Imagery provided by Maxar Technologies. Right: Voyage of the ROYAL ACE to the Russian Far East and North Korean territorial waters. Source: AIS data provided by Pole Star Space Applications; map visualization powered by Unfolded.ai.

Russian port and trade records from 1 June 2017 show that the vessel reportedly loaded USD 117,200 worth of fuel oil at the port of Slavyanka and recorded its destination as Kaohsiung in Taiwan.¹³⁹ However, AIS data show the ROYAL ACE apparently sailed directly into North Korean territorial waters on 3 June 2017, on a course for Wonsan port, and did not reappear on AIS tracking platforms until 5 June 2017, when it left North Korean territorial waters.¹⁴⁰ While vessels sometimes sail into nearby ports because of bad weather, historical weather data¹⁴¹ and satellite imagery appears to show no adverse weather conditions at the time of the ROYAL ACE's visit to North Korean territorial waters.¹⁴²

Feb. 2020

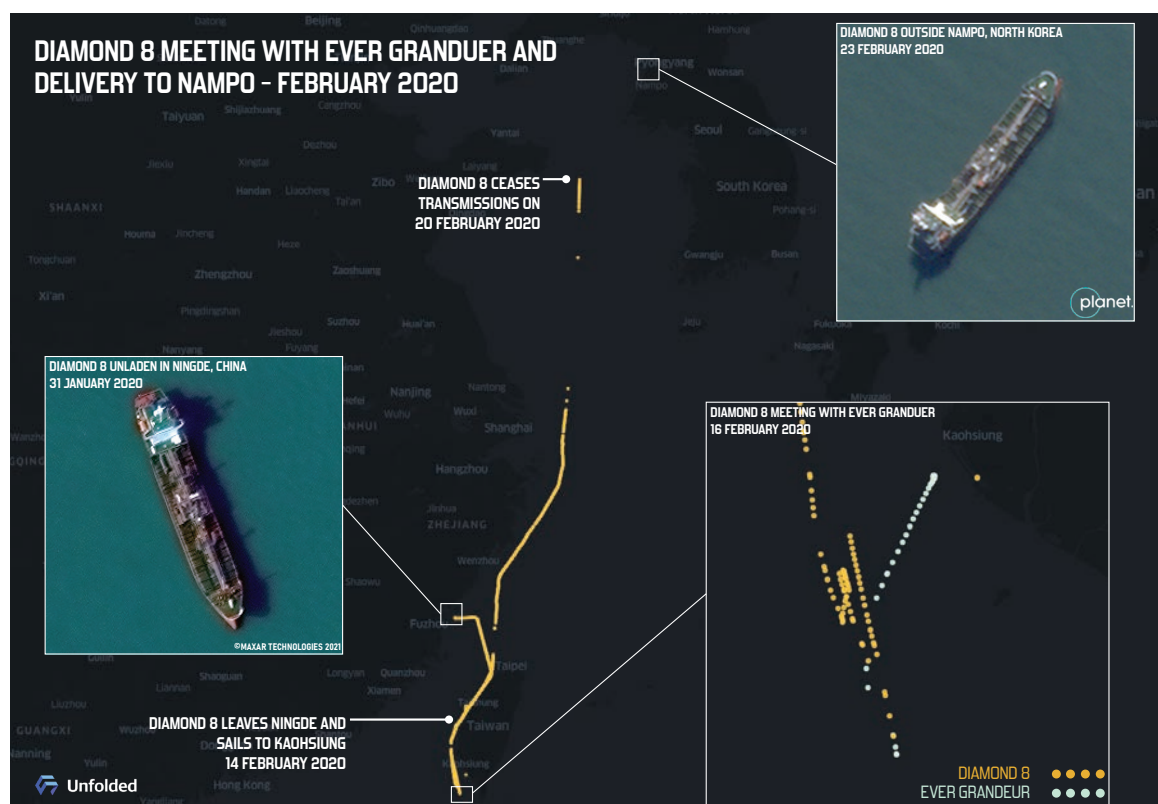
May 2020

Jun. 2020

Possible February 2020 STS Transfer: The DIAMOND 8 and the EVER GRANDEUR

On 16 February 2020, AIS data from the DIAMOND 8 and the EVER GRANDEUR (IMO 9296559)¹⁴³, a large Panama-flagged products tanker, showed the vessels in proximity to each other, suggesting an STS transfer in waters southwest of Kaohsiung port. Following this apparent meeting, the DIAMOND 8 sailed north through the Taiwan Strait, with its AIS transmissions dropping in the Yellow Sea on 20 February 2020. Three days later, on 23 February, the DIAMOND 8 was captured on high-resolution imagery outside Nampo port, North Korea, sitting low in the water and thus indicating it was likely laden with cargo. On 27 February 2020, an image published by the Panel showed the DIAMOND 8 making a delivery at the Nampo oil terminal.¹⁴⁴

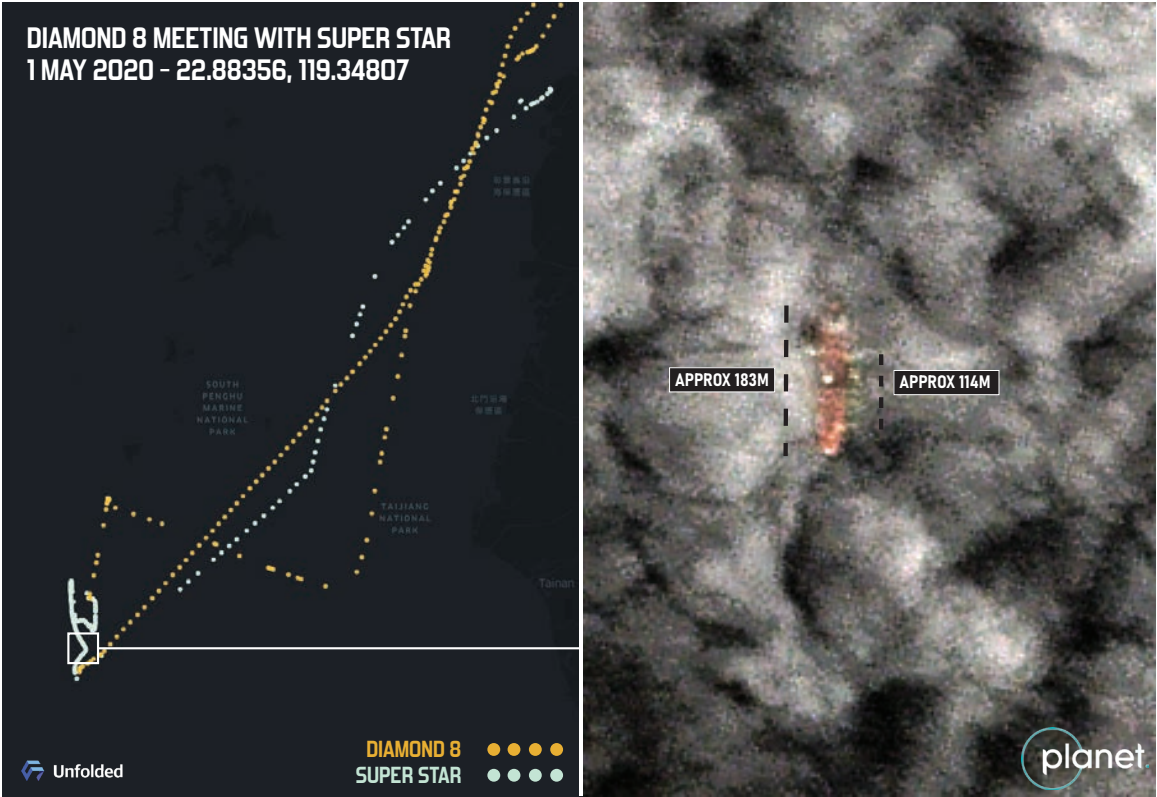
Voyage of the DIAMOND 8 in February 2020, from Ningde, China to Kaohsiung, Taiwan and then to North Korea. Source: Imagery provided by Maxar Technologies and Planet Labs; AIS data provided by Pole Star Space Applications, Geolcollect, and Windward; map visualization powered by Unfolded.ai.





Possible May 2020 STS Transfer:
The DIAMOND 8 and the SUPER STAR

On 1 May 2020, the DIAMOND 8 appeared to meet the SUPER STAR (IMO 9085388)¹⁴⁵—a large products tanker at the time flagged to Nauru—in waters southwest of Taiwan's Penghu Islands. Prior to its meeting with the DIAMOND 8, port records indicate that the SUPER STAR loaded 36,200 tons of diesel fuel from a Taiwanese petrochemical company at Mailiao port in Taiwan.¹⁴⁶ AIS data suggest the vessels were likely engaged in an STS transfer for several hours, while satellite imagery shows the two vessels side-by-side at these coordinates.

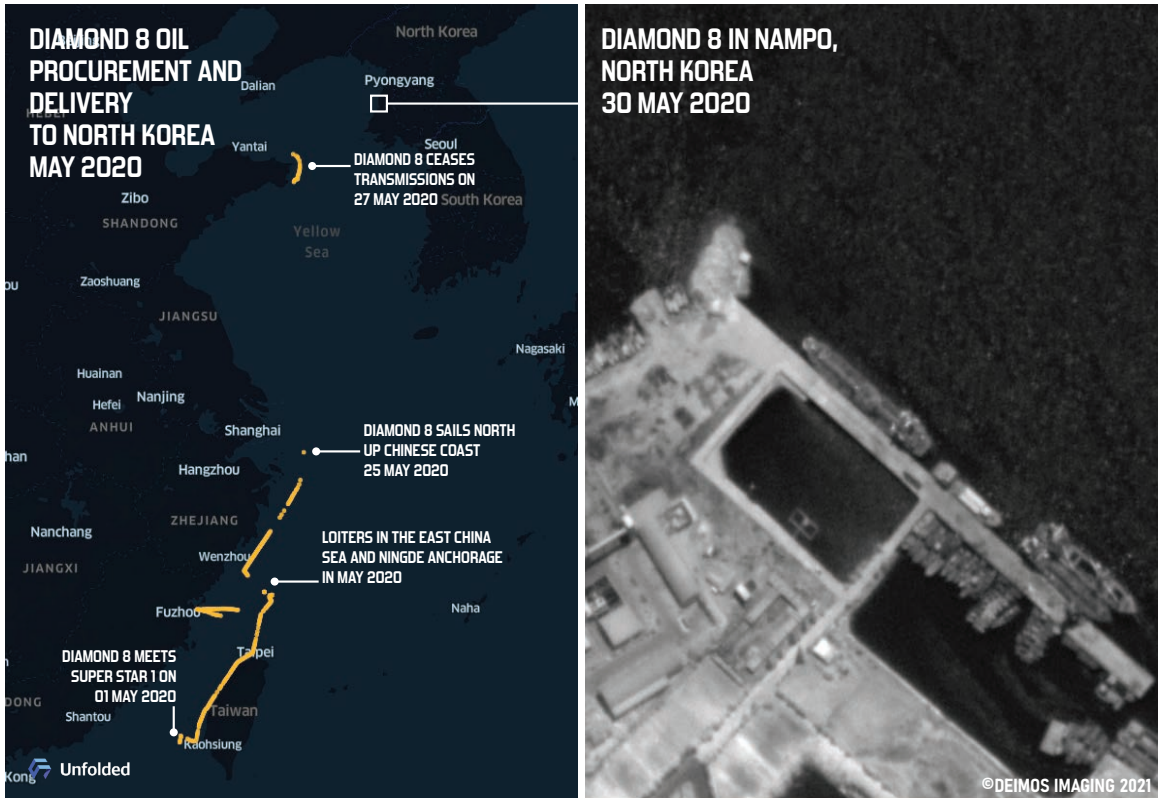


Left: The DIAMOND 8 and the SUPER STAR's AIS transmissions on 1 May 2020. Source: AIS data provided by Pole Star Space Applications, Geolcollect, and Windward; map visualization powered by Unfolded.ai. Right: The DIAMOND 8 and the SUPER STAR's apparent meeting on 1 May 2020. Source: Imagery provided by Planet Labs.



After its apparent meeting with the SUPER STAR, AIS data show that the DIAMOND 8 once again sailed north through the Taiwan Strait. Available AIS data for the DIAMOND 8 indicate that the vessel likely loitered in the East China Sea, where it may have met with another tanker before returning to Sansha Bay. On 30 May 2020, the vessel was captured on satellite imagery at a shipyard in Nampo port, North Korea.¹⁴⁷

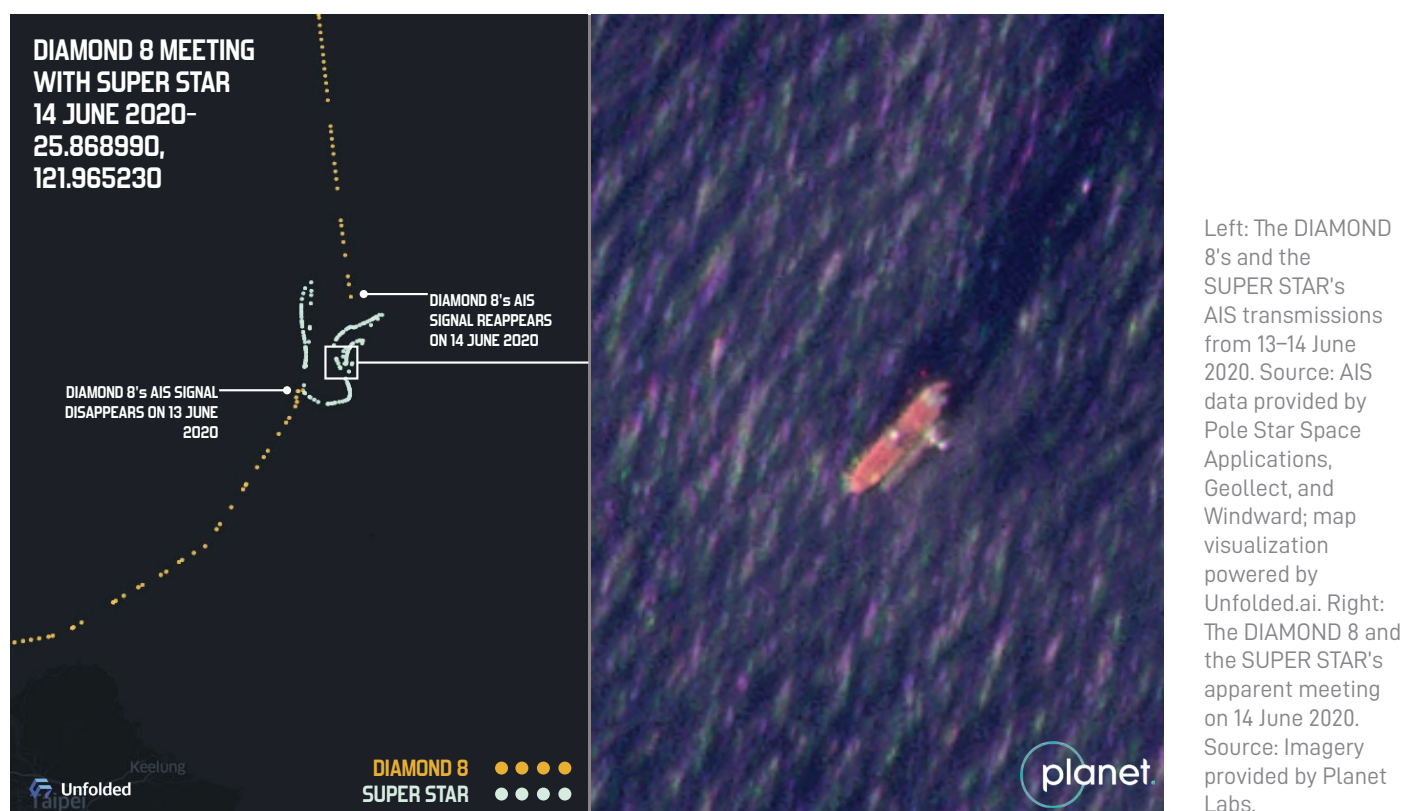
Left: The DIAMOND 8's oil procurement and delivery in May 2020. Source: AIS data provided by Pole Star Space Applications, Geolcollect, and Windward; map visualization powered by Unfolded.ai. Right: The DIAMOND 8 in Nampo, North Korea on 30 May 2020. Source: Imagery provided by Deimos Imaging.





Possible June 2020 STS Transfer: The DIAMOND 8 and the SUPER STAR

On 14 June 2020, two weeks after it was last seen with satellite imagery in North Korea, the DIAMOND 8 appears to have conducted yet another possible STS transfer with the SUPER STAR, in Taiwan's northern EEZ. AIS data show the DIAMOND 8 sailed into the area where the SUPER STAR was loitering before the DIAMOND 8's signal disappeared for 13 hours. During this time, satellite imagery shows the SUPER STAR alongside a vessel that appears to be the DIAMOND 8.¹⁴⁸



These repeated apparent STS transfers with the DIAMOND 8 in 2020, a vessel recommended for designation by the Panel, show a failure of basic compliance protocols by the operators of supplier vessels, at a minimum; less charitably, these apparent transfers demonstrate complicity in facilitating breaches of UNSC sanctions on North Korean fuel imports. In either case, if these STS transfers did indeed occur, the supplying parties are enabling fuel to be possibly diverted from the licit market to North Korea.

Given this information, several other questions warrant our attention: Who is responsible for the DIAMOND 8? What do its activities tell us about the parties involved in the North Korean illicit fuel smuggling supply chain? Like many other direct delivery vessels, the real owners and operators of the DIAMOND 8 are shrouded behind a veil of corporate secrecy. In the following sections, we analyze the networks behind the DIAMOND 8 and its counterparty vessels, exploring the regional context of smuggling networks to answer such questions. While the illicit actors behind the DIAMOND 8's operations have attempted to distance themselves from this allegedly "dirty" vessel (as that term has been used previously in this report), our investigation tells a different story: demonstrating that both reportedly long-established organized criminals and a regional oil trading and bunkering industry giant have functioned as key nodes in North Korea's illicit fuel procurement efforts.

Section 03

The Smugglers of Shishi

As demonstrated by the case of the DIAMOND 8, the foreign-flagged tankers identified by the Panel delivering oil to North Korea in contravention of UN resolutions appear to operate in the waters around Taiwan and off the coast of Fujian. We found that this region, and especially the county-level city of Shishi in Quanzhou, Fujian province, is the geographic hub uniting several of the actors and networks involved in the operation and ownership of the DIAMOND 8, plus those involved in other instances of fuel smuggling to North Korea.



Map of Shishi City, Fujian province, China. Source: Map visualization powered by Unfolded.ai.

Shishi has historically been the home to some of China's most prolific smugglers and organized crime syndicates. As one of China's gateways to Southeast Asia and Taiwan, the coastal cities of Fujian have served as a major shipping hub of goods—both licit and illicit—between the countries, long functioning as a critical node for smugglers of cigarettes, ivory, wildlife, drugs, timber, fuel, and counterfeit designer goods on their way in and out of China.^{149 150 151 152 153 154} At the advent of China's reform and opening up, in 1989, smuggling was reportedly so widespread and lucrative that Shishi was known as one of the "richest [communities] in China," where "fishermen" would head out to sea to barter and smuggle foreign goods.¹⁵⁵

From Empire to Exile: The Story of Lai Changxing

Lai Changxing (赖昌星), one of the most notorious Chinese bootleggers in history, helped cement Shishi's notoriety as a freewheeling smuggling town.¹⁵⁶ Born into a peasant family in Fujian province in 1958, Lai made a fortune selling automobile parts and running a variety of other businesses in the 1980s.¹⁵⁷ In 1991, Lai emigrated to Hong Kong under a different name,¹⁵⁸ a move he later claimed was facilitated by a senior official at Fujian's Public Security Bureau.¹⁵⁹ From that point, one of Lai's first smuggling operations, which was on behalf of the People's Liberation Army (PLA), reportedly involved moving computer chips into China through one of his Hong Kong companies.¹⁶⁰



Lai (left) talks to reporters outside his residence in Vancouver, British Columbia June 1, 2006. REUTERS / Andy Clark

In a few years, Lai would found the Yuanhua Group (远华集团有限公司) and expand it into a multibillion-dollar empire that smuggled oil, cigarettes, cars, and electronics into China with Shishi as its base of operations.¹⁶¹ At the time, Lai reportedly moved about in a chauffeur-driven, bulletproof Mercedes with white plates signifying that the vehicle belonged to the PLA's General Staff Department (GSD).¹⁶² While fraudulently acquired military number plates appear to have been relatively common at the time,¹⁶³ Lai's relationship with the GSD and the Chinese authorities became a recurring theme in later years.

As the unrivalled kingpin of Fujianese smugglers, Lai funneled his proceeds into real estate, philanthropy,¹⁶⁴ and the construction of an expansive clientelist network in the intelligence services, the PLA, law enforcement, customs, and central government, all of which protected

his business operations.^{165 166} The scale of Lai's operation was staggering: his networks reportedly moved USD 10 billion worth of goods between 1996 and 1999 alone. According to media accounts, at one point Lai's network smuggled at least 4.5 million tons of oil products and was reportedly responsible for one-sixth of China's oil imports.^{167 168 169}

With his empire built around familial connections and informal friendship networks, Lai bribed hundreds of officials with cash, luxury cars, imported spirits, houses, and even prostitutes, enabling him to operate with impunity as he moved contraband into the country.¹⁷⁰ These connections extended to the very heart of China's security apparatus, including the director of the GSD's Second Department—responsible for the PLA's human intelligence operations—and the Deputy Minister of Public Security in Beijing, both of whom were later arrested for taking bribes from Lai.¹⁷¹

Lai was later to claim that the GSD's Second Department was involved in smuggling RMB (Renminbi) 30 billion worth of goods using individuals who were issued one-way permits to settle in Hong Kong.¹⁷² Several other reports indicate that senior military officers were directly involved in the oil smuggling operations in Xiamen at the time,¹⁷³ while Lai allegedly employed the children of senior military officers, primarily in the GSD and PLA Navy (PLAN).¹⁷⁴ Some reports further allege that the PLAN provided vessels and military docks to facilitate the smuggling.¹⁷⁵

Lai's operations were eventually shut down when Jiang Zemin, then General Secretary of the Chinese Communist Party (CCP), initiated a crackdown on PLA smuggling operations and issued directives requiring the armed forces to divest their assets and cease commercial activities.¹⁷⁶ While Lai was tipped off and managed to escape to Canada, he was eventually repatriated to China to face trial; many of his associates and fellow smugglers were arrested, tried, and sentenced—some of them to death.¹⁷⁷

Despite this, fuel smuggling, driven by the ongoing cross-Strait pricing arbitrage, appears to have continued unfettered. Throughout the past decade, Chinese state media articles have detailed multiple crackdowns against fuel smuggling gangs in Shishi and nearby cities in Fujian province, often involving volumes of fuel in the hundreds of thousands of tons—an amount capable of generating profits in the billions of yuan.^{178 179 180} While local Chinese authorities have launched several anti-smuggling campaigns, intermittently cracking down on these cross-Strait smugglers who undercut the bottom line of Chinese refineries, there are many who appear to carry on uninterrupted, especially those with powerful connections and influence.

In an interview from his prison cell in Canada on 24 February 2001, Lai alleged that several of his former partners and acquaintances from Shishi had escaped and were hiding in Hong Kong and further afield.¹⁸¹ Research conducted for this investigation indicates that, after fleeing abroad, some of these individuals now hold senior positions in CCP-linked organizations and Shishi hometown associations active in Taiwan, Hong Kong, Macau, and China. Prominent news reporting indicates that these networks are embedded with Fujianese organized criminal gangs (福建幫) operating out of Hong Kong's North Point, a Fujianese neighborhood with strong pro-Beijing leanings.^{182 183 184}



Lai (center) surrounded by the media while listening to a question during a press conference after a Canadian immigration panel denied his request to remain in Canada, in Vancouver June 21, 2002. REUTERS/Jeff Vinnick JV/HB

In a number of instances studied for this report, North Korean fuel procurement networks traced back to people from Shishi, specifically those active in the above-mentioned grassroots associations. This therefore links North Korea's contemporary smuggling operations to the criminal networks that once surrounded Lai.

The sections to follow tell the story of three alleged Shishi smugglers who have so far escaped the authorities, each of whom is likely a graduate of the same middle school in Yongning Township, Shishi.¹⁸⁵ These individuals appear to share Lai's entrepreneurial drive and now sit at the heart of a loose federation of Shishi-linked smugglers with interests seeming to intersect in DPRK-related fuel smuggling.



Tony Tung a.k.a. Tung Yan Yeuk (董欣跃), the founder of the Winson Group, a major regional oil conglomerate.



Wong Tin Chuk (王天祝), an alleged member of a Fujianese organized crime group with ties to the CCP.



Tsoi Ming Chi (蔡命賜), a possible oil trader with ties to the Winson Group.

The stories of these individuals differ, but they all begin in Shishi and end with connections to North Korea's illicit fuel procurement through the DIAMOND 8.

Section 04

Organized Criminal Links to North Korean Fuel Smuggling

The three aforementioned alleged Shishi smugglers who have succeeded Lai Changxing (赖昌星)—Tony Tung, Wong Tin Chuk, and Tsoi Ming Chi—each appear to have their own individual connection to North Korea's illicit fuel supply chain, while maintaining connections to one another through their regional roots. In this section, we delve into each of their stories and highlight where their networks appear to overlap.

One individual—Tony Tung—has been especially successful. He is the founder of the Winson Group, a multinational oil trading and bunkering empire, which appears to sit at the crux of this illicit smuggling network.¹⁸⁶ Tung, who reportedly started out as a cigarette smuggler in Fujian, is a giant in the region's fuel market today and has amassed a fortune from oil trading.¹⁸⁷

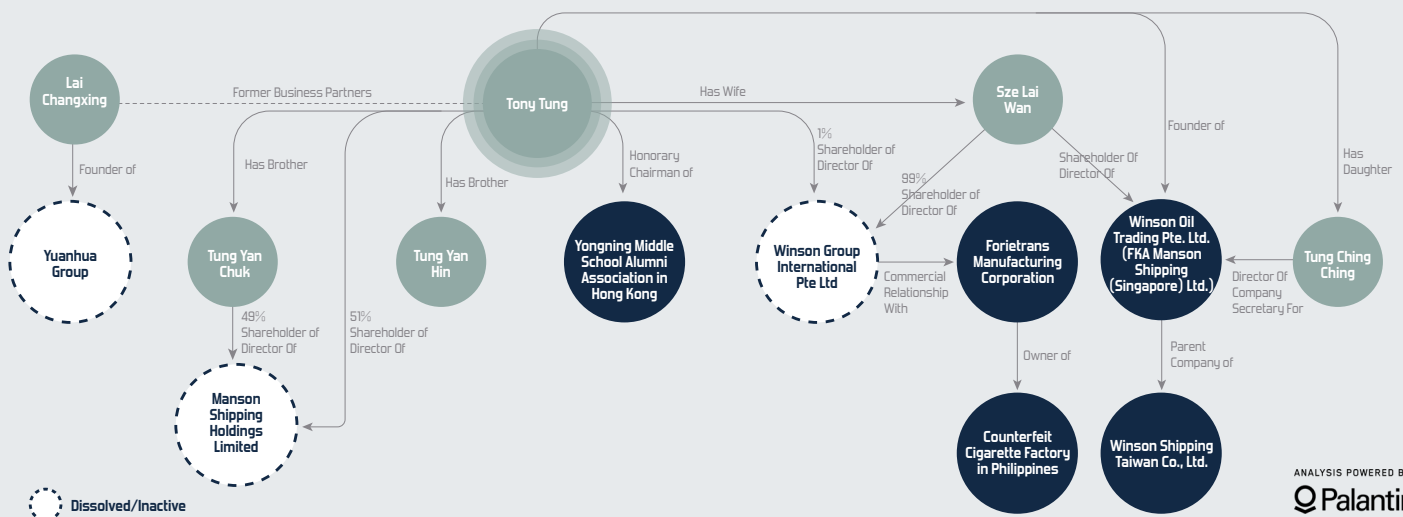
Tony Tung and the Winson Group



Tony Tung was one of three brothers born to a peasant family in the coastal city of Xiamen, China.¹⁸⁸ While Tung reportedly started his career as a fishmonger, his entrepreneurial talents were soon applied elsewhere. As one of China's first four special economic zones, Xiamen was a boomtown in the 1990s.¹⁸⁹ But as Xiamen's economy grew, however, the region became a hotbed of organized crime and illicit activity,¹⁹⁰ acting as the cradle for a new generation of wealthy smugglers whose reach would eventually spread from the provincial waters of Fujian to the very corridors of power in Beijing.¹⁹¹

Like Lai, Tung and his two brothers—Tung Yan Hin (董欣宪) and Tung Yan Chuk (董欣束)—apparently made their fortune smuggling large volumes of cigarettes into China, first through Xiamen and then through Zhoushan, where they reportedly leased their own wharf to unload products.¹⁹² Some Chinese media accounts indicate that, in the mid-1990s, the Tung brothers smuggled cigarettes with Lai Changxing's nephew, with Tung reportedly responsible for procuring the goods and Lai's nephew reportedly handling their sale and distribution throughout China.¹⁹³ These operations apparently proved highly profitable for the Tung brothers, who reportedly smuggled enough cigarettes to evade RMB 640 million in taxes.¹⁹⁴

In the late 1990s, Lai reportedly drove the Tung brothers out of Xiamen¹⁹⁵. After relocating to Zhoushan, the brothers were reported to have expanded their smuggling portfolio to include diesel from overseas. They had also allegedly bribed several high-ranking provincial customs officials and border defense officers to ensure their contraband would not be intercepted.¹⁹⁶ Over a three-month period in 1999, the Tung brothers allegedly smuggled 33,000 metric tons of diesel, evading RMB 20 million in taxes. That same year, Chinese law enforcement eventually arrested Tung Yan Chuk, while Tony Tung and Tung Yan Hin escaped the country.¹⁹⁷ Despite being sentenced to life in prison, Tung Yan Chuk was reportedly released shortly afterward for medical reasons and was fully pardoned in 2019.¹⁹⁸



After escaping abroad, the Tungs began expanding what is now known as the Winson Group. Corporate registry documents indicate that, in 1996, Tony Tung registered a Hong Kong-based shipping company called Manson Shipping Holdings Ltd. (萬順船務集團有限公司), as well as the Singapore-based Manson Shipping (Singapore) Ltd., in 1998.²⁰⁰ The latter company would eventually become Winson Oil Trading Pte. Ltd., before evolving into Winson Group's trading arm and taking advantage of Singapore's growing role as Asia's primary oil trading hub.²⁰¹

Through the Winson Group, Tung appeared to continue his syndicate's illicit activities, which expanded to allegedly include the manufacturing of counterfeit cigarettes.²⁰² Media reports suggest the syndicate manufactured counterfeit cigarettes at factories in Fujian, China, the Philippines, and even at a facility in Rajin, North Korea.^{203 204} One factory in the Philippines linked to the Winson Group was raided in August 2004, leading to a large seizure of allegedly counterfeit cigarettes and cigarette-manufacturing machines.²⁰⁵ A memorandum of agreement dated 7 January 2004 between Winson Group International Pte. Ltd. and the factory's owner—Forietrans Manufacturing Corporation (FMC)—describes Winson Group International as "engaged in the bulk manufacture and sale of cigarettes worldwide."²⁰⁶ Tung, who is listed as the director of Winson Group International on the agreement, appears to have signed the document along with the president of FMC.²⁰⁷ Other documents seen by the authors show Tung's associates apparently visiting North Korea to conduct a site visit for a factory in Rajin in 2007.²⁰⁸ What became of these plans remains unknown, although North Korea's ongoing efforts to produce and export counterfeit cigarettes are well documented.²⁰⁹

Memorandum of agreement between Winson Group International Pte. Ltd. and Forietrans Manufacturing Corporation dated 7 January 2004.

MEMORANDUM OF AGREEMENT

This Agreement, made and entered into this 7th day of January, 2004, at the City of Manila, Philippines, by and between:

WINSON GROUP INTERNATIONAL Pte. Ltd., a partnership duly organized and existing under and by virtue of the laws of Singapore with principal office located at No. 3 Shenton Way, #20-00A, Shenton House, Singapore, represented in this contract by its Director, **Mr. TONY TUNG**, hereinafter referred to as "WINSON";

- and -

FORIETRANS MANUFACTURING CORPORATION (FMC), a corporation duly organized and existing under the laws of the Republic of the Philippines with principal office located at Bldg. 2, Lot 7, Angeles Industrial Park, Special Economic Zone, Brgy. Calatagan, Bataan, Pampanga, Philippines, represented in this contract by its President, [REDACTED], hereinafter referred to as the "FORIETRANS";

WHEREAS, FORIETRANS has a unique experience, special skills and techniques as well as profound knowledge in connection with the manufacture of cigarettes;

WHEREAS, FORIETRANS has produced a certain brand of cigarette by the name of "Dagata";

WHEREAS, WINSON is likewise engaged in bulk manufacture and sale of cigarettes worldwide;

WHEREAS, WINSON is interested to market the said cigarette worldwide;

NOW, THEREFORE, for and in consideration of the foregoing, the parties hereto, intending to be legally bound in consideration of the mutual agreement, covenants and promises contained herein, do hereby agree as follows:

1. Within the month of February, 2004, FORIETRANS shall deliver to WINSON master cases of sample Dagata cigarettes for taste testing and review by the latter.
2. All expenses relating to the shipment, tracking and exportation of said cigarette from FORIETRANS to WINSON shall be borne by the latter.
3. Within the month of March, 2004, after WINSON has been convinced of the viability and feasibility of the said product, it shall communicate verbally or in writing, to FORIETRANS its acceptance of the same and the latter shall in turn, deliver the former of the specifications of the machines and equipments as well as raw materials needed for the bulk production of Dagata cigarettes.
4. All expenses relating to the shipment, tracking, and importation of the machines and equipments shall be borne by WINSON.
5. Upon assembly, inspection, and acceptance of the machines and equipments by FORIETRANS, it shall sign an agreement for the manufacture of Dagata

6. All machines and equipments as well as the raw materials for the production of Dagata cigarettes shall be supplied by WINSON to FORIETRANS.

7. The service charge of FORIETRANS shall incorporate its royalty fee for its proprietary rights over the trademark "Dagata".

8. This agreement shall likewise insure to the benefit and bind the parties' respective assigns, successors-in-interest, or duly authorized representatives.

IN WITNESS WHEREOF, the parties hereto, having been duly appraised of their rights and obligations under this contract and having understood the same, and intending to be legally bound hereby, have duly signed and executed this Agreement on the date and at the place first above-written.

WINSON GROUP INTERNATIONAL Pte. Ltd.
First Party
By: **Mr. TONY TUNG**
Director

FORIETRANS MANUFACTURING CORPORATION
Second Party
By: [REDACTED]
President

SIGNED IN THE PRESENCE OF:

ACKNOWLEDGMENT

BEFORE ME, a Notary Public for and in the City of Manila, Philippines, this 7th day of January, 2004, personally appeared:

Name: **TONY TUNG** CTC/Pasport No. [REDACTED] Date/Place issued [REDACTED]

known to me to be the same persons who executed the foregoing Memorandum of Agreement and they acknowledged to me that the same is their free act and deed.

This instrument which consists of two (2) pages including the page on which this acknowledgment is written, has been signed by the parties and their instrumental witness on the left margin of each and every page thereof.

WITNESS MY HAND AND SEAL on the date and at the place first above-written.

Doc. No. [REDACTED]
Page No. [REDACTED]
Book No. [REDACTED]
Series of 2004 [REDACTED]

Notary Public

Amid Winson's regional expansion, Tung appears to have maintained connections with the local community in Shishi. Tung, an alumnus of Yongning Middle School, serves as a lifetime honorary president of the school's alumni association.²¹⁰ According to media reports, Tung has also been donating money to the Shishi City area through the Donglun Huashi Hongju Charity Foundation (董伦华施红桔慈善基金会), which he founded in 2014.²¹¹

I The Winson Group Today

The Winson Group, originally established “to operate oil product wholesale trading, vessel transportation, property and real estate investments in Singapore,”²¹² has become a large oil trading and bunkering conglomerate with offices in Singapore, Taiwan, Hong Kong, China, the United Arab Emirates, and other Asian countries.²¹³ As the size and scope of its operations grew, Winson built a robust oil storage and transportation network that has enabled it to operate around the world. Archived versions of the company’s website, dating to 2012, describe the logistics behind its global bunkering business: large mothership tankers load oil and petroleum products from regional refineries and distribute them at sea to fishing fleets using smaller vessels that act as floating gas stations.²¹⁴ Notably, this structure closely mirrors that of the shuttle system underpinning North Korea’s illicit fuel supply chain, described earlier in this report.

Maritime databases indicate that the Winson Group and its associated entities own and operate nearly three dozen tankers, ranging from VLCC class vessels to small coastal tankers.^{215 216} This impressive gross tonnage carries and transfers the company’s reported annual bunkering volume of over 15 million metric tons.²¹⁷ Given the size of Winson’s business, media reports of its trading activities in recent years show the company placing orders for millions of barrels of oil and petroleum products, which were large enough to shift market prices.^{218 219} According to the company’s website, the Singaporean government has granted Winson preferential tax rates as a part of a national program to support companies that can boost Singapore’s wholesale trade sector.²²⁰

Despite its prominence in the regional energy market, Winson is a privately held company that does not publish detailed financial information or annual reports; however, facility loan agreements involving Winson-owned vessels shed light on the scale of its financial activities and beneficiaries. One such agreement for a syndicated loan to Winson of USD 129 million, dated 24 October 2019, showed that it had secured a total of USD 3.5 billion in credit facilities from 16 banks.²²¹ The listed guarantors of this loan were a Winson entity, as well as two individuals who appear to be the wife and daughter of Tony Tung, Winson’s founder and chairman.^{222 223} Indeed, corporate registry and financial documents from across Asia and several secrecy jurisdictions show members of the Tung family serving as officers and shareholders of dozens of entities in the Winson Group.²²⁴

Bribery and Corruption Court Cases Involving the Winson Group

Despite the impressive standing of the company today, the Winson Group and its executives—including Tony Tung—have been implicated in multiple bribery and corruption cases involving legislators and law enforcement authorities, according to Taiwanese court records and media reports.

In 2000 and in 2008, a Winson Group subsidiary, Jiu-Li Shuen Trading Co., Ltd. (聚利順貿易股份有限公司), twice applied for a business license from Taiwanese administrative agencies to anchor one of its mothership tankers seven nautical miles outside Kaohsiung port to conduct oil transfers.²²⁵ After both applications were ultimately rejected, Tung sought assistance from Chung Shao-ho (鍾紹和), who was a Taiwanese legislator at the time.²²⁶ According to prosecutors, Chung used his capacity as a legislator to set up coordination meetings between Winson employees and the relevant administrative agencies to discuss Winson's application and policies favorable to the company.²²⁷ Chung is widely reported to have accepted a NTD 3 million bribe from Tung and was prosecuted as a result, although Tung faced no charges.^{228 229 230 231 232} On 18 October 2018, Taiwan's Supreme Court upheld Chung's conviction, sentencing him to seven and a half years of imprisonment on corruption charges.²³³

In the same year that he reportedly bribed Chung Shao-ho, Tung was one of several defendants in a second case involving alleged bribery, this one implicating officers of Taiwan's Coast Guard based at the Penghu Islands.²³⁴ This second case outlines the alleged business model of the Winson Group from 2009 to 2011: specifically, purchasing oil products from either Formosa Petrochemical Corporation or CPC Corporation in Taiwan, at a zero-tax rate, and loading the products onto foreign-flagged oil tankers managed by Winson. Taiwanese authorities alleged that these foreign-flagged ships would then sail to just beyond Taiwan's territorial waters, near the Penghu Islands, and illegally transfer their oil products to non-Taiwan-flagged fishing vessels to take advantage of differences in fuel prices. The prosecution further stated that Tung and his co-defendants made payments to Taiwanese Coast Guard officials based at Penghu after these officials began investigating Winson's vessels.²³⁵

While all the defendants were ultimately found not guilty, during the course of the investigation, Tung apparently admitted that the Winson Group engages in fuel smuggling near the Penghu Islands and that he had approved disbursing company funds to bribe the Coast Guard for information on upcoming patrols.²³⁶

Possible DPRK-related Fuel Shipments Involving the Winson Group

In addition to its alleged involvement with the counterfeit cigarettes trade and fuel smuggling, the Winson Group potentially plays a key role in North Korea's illicit oil supply chain.^{237 238} In several cases studied for this report, fuel transfers appeared to trace back, either directly or indirectly, to the Winson Group's vessels, companies, employees, properties, and associates.

The first case involves the DIAMOND 8, the aforementioned tanker that appears to have met two large mothership tankers—the SUPER STAR and the EVER GRANDEUR—on at least three occasions in 2020, in some instances before apparently traveling to North Korea. Corporate network analysis shows the Winson Group was likely implicated in all of these instances.

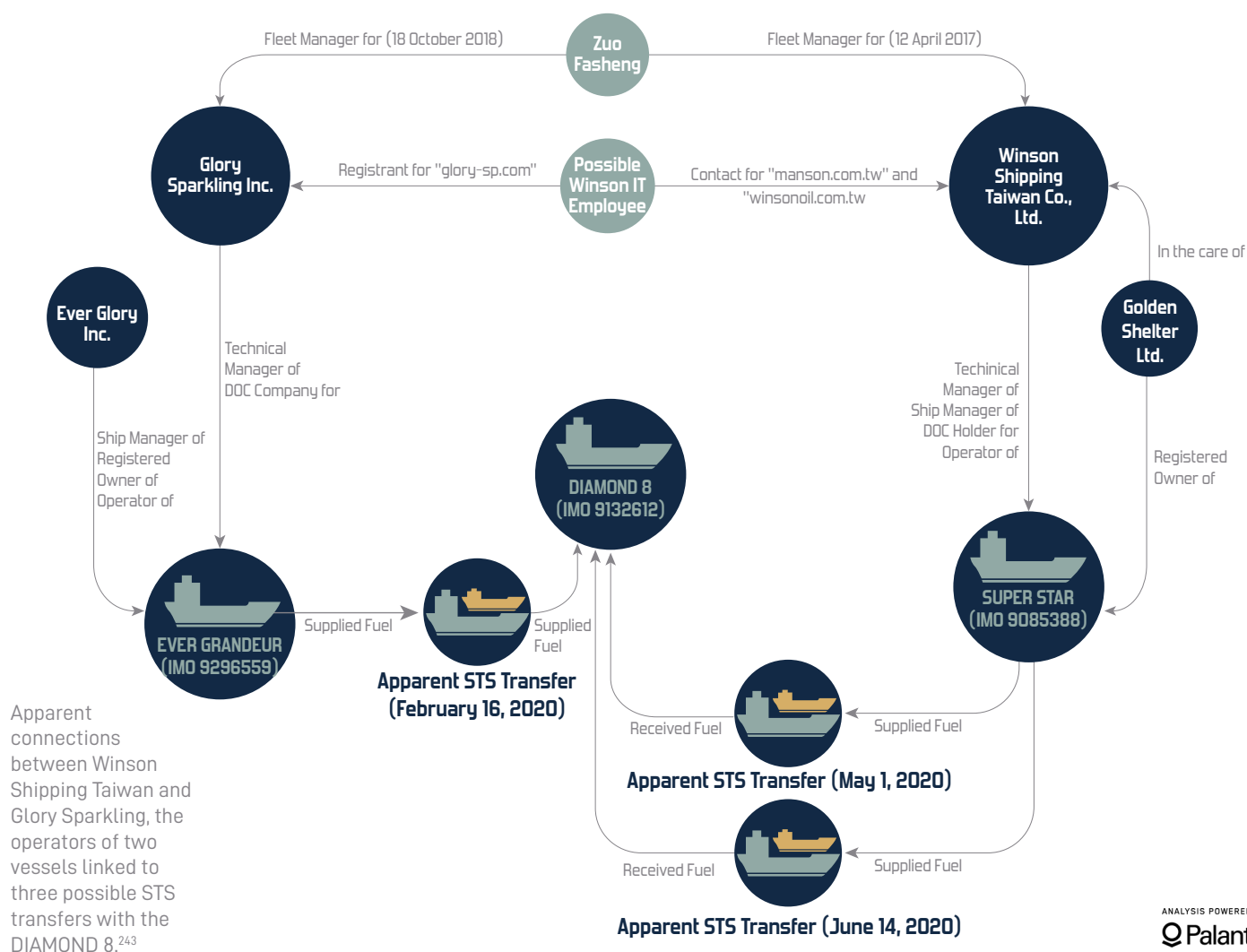
Apparent STS Transfers with the DIAMOND 8

When the SUPER STAR apparently met with the DIAMOND 8 on 1 May 2020, the SUPER STAR was reportedly owned by the British Virgin Islands (BVI)-registered Golden Shelter Ltd., and managed by Winson Shipping Taiwan Co., Ltd. (永順船舶股份有限公司), the Taiwan-based office of the Winson Group, which is located in the port city of Kaohsiung.^{239 240} According to maritime databases, Golden Shelter lists an address in the care of Winson Shipping Taiwan and is recorded as a subsidiary of the company.²⁴¹

Although a Winson entity does not appear directly as the owner or manager of the EVER GRANDEUR—the second tanker that apparently met the DIAMOND 8—documents obtained for this investigation indicate personnel overlap (as described below) between the vessel's manager, the Samoa-registered Glory Sparkling Inc. (榮耀船運公司), and Winson Shipping Taiwan.²⁴²

At the time of the EVER GRANDEUR's apparent STS transfer with the DIAMOND 8 in February 2020, maritime databases show that Glory Sparkling's listed address was Room A1, 23F-1, 29, Haibian Road, Lingya District, Kaohsiung City, Taiwan.²⁴⁴ This is on one of the five floors in the building at 29, Haibian Road, that are reportedly owned by Winson Shipping Taiwan.^{245 246} Additionally, Glory Sparkling is the same company that assumed management of the DIAMOND 8 in July 2016 for five months before the vessel was transferred to two Seychelles-registered companies in December 2016.²⁴⁷

Registration data for Glory Sparkling's email domain (glory-sp.com) include the contact details of an individual whose Facebook profile indicates that he is an IT employee for Winson Shipping Taiwan.^{248 249} Additionally, this individual appeared to list a personal email address in registration records for Glory Sparkling's domain, and listed a Winson Shipping Taiwan email address (denoted by the "manson.com.tw" domain) as the contact email in registration records for two other Winson-related domains (manson.com.tw and winsonoil.com.tw).^{250 251}



Furthermore, Panamanian vessel documents reveal additional personnel overlap between Glory Sparkling and Winson Shipping Taiwan. A Document of Maritime Labor Compliance (DMLC) dated 18 October 2018 lists the EVER GRANDEUR's owner as Glory Sparkling, and records the company's signatory as an individual named Zuo Fasheng (左發生).²⁵² The document identifies Zuo as the fleet manager for Glory Sparkling, which listed an address on the sixth floor of No. 29 Haibian Road, another floor reportedly owned by Winson Shipping Taiwan.^{253 254} A DMLC dated 12 April 2017 for another Winson-managed vessel also shows Zuo apparently serving in the same capacity for Winson Shipping Taiwan.²⁵⁵

ZUO FASHENG AND GLORY SPARKLING ON DOCUMENTS FOR THE EVER GRANDEUR

ongoing compliance, between inspections, with the requirements

Name of shipowner⁽¹⁾: GLORY SPARKLING INC.
Company address: Room 2, 6th Floor, 29, Haibian Road,
Lingya District, Kaohsiung City.
Taiwan(R.O.C.)
Name of the authorized signatory: Zuo Fasheng
Title: Fleet Manager
Signature of the authorized signatory: [Signature]
Date: 18 OCT 2018

Seal or stamp of the shipowner⁽¹⁾

Document of Maritime Labor Compliance (DMLC) for the EVER GRANDEUR (IMO 9296559) dated 18 October 2018.

ZUO FASHENG AND WINSON SHIPPING TAIWAN ON DOCUMENTS FOR THE AQUAMARINE

ongoing compliance, between inspections, with the requirements

Name of shipowner: WINSON SHIPPING (TAIWAN) CO., LTD
Company address: 26F-1, NO.29, HAI PIEN ROAD
#02 KAOHSIUNG
TAIWAN
Name of the authorized signatory: Zuo Fasheng
Title: Fleet Manager
Signature of the authorized signatory: [Signature]
Date: 12 April, 2017

Seal or stamp of the shipowner⁽¹⁾

Document of Maritime Labor Compliance (DMLC) for the AQUAMARINE (IMO 9247883) dated 12 April 2017.

Zuo appears to be a senior employee at Winson Shipping Taiwan. He is featured prominently in the Winson Group's company video, which was predominantly filmed in the company's Kaohsiung office.²⁵⁶ Throughout the video, Zuo is often seen next to Winson Group's founder, Tony Tung, delivering presentations to Winson staff.²⁵⁷ In October 2019, during a ceremony held at the American Institute in Taiwan's branch office in Kaohsiung, Zuo accepted an award on behalf of Winson Shipping Taiwan for its participation in a US Coast Guard-supported maritime safety program.^{258 259}



Zuo Fasheng (right) alongside Tony Tung (left). Source: Winson Group Company Video.²⁶⁰

Potential Shipper of DPRK-Bound Fuel: The KOTI

While the Winson Group appears to have potentially supplied fuel to the DIAMOND 8 on three occasions in 2020, the company seems to have possible links to another illicit transfer, this one involving the KOTI (IMO 9417115), a formerly Panama-flagged tanker.

In December 2017, South Korea detained the KOTI for supplying the DPRK-flagged KUM UN SAN 3 (IMO 8705539) with petroleum products.^{261 262} Imagery released by the US State Department showed the KOTI alongside the KUM UN SAN 3 in the East China Sea.²⁶³ Following this apparent STS transfer, the US Treasury Department sanctioned the KOTI for conducting STS transfers with DPRK-flagged vessels on 23 February 2018.²⁶⁴

While the subsequent investigation by the UN Panel of Experts found the KOTI had been leased to a Taiwan-based company on a time charter prior to the alleged STS transfer, the bill of lading for this fuel shipment, dated 7 December 2017, shows that the 6,770 metric tons of gasoil aboard the KOTI was shipped by Winson Oil Trading Pte. Ltd.^{265 266}

BILLS OF LADING			
WARSHIPOLVOY(Rev) 11-1-45		DUPLICATE ORIGINAL	
		B/L Number KCAS171207BDKT01	
Shipped in apparent good order and condition by		WINSON OIL TRADING PTE LTD	
on board the	PANAMA	Motorship	M.T. KOTI
whereof	CAPT. KYAW NYUNT	Steamship	YEOSU, SOUTH KOREA
is Master, at the port of			
a quantity said to be			
GASOIL 50PPM		6,770.452	METRIC TONS
		6,663.51	LONG TONS
		7,958.683	KLS AT 15 DEG C
		50,084.00	US BBLs AT 60 DEG F
"FREIGHT PAYABLE AS PER CHARTER PARTY"			
"CLEAN ON BOARD"			
the quantity,			
measurement, weight, gauge, quality, nature, value and condition of the cargo unknown to the Vessel and			
the Master, to be delivered at the port of		ONE SAFE PORT, TAIWAN or so near thereto as the	
Vessel can safely get, always afloat, unto		TO THE ORDER OF WINSON OIL INTERNATIONAL HK LTD	
or order on payment of freight at the rate of		FREIGHT PAYABLE AS PER CHARTER PARTY	
This shipment is carried under and pursuant to the terms of the charter dated		AS PER CHARTER PARTY	
at AS PER CHARTER PARTY between		AS PER CHARTER PARTY	
and AS PER CHARTER PARTY as Charterer, and all the terms whatsoever			
of the said Charter except the rate and Payment of freight specified therein apply to and govern the rights of the parties concerned in this shipment.			

The KOTI's bill of lading, dated 7 December 2017, from South Korea's investigation into the KOTI.

A second related document describing the conclusions of South Korea's internal investigation found that the KOTI likely conducted another STS transfer during this trip, this one with the Sierra Leone-flagged JIN HYE (IMO 8518572).²⁶⁷ One day prior to the KOTI's loading of gasoil in South Korea, the JIN HYE was reportedly observed conducting an STS transfer with the CHON MA SAN (IMO 8660313), a DPRK-flagged tanker.²⁶⁸

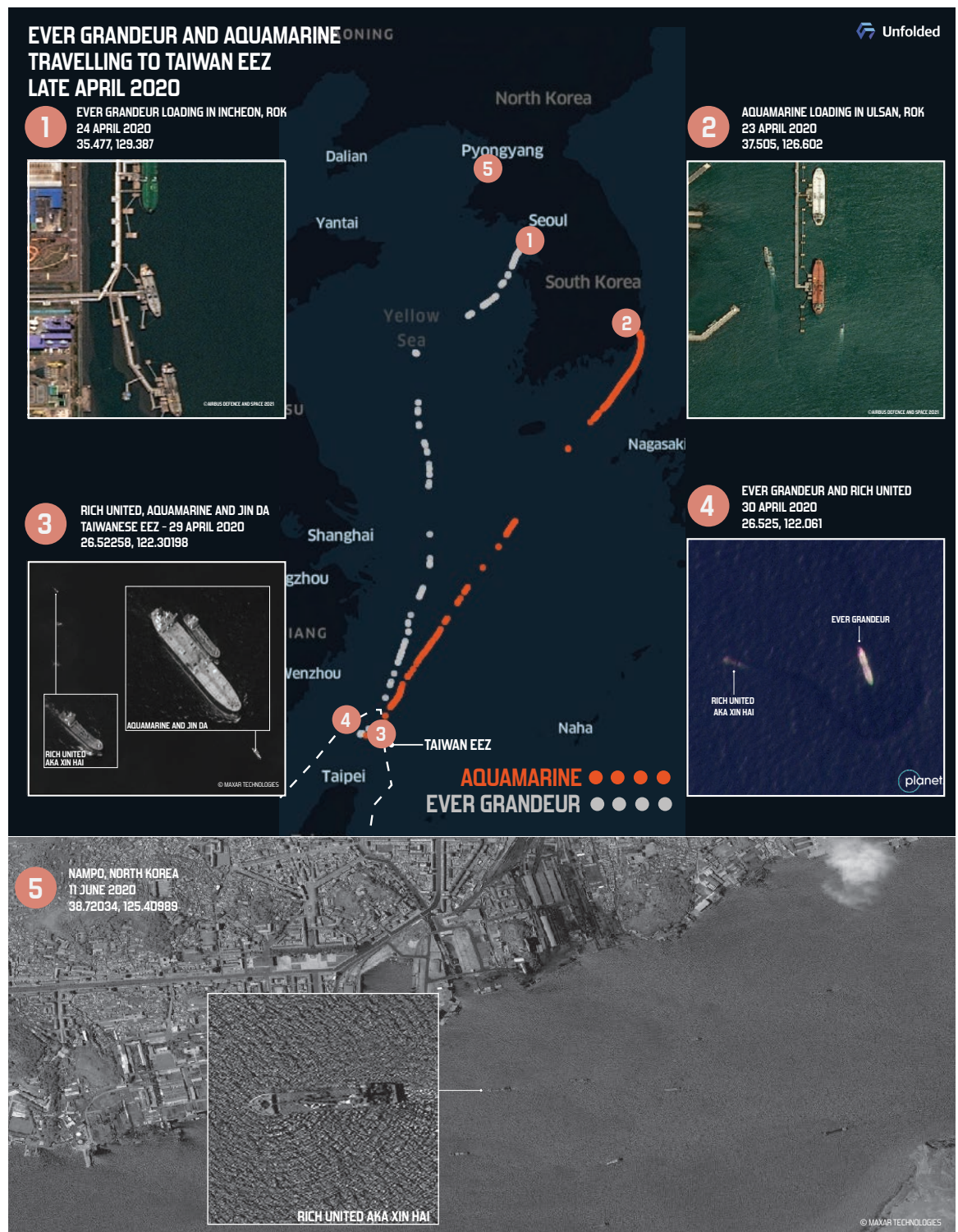
Potential STS Transfer with Other High-Risk Tankers: The RICH UNITED and the JIN DA

Satellite imagery and AIS data seemingly indicate that Winson Group-linked mothership tankers have conducted STS transfers with smaller tankers that have exhibited potential fuel smuggling patterns, one of which appeared to later travel to North Korea. On 23 April 2020, the EVER GRANDEUR and another large Panama-flagged tanker, the AQUAMARINE, loaded oil at the South Korean ports of Incheon and Ulsan, respectively, before sailing to Taiwan's EEZ.²⁶⁹ Over the next two days, while in Taiwan's northern EEZ, the EVER GRANDEUR and the AQUAMARINE appear to have conducted a number of meetings with smaller feeder vessels.²⁷⁰ One of these, the XIN HAI (IMO 9129213), then known as the Cook Islands-flagged RICH UNITED, can be seen sailing toward the AQUAMARINE in a satellite image taken on 29 April 2020. The next day, on 30 April 2020, AIS data and satellite imagery indicate that the RICH UNITED conducted a possible STS transfer with the EVER GRANDEUR. The RICH UNITED was later captured in satellite imagery in North Korea's Nampo port on 11 June 2020.

While it remains unclear whether any oil potentially loaded onboard the RICH UNITED in late April 2020 was delivered to North Korea, the vessel was de-flagged by the Cook Islands shortly after this meeting,²⁷¹ and was renamed the XIN HAI and flagged to Mongolia in August 2020.²⁷² Like many other vessels identified in this paper, the XIN HAI has been spotted while anchored next to several other DPRK-linked direct delivery tankers near Dongyin Island.

The second oil tanker visible in the 29 April 2020 image, the JIN DA (IMO 9076997), can be seen conducting a possible STS transfer with the AQUAMARINE. The JIN DA, a Belize-flagged oil tanker, is owned and operated by a Hong Kong-registered company, Bewin Shipping (Hong Kong) Ltd.²⁷³ Four independent AIS tracking platforms recorded no AIS transmissions from the JIN DA, a vessel that appears to sail for long periods without broadcasting AIS data.²⁷⁴

It is unclear where the JIN DA went after this apparent meeting with the AQUAMARINE. However, network analysis reveals the vessel has links to the Winson Group network through another Shishi native, Wong Tin Chuk (王天祝). Wong is a Hong Kong resident who has reported connections to organized crime and the CCP's United Front Work Department (UFDW), and appears to be linked to DPRK-related fuel smuggling.



Above Left: Journey of the EVER GRANDEUR and the AQUAMARINE in April 2020.

Above Right: the RICH UNITED, EVER GRANDEUR, and JIN DA in Taiwan's EEZ on 29 April 2020.

Below Left: the EVER GRANDEUR and the RICH UNITED on 30 April 2020.

Below Right: the RICH UNITED in Nampo port, North Korea on 11 June 2020. Source:

Map visualization powered by Unfolded.ai; AIS data provided by Pole Star Space Applications, Windward, and Geollect; imagery provided by Maxar Technologies, Airbus Defence and Space, and Planet Labs.

Wong Tin Chuk



A second individual with connections to Shishi's smuggling networks, the Winson Group, and apparent DPRK-linked STS transfers is Hong Kong resident Wong Tin Chuk (王天祝).²⁷⁵ Like Tony Tung, Wong is listed as a lifetime honorary president of the Yongning Middle School Alumni Association in Hong Kong (永寧中學香港校友會).²⁷⁶ Wong, Tung, and a number of other individuals with connections to Lai Changxing and Shishi's smuggling underground networks appear on these alumni lists, suggesting their relationships may have developed in their formative years. Additional open source reporting suggests that Wong maintains connections to CCP-linked organizations and organized crime in Hong Kong.

Today, Wong appears to be active in Hong Kong, where he operates a number of companies from North Point, an area sometimes referred to as "Little Fujian" due to its Fujianese population.²⁷⁷ A number of media sources have alleged that Wong belongs to a Fujianese organized crime group (福建幫) operating in this area.^{278 279 280 281 282} In fact, Wong's name appears on crowdsourced lists of Fujianese gangsters, which were posted after these gangs allegedly committed violence against Hong Kong protestors in 2019.^{283 284} Hong Kong and Chinese court records also show that Wong was convicted in the late 1990s for smuggling vehicles, and that he was allegedly involved in an illicit timber-trading scheme in 2014, both of which occurred in Fujian province.^{285 286}

Despite his record as a convicted smuggler and reported gang member, Wong maintains high-ranking positions in Shishi township associations and organizations linked to the CCP's UFWD. In 2012, Wong was appointed the first chairman of the Hong Kong and Macau Shishi Sai Sam Association (港澳石獅西岑同鄉會), an organization dedicated to promoting links between Shishi, Hong Kong, and Macau, which also lists Tung as an honorary president.²⁸⁷ A Chinese media article covering the organization's inauguration ceremony identified dozens of high-ranking CCP officials in attendance, and described the organization as an important base of Chinese nationalism in Hong Kong.²⁸⁸

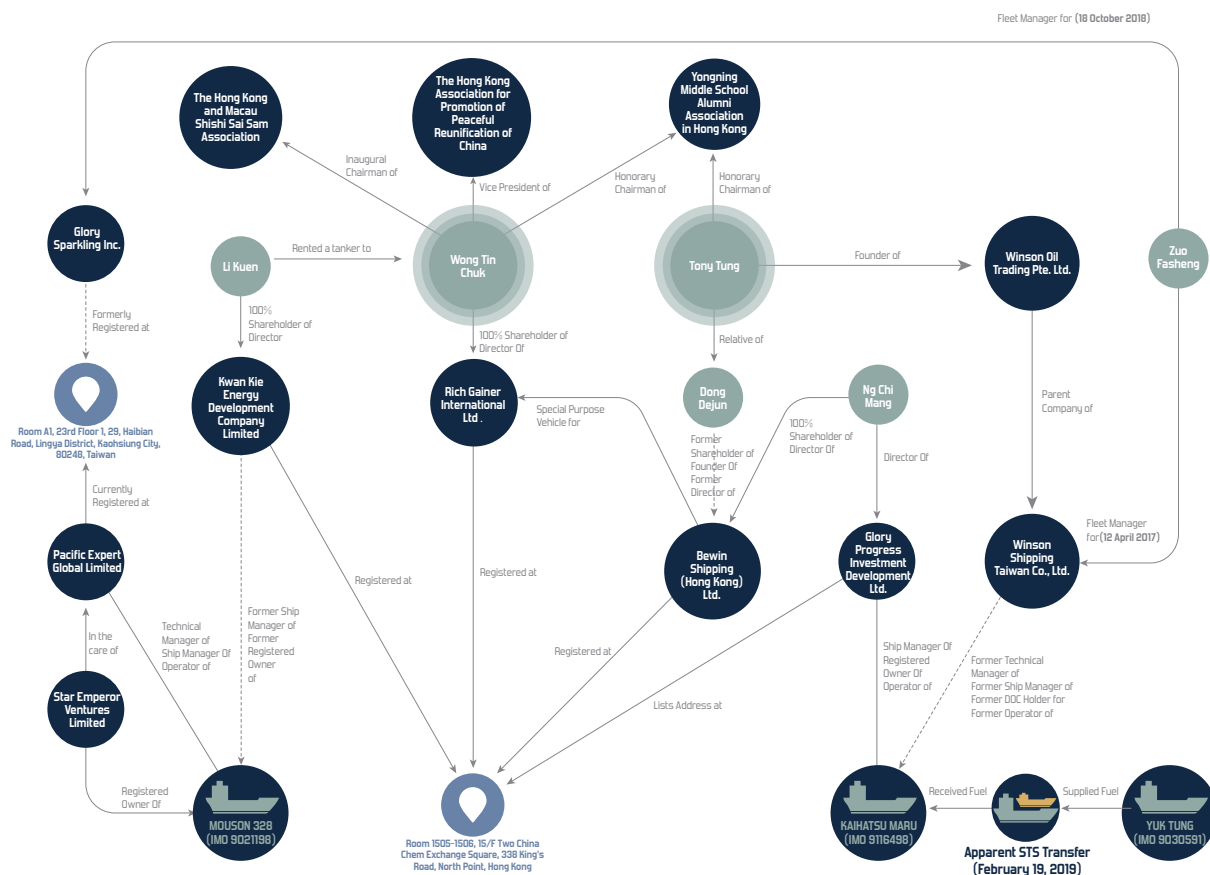


Left: Wong Tin Chuk at his inauguration as chairman of the Hong Kong Macau Shishi Sai Sam Association. Source: Wen Wei Po Newspaper.²⁹⁶ Right: Wong Tin Chuk listed as a Vice President of the HKAPRC.²⁹⁷

Wong is also listed as a vice president of the Hong Kong Association for Promotion of the Peaceful Reunification of China (HKAPPRC; 中國和平統一促進會香港總會),²⁸⁹ an affiliate of the Council for the Promotion of Peaceful Reunification of China (CPPRC; 中国和平统一促进会),^{290 291} which has been identified by the US-China Economic and Security Review Commission as being controlled by the CCP's UFWD.²⁹² The CPPRC was established in 1988 to promote the reunification of Taiwan and China,²⁹³ but, in practice, the organization maintains close ties with the CCP. Its president is Wang Yang (汪洋), a member of the powerful Politburo Standing Committee of the CCP, and its executive vice president is You Quan (尤权), the secretary of the Secretariat of the CCP and director of the UFWD.²⁹⁴ In January 2021, the US Treasury Department sanctioned You Quan for his involvement in the imposition of the 2020 National Security Law in Hong Kong.²⁹⁵

In addition to occupying positions in CCP-linked organizations, Wong owns and operates several companies in Hong Kong, some of which appear to be connected to vessels that have potentially engaged in North Korean fuel smuggling.

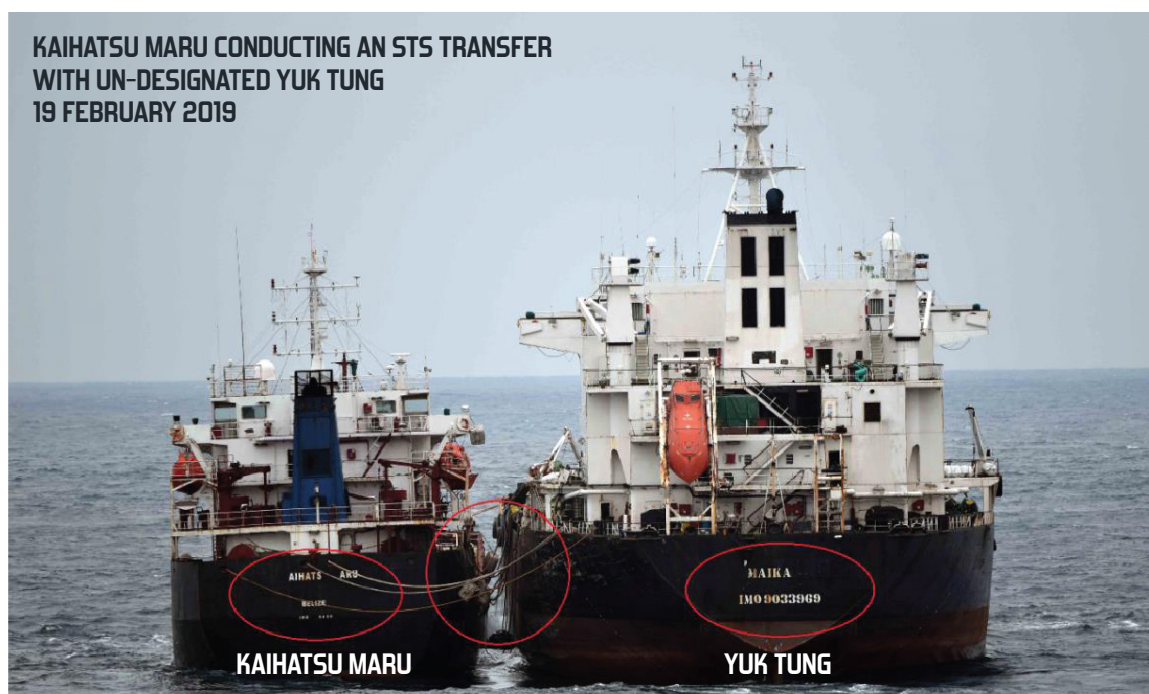
Apparent connections between Wong Tin Chuk and possible instances of North Korean fuel procurement. Source: IHS Markit; corporate documentation from Hong Kong, Taiwan; Panama Maritime Authority ship title document for the then named ANGEL 206 (IMO 9066095); Documents of Maritime Labor Compliance for the EVER GRANDEUR and the AQUAMARINE.²⁹⁸



Hong Kong corporate registry documents list Wong as the sole director and shareholder of Rich Gainer International Ltd. (振豪國際有限公司), which is located at an address in North Point shared by several other shipping companies that appear to have ties to North Korean fuel smuggling.²⁹⁹ When reporters from The New York Times visited this address, they found that only Rich Gainer's office was physically present there.³⁰⁰

Apparent STS Transfer with the UN- and US-sanctioned YUK TUNG: The KAIHATSU MARU

One of the companies co-located with Rich Gainer is Bewin Shipping (Hong Kong) Ltd. (達勝船務(香港)有限公司),³⁰¹ which vessel mortgage documents describe as a special purpose vehicle company for and in the care of Rich Gainer.^{302 303} The sole director and shareholder of Bewin Shipping is Ng Chi Mang (吳志猛),³⁰⁴ whose name also appears in a Panamanian ship title document dated 20 June 2018 as the director of the BVI-registered Glory Progress Investment Development Ltd.³⁰⁵ Despite being registered in the BVI, both Panamanian documents and maritime databases list Glory Progress Investment at the same North Point address used by Bewin Shipping and Rich Gainer.^{306 307}



Apparent STS transfer between the KAIHATSU MARU and the YUK TUNG on 19 February 2019.³⁰⁸

Glory Progress Investment was the registered owner and ship manager of the KAIHATSU MARU (IMO 9116498), a Belize-flagged oil tanker, at the time the ship was photographed conducting an apparent STS transfer with the UN- and US-sanctioned YUK TUNG (IMO 9030591) on 19 February 2019.³⁰⁹ The apparent STS transfer occurred a year after the US Treasury Department and UN Security Council had sanctioned the YUK TUNG in February and March 2018, respectively, for transferring refined petroleum products to a North Korean tanker.^{310 311} In the above photograph, the YUK TUNG is disguised as the Panama-flagged MAIKA, a fraudulent identity that was exposed by the UN Panel of Experts in their March 2019 report.³¹²

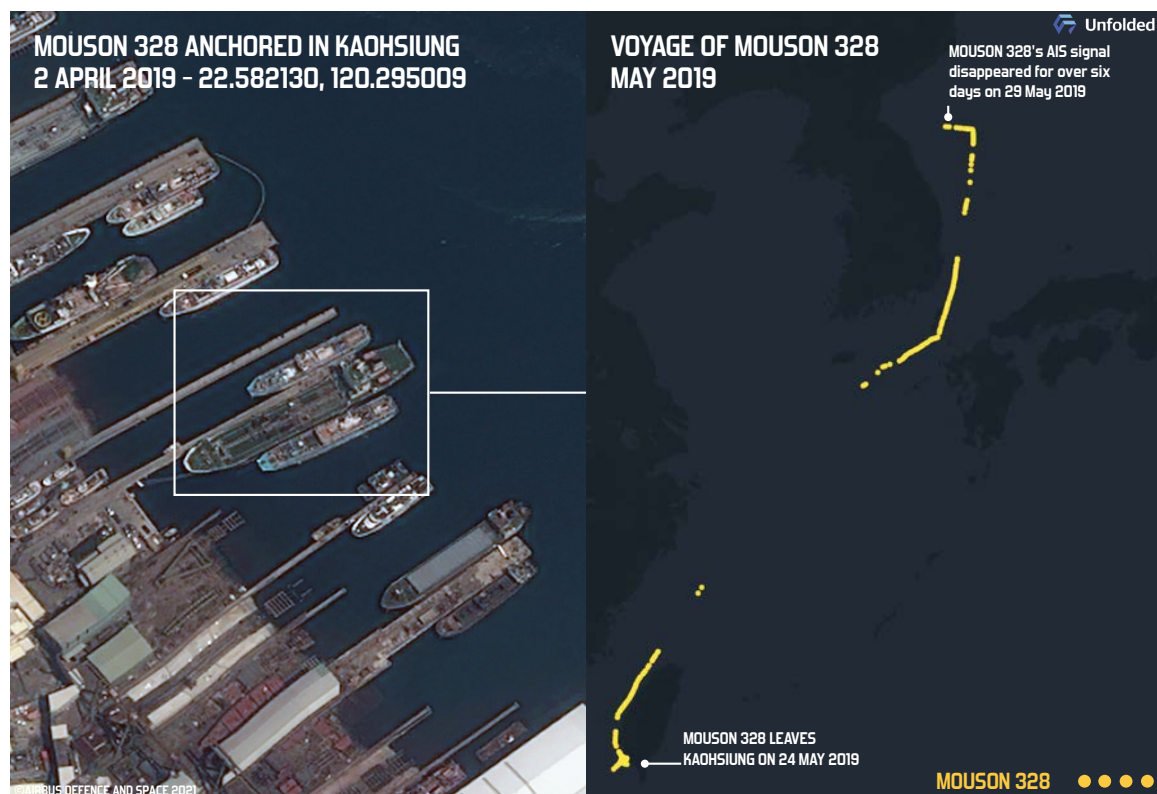
High-Risk Voyage in North Korean Waters: The MOUSON 328

Another company located at the same address as Wong's Rich Gainer is Kwan Kie Energy Development Co., Ltd. (堃基能源發展有限公司).³¹³ The only identified director and shareholder of Kwan Kie Energy is Li Kuen (李權),³¹⁴ whose name appears alongside Wong and Rich Gainer in Hong Kong court documents.³¹⁵ Court records show that Li Kuen rented a tanker to Wong for two years, the latter of whom provided the captain and crew,³¹⁶ meaning that, as in the case of Bewin Shipping, Kwan Kie Energy's director and Wong Tin Chuk appear to have had a commercial relationship in addition to their companies being co-located at the same address.

Between 1 December 2013 and 19 May 2019, Kwan Kie Energy was listed as the registered owner of the MOUSON 328 (IMO 9021198), an oil tanker whose flag is currently listed as unknown in maritime databases.³¹⁷ According to Vietnamese media reports, the MOUSON 328 appears to have started smuggling fuel while under the ownership of Kwan Kie Energy.³¹⁸

On 19 May 2019, ownership and management of the MOUSON 328 was transferred to two BVI-registered companies: Star Emperor Ventures Ltd. and Pacific Expert Global Ltd., the former of which is listed as being in the care of the latter.³¹⁹ Notably, Pacific Expert Global lists the same address used by Glory Sparkling—the management company of one of the two tankers that conducted an apparent STS transfer with the DIAMOND 8 in 2020.³²⁰ As noted in a previous section, official Panamanian documents listed Zuo Fasheng, a Winson Shipping Taiwan employee, as Glory Sparkling's fleet manager.

Less than two weeks after the ownership transfer, the MOUSON 328 sailed from Kaohsiung port to North Korea's eastern EEZ. On 29 May 2020, as soon as the MOUSON 328 crossed the EEZ boundary between South Korea and North Korea, the vessel made a sharp left turn toward North Korea's east coast. The vessel maintained this heading for five hours before its AIS signal apparently disappeared for over six days.³²¹ When the MOUSON 328's AIS signal reappeared on 5 June 2020, the vessel was sailing south toward the Korea Strait.³²²



Left: The MOUSON 328 in Kaohsiung 2 April 2019. Source: Imagery provided by Airbus Defence and Space. Right: Voyage of the MOUSON 328 in May 2020. Source: AIS data provided by Pole Star Space Applications, Geolcollect, and Windward; map visualization powered by Unfolded.ai.

Although the nature of the MOUSON 328's voyage to North Korea's eastern EEZ in May and June 2019 remains undetermined, multiple flag registries and the Taiwanese government blacklisted the MOUSON 328 in 2020 for engaging in possible North Korea sanctions evasion activities.³²³

The MOUSON 328 case highlights a pattern seen repeatedly during research conducted for this report: ownership and management of ships like the MOUSON 328 are transferred to entities registered in secrecy jurisdictions—some of which may list addresses used by known smuggling networks—shortly before the vessels conduct high-risk voyages. That the MOUSON 328 was transferred to two BVI-registered companies, one of which lists the same address used by Glory Sparkling, a company with apparent ties to Winson Shipping Taiwan, may warrant scrutiny given the social and commercial connections between Wong's and Winson's networks.

I Connections to Winson

In addition to Wong and Tung's common membership in school and township associations, Wong and his companies appear to have a number of additional corporate links to the Winson network.

Bewin Shipping was founded by Dong Dejun (董德均), a relative of Tony Tung.³²⁴ Dong also holds positions at other Winson-related companies, including Winson Shipping Management (Shenzhen) Co., Ltd. (永顺船舶管理(深圳)有限公司), where he serves as a supervisor alongside Tony Tung's wife and daughter.³²⁵

Additionally, maritime databases indicate that Wong's network and the Winson Group have transferred two vessels to each other, one of which was the KAIHATSU MARU. In February 2013, ownership and management of the KAIHATSU MARU—then known as the ANGEL 126—were transferred from the BVI-registered Ever Virtue Ltd. and Winson Shipping Taiwan to Rich Gainer and a Taiwanese ship management company, respectively.³²⁶ In July 2017, Panamanian ship title documents showed that Ng Chi Mang's Glory Progress Investment Development sold the FIRST LADY (IMO 9066095)—then known as the FU WING—to the BVI-registered Lucky Data Ltd., whose director was listed as Sze Lai Wan (施麗雲), Tony Tung's wife and a Winson Group executive.³²⁷ This vessel, featured again later in this report, has also been implicated in alleged fuel smuggling.³²⁸



Tsoi Ming Chi



The third individual in this investigation is Tsoi Ming Chi (蔡命賜), a Hong Kong resident who appears to hail from Shishi. Like Tony Tung and Wong Tin Chuk, Tsoi is a member of the Yongning Middle School Alumni Association in Hong Kong and maintains active ties to his hometown.³²⁹

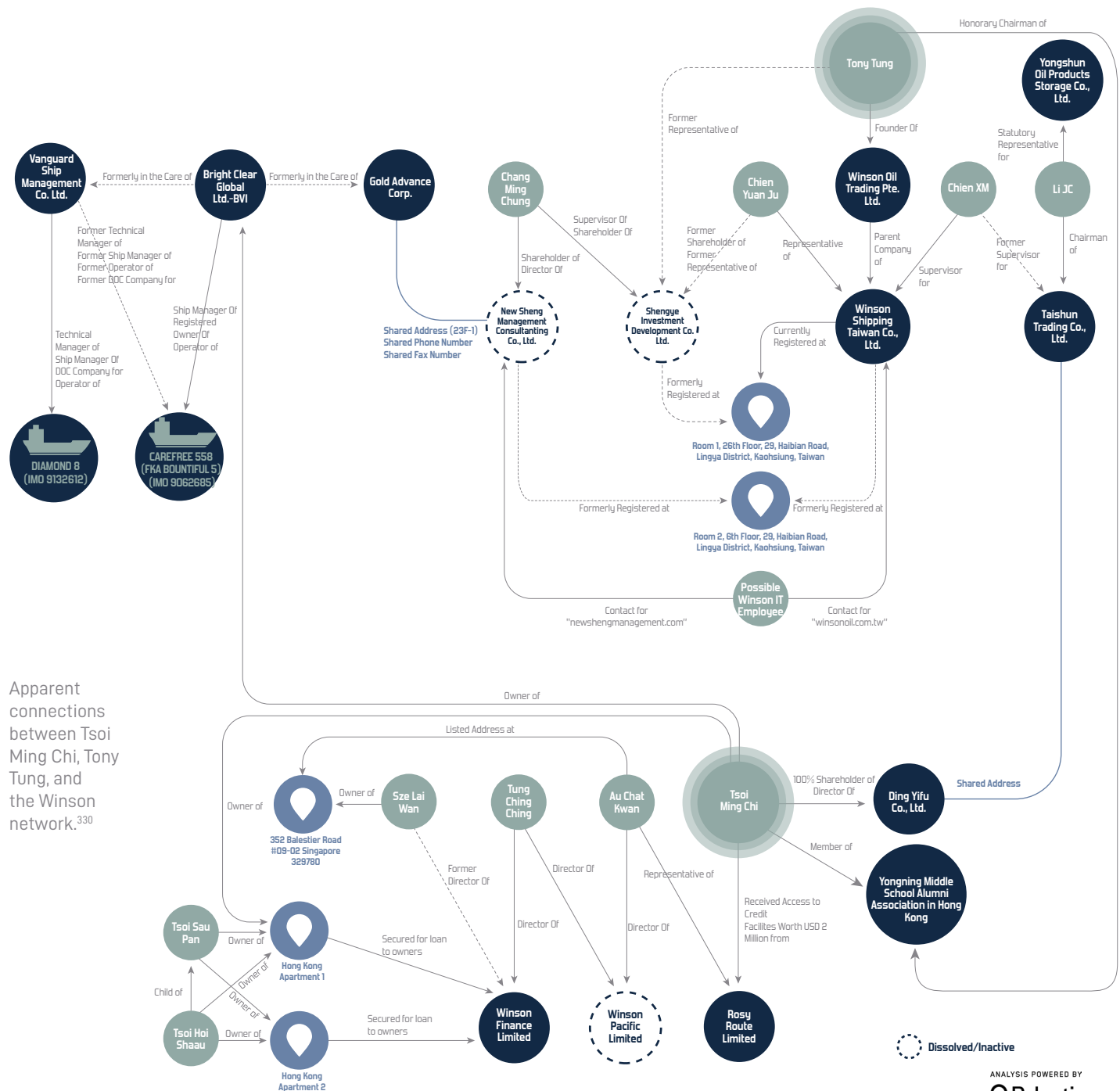
There are few details about Tsoi's activities and operations online. Unlike Tung and Wong, Tsoi does not appear to maintain positions in high-profile corporate, social, or political organizations. However, this investigation identified a significant commercial relationship between Tsoi and the Winson Group and Tsoi's proximity to multiple tankers and entities that have allegedly delivered fuel to North Korea or otherwise facilitated Pyongyang's sanctions evasion.

While there is no publicly available evidence of Tsoi's direct involvement with North Korea, Tsoi's positions between networks like the Winson Group and known evaders of DPRK sanctions warrant further investigations into his precise role.

I Tsoi Ming Chi's Commercial History with the Winson Group

Vessel and Property Mortgages with the Winson Network

Financial documents indicate a close commercial relationship between Tsoi and the Winson network. Between 2015 and 2016, Tsoi appears to have used his vessels and properties to secure multimillion-dollar credit lines from Winson-related entities.



In August and October 2016, Tsoi entered into two vessel mortgages with the BVI-registered Rosy Route Ltd., granting Tsoi access to a total of USD 2 million in credit facilities.^{331 332} The representative of Rosy Route in both mortgages was Au Chat Kwan (區策群), who, on one of the mortgage documents, listed an address in Singapore that is owned by Sze Lai Wan.³³³ When these mortgages were signed, Au Chat Kwan also served as the director of the Hong Kong-registered Winson Pacific Ltd. (永順亞太投資有限公司), where he appeared alongside Tung Ching Ching (董晶晶), Tony Tung's daughter and a Winson Group executive, on company documents.³³⁴

Property mortgage documents dated 3 November 2015 also show that Tsoi and his family secured two Hong Kong apartments in a mortgage with the Hong Kong-registered Winson Finance Ltd. (永順財務有限公司).³³⁵ Sze Lai Wan and Tung Ching Ching serve as the directors of Winson Finance with the BVI-registered Winson Finance Holdings Ltd. (永順財務控股有限公司) listed as the company's sole shareholder.³³⁶

Current and Former Co-Location with the Winson Network

Corporate documents indicate Tsoi has operated a company located on a floor reportedly owned by Winson Shipping Taiwan, and is co-located with a possible Winson-linked entity at No. 29 Haibian Road.³³⁷ Taiwanese corporate documents show that Tsoi is the sole director and shareholder of Ding Yifu Co., Ltd. (鼎益富有限公司).³³⁸ Although the Taiwanese business registry indicates the company is involved in the real estate and investment consulting sector, there is little information about Ding Yifu's activities online.³³⁹ Another company located at the same address, Taishun Trading Co., Ltd. (台順貿易股份有限公司), lists its sole shareholder as an individual who is the statutory representative for Yongshun Oil Products Storage Co., Ltd. (永順油品倉儲有限公司), a possible Winson entity.³⁴⁰ Furthermore, a former supervisor for Taishun Trading currently serves in the same role at Winson Shipping Taiwan.^{341 342}

Tsoi also appears to have operated a BVI-registered company named Bright Clear Global Ltd. (亮明環球有限公司), which was formerly listed as being in the care of Gold Advance Corp., a Samoa-registered company located on the 23rd floor of No. 29 Haibian Road in Kaohsiung ("23F-1 address").³⁴³ The 23F-1 address is located on one of the five floors reportedly owned by Winson Shipping Taiwan, a floor that is also used by two other companies previously identified in this report as being possibly involved with fuel smuggling.^{344 345}

The only company that appears to be physically located at the 23F-1 address is New Sheng Management Consultanting [sic] Co., Ltd. (新晟管理顧問有限公司), which had listed the same phone and fax numbers as Gold Advance in maritime databases.^{346 347} Although New Sheng Management was reportedly dissolved in October 2020, Taiwanese corporate registry documents indicate that the director and shareholder of New Sheng Management, Chang Ming Chung (張明中), was also the supervisor and shareholder of a company formerly co-located with Winson Shipping Taiwan, alongside Tony Tung and Chien Yuan Ju (簡苑如), the latter of whom is a representative of Winson Shipping Taiwan.^{348 349 350}

Domain registration data indicate further possible overlaps between New Sheng Management and Winson Shipping Taiwan. Historical registration records for New Sheng Management's email domain (newshengmanagement.com) appear to show the same Winson employee listed as the administrative contact for the domains of Glory Sparkling (glory-sp.com), Winson Shipping Taiwan (manson.com.tw), and Winson Oil (winsonoil.com.tw).³⁵¹

I Tsoi's Proximity to Possible DPRK-Linked Networks

Since 2003, Tsoi appears to have owned and managed a variety of oil tankers using companies registered in several jurisdictions, including Hong Kong and the BVI.³⁵² These tankers have exhibited several characteristics commonly observed among identified vessels delivering fuel directly to North Korea, and their networks are also tied to DPRK-linked maritime networks.

Connections to a DPRK-Linked Classification Society: The CAREFREE 558

One of these tankers, the BOUNTIFUL 5 (IMO 9062685)—a Mongolia-flagged products tanker used as collateral in Tsoi's USD 2 million mortgage with Rosy Route—was recently renamed the CAREFREE 558.³⁵³ Although there is no satellite imagery or other evidence suggesting the CAREFREE 558 has visited North Korean waters, it exhibits activity patterns similar to other vessels delivering to North Korea. For example, in November 2020, the vessel was observed in satellite imagery anchored in Sansha Bay next to several DPRK-linked direct delivery vessels, including the DIAMOND 8.



DPRK-linked oil tankers in Sansha Bay, China, on 11 November 2020. Source: Imagery provided by Maxar Technologies.

A few days later, the CAREFREE 558 conducted a possible STS transfer with the AQUAMARINE, the same Winson-linked vessel that apparently met the JIN DA in April 2020. The CAREFREE 558 does not appear to have been transmitting AIS at the time, and thus the vessel's destination after this apparent meeting with the AQUAMARINE remains unknown.



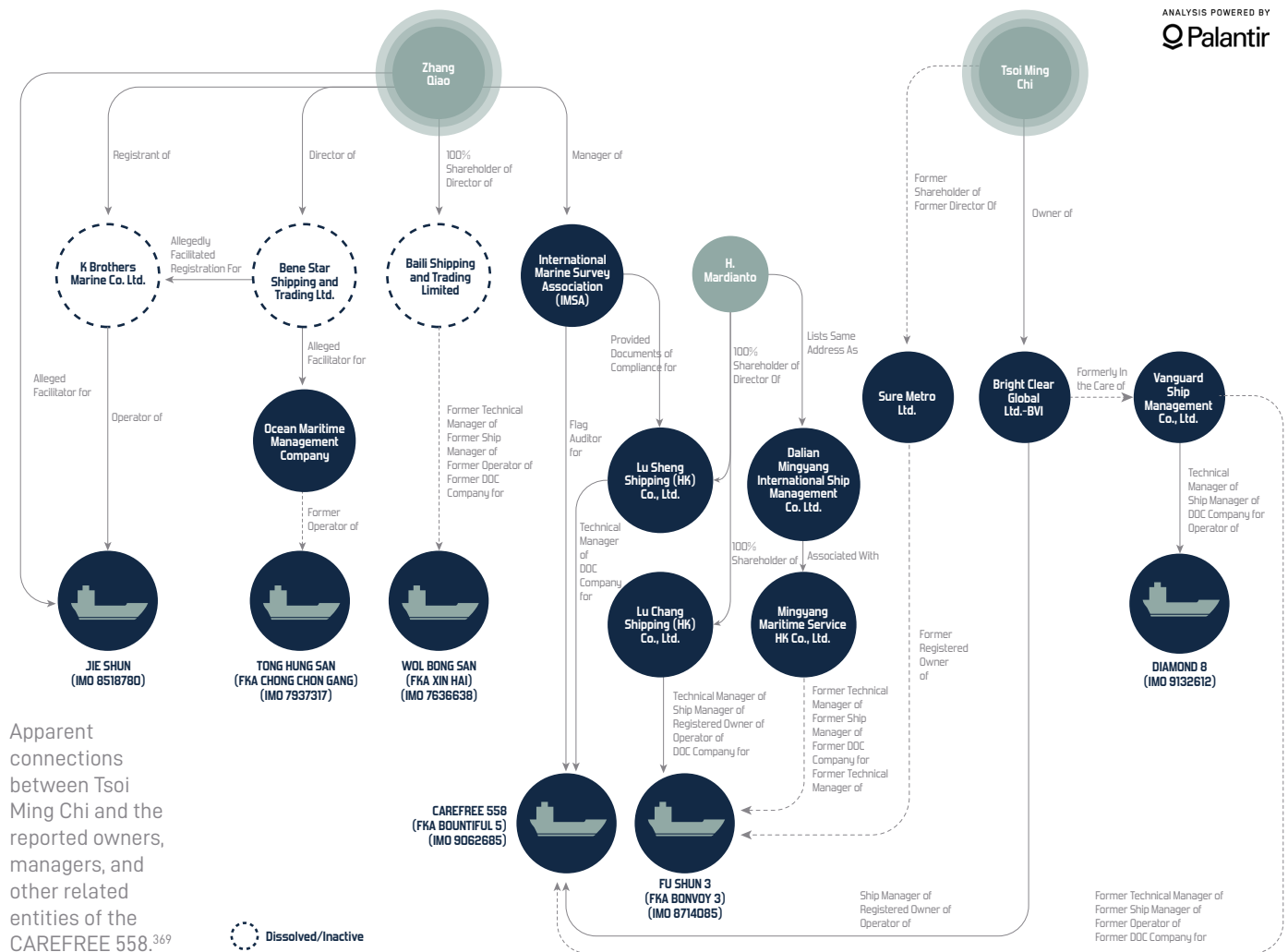
The apparent meeting between the CAREFREE 558 and the AQUAMARINE in November 2020.³⁵⁴

At the time of the apparent STS transfer, maritime databases indicate that the CAREFREE 558's manager was Vanguard Ship Management Co., Ltd., a Seychelles-registered company, which is the current manager of the DIAMOND 8.³⁵⁵ Vanguard Ship Management served as the DIAMOND 8's manager during the vessel's repeated trips to North Korea and during its apparent STS transfers with other Winson-linked mothership tankers in 2019 and 2020.^{356 357} As the manager of both the CAREFREE 558 and the DIAMOND 8 at that time, Vanguard Ship Management therefore potentially had connections to Tsoi, the Winson Group, and the North Korean interests procuring oil.

In January 2021, the Hong Kong-registered Lu Sheng Shipping (HK) Co., Ltd. (鸞盛船務(香港)有限公司) replaced Vanguard Ship Management as the technical manager of the CAREFREE 558.^{358 359} Additionally, the vessel's flag auditor changed to an organization named International Marine Survey Association (IMSA), which also provided the Document of Compliance (DOC) for Lu Sheng Shipping.³⁶⁰

IMSA is a Dalian-based classification society reportedly operated by Zhang Qiao (张桥), a Chinese national and an individual with extensive alleged links to North Korea.³⁶¹ The Panel alleged that one of Zhang's companies was "a key node connecting multiple companies linked to the Democratic People's Republic of Korea and vessels associated with the Ocean Maritime Management Company."³⁶² The Panel also identified Zhang as having facilitated the operations of the JIE SHUN (IMO 8518780), a formerly Cambodia-flagged cargo ship that was interdicted in the Suez Canal in 2016 for transporting arms and related cargo from North Korea.³⁶³ Zhang was also allegedly involved in exporting North Korean coal and iron ore; an unnamed Member State provided the Panel with evidence that Zhang had transported coal on behalf of a company linked to the North Korean military in 2016.³⁶⁴

Zhang's involvement with North Korea appears to extend into fuel smuggling. One of Zhang's companies, the now dissolved Hong Kong-registered Baili Shipping and Trading Ltd. (百利船舶貿易有限公司),³⁶⁵ managed an oil tanker then known as the XIN HAI (IMO 7636638),³⁶⁶ which has been observed delivering fuel to North Korea since at least December 2019. According to maritime databases, in March 2020, the XIN HAI was transferred to North Korean ownership and management, when its name was changed to the WOL BONG SAN and its flag to North Korea.^{367 368} In recent months, satellite imagery suggests that the tanker has remained anchored at Nampo port.

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Apparent connections between Tsoi Ming Chi and the reported owners, managers, and other related entities of the CAREFREE 558.³⁶⁹



Reported Fuel Deliveries to North Korea: The BONVOY 3

In addition to the above DPRK-linked maritime networks, Tsoi was formerly associated with the BONVOY 3 (IMO 8714085), a tanker that was identified by the Panel for conducting several deliveries of fuel to Nampo in 2019 and 2020.³⁷⁰

According to a forthcoming Panel report, the BONVOY 3 has been making deliveries to North Korea since at least 2 August 2019.³⁷¹ The BONVOY 3's AIS transmission history indicates that the vessel conducted multiple voyages to North Korea in 2019 and 2020, some of which were confirmed with satellite imagery in March, April, and June 2020.³⁷² The vessel has also been imaged in close proximity to other direct delivery tankers, including the DIAMOND 8. In December 2020, the BONVOY 3 was de-flagged by Mongolia for its links to North Korea.³⁷³



Upper left: Journey of the BONVOY 3 in 2019 and 2020. Source: AIS data provided by Pole Star Space Applications, Geolcollect, and Windward; map visualization powered by Unfolded.ai. Upper right: The BONVOY 3 in Nampo, North Korea in 2019 and 2020. Source: Imagery provided by Maxar Technologies, Airbus Defence and Space, and Planet Labs. Bottom: satellite image of the BONVOY 3 and the DIAMOND 8, dated 24 October 2019, in Sansha Bay. Source: Imagery provided by Maxar Technologies.

Maritime databases list the Hong Kong-registered Sure Metro Ltd. (順國際有限公司) as the owner of the BONVOY 3 from September 2013 to May 2018, during which time Tsoi was the sole shareholder of the company.^{374 375} While owned by Sure Metro, the BONVOY 3 was reportedly part of a group of vessels that had fraudulently flown the flag of Fiji, a country that does not provide such flagging services to foreign vessels.^{376 377 378} In May 2018, ownership and management of the BONVOY 3 were transferred to companies registered in the BVI and Hong Kong, respectively, companies that served in their roles through the vessel's voyages to North Korea in 2019 and 2020.³⁷⁹ As a result, the identity of the individuals behind this BVI-registered company remains unknown. However, recent changes in the BONVOY 3's ownership and management in 2020 appear to link the tanker once again to Tsoi's network.

In November 2020, the BONVOY 3—now known as the FU SHUN 3—was transferred into the ownership and management of Lu Chang Shipping (HK) Ltd. (鷺昌船務(香港)有限公司), a Hong Kong-registered company that lists two Indonesian nationals as directors and shareholders.^{380 381} Both individuals list addresses that are used by the affiliated offices of Mingyang Maritime Service (HK) Ltd. (明洋海事服務(香港)有限公司) based in Dalian and Quanzhou.³⁸² Notably, according to maritime databases, Mingyang Maritime Service was the ship manager, operator, technical manager, and DOC company for the BONVOY 3 when the vessel was owned by Sure Metro and then the BVI-registered Faith Trade Group Ltd.³⁸³ While under Faith Trade Group's ownership and Mingyang Maritime's management in 2019 and 2020, the BONVOY 3 appeared to have conducted multiple voyages to North Korea.³⁸⁴

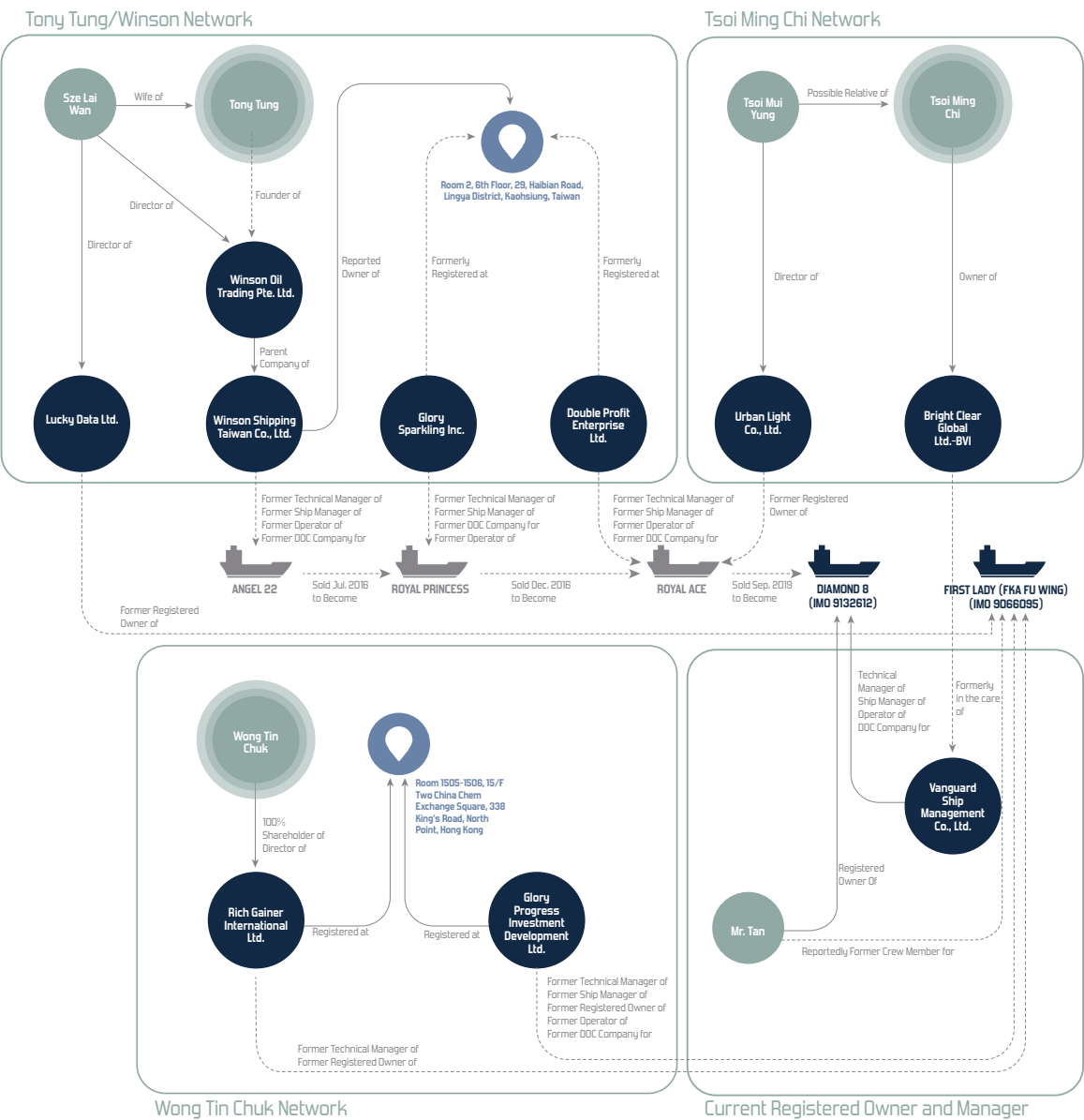
According to Hong Kong corporate registry documents, the sole shareholder of Lu Chang Shipping, an Indonesian national named "H. Mardianto," is also listed as the sole director and shareholder of Lu Sheng Shipping, which, as was discussed earlier, is the current technical manager and DOC company for the CAREFREE 558 as of January 2021.^{385 386 387} That the former owner and manager of the BONVOY 3 when the vessel traveled to North Korea appear to intersect once again with Tsoi's network via the CAREFREE 558 raises questions about the true identities of the beneficiary interests behind these entities.

These entities showcase how maritime networks with illicit ties to North Korea attempt to evade detection through constant and frequent changes to ownership and management, and the use of secrecy jurisdictions and flags of convenience. Perhaps there is no better case than the DIAMOND 8 however, to highlight how these seemingly disparate DPRK-related networks are linked to each other under several layers of corporate secrecy.

Who Is Behind the DIAMOND 8?

The DIAMOND 8, the largest foreign-flagged tanker known to have delivered fuel to North Korea, appears to be the nexus where the networks of Tony Tung, Wong Tin Chuk, and Tsoi Ming Chi converge. In 2020, AIS data and satellite imagery appeared to show the DIAMOND 8 conducting three STS transfers with two mothership tankers that are either managed by entities in the Winson Group or that overlap with it operationally. An analysis of the DIAMOND 8's ownership and management history reveals not only the Winson Group's historical involvement with the vessel, but also connections to Wong and Tsoi, the two alleged smugglers who each have documented relationships with the Winson Group and other networks that have possibly been engaged in North Korea's efforts to evade sanctions.

Through the DIAMOND 8, we see how DPRK-linked fuel smuggling networks employ sophisticated measures to obscure the identities of their true beneficiaries. However, under their layers of obfuscation, these seemingly independently operated networks intersect at one node: the Winson Group.



Apparent connections between Tony Tung, Wong Tin Chuk, Tsoi Ming Chi, and the DIAMOND 8.³⁸⁸

Finding 1: The DIAMOND 8 Is a Former Winson Group Vessel

Maritime databases indicate that the Winson Group and associated companies formerly managed the DIAMOND 8. From March 2011 to July 2016, the DIAMOND 8, then known as the ANGEL 22, was managed by Winson Shipping Taiwan; the company's website even included a photograph of the vessel. From July 2016 until the vessel became the DIAMOND 8 in September 2019, the vessel's name, ownership, and management changed twice.³⁸⁹

Images of the DIAMOND 8 vessel under its previous names of the ANGEL 22 (left) and the ROYAL ACE (right). Source: www.winsonoil.com/shiptype/angel_no22.html; MarineTraffic.com.



Across these changes, the vessel appeared to maintain connections to the Winson network. It was named the ROYAL PRINCESS and the ROYAL ACE, both of which include the Royal prefix that the Winson Group employs for oil tankers in its fleet.³⁹⁰ In addition, from July 2016 to December 2016, the vessel was managed by Glory Sparkling, the company that managed the EVER GRANDEUR when it met the DIAMOND 8 in February 2020 and listed the same fleet manager as Winson Shipping Taiwan.³⁹¹ In December 2016, management of the vessel was transferred to the Seychelles-registered Double Profit Enterprise Ltd., which formerly listed an address used by both Winson Shipping Taiwan and Glory Sparkling.^{392 393} Notably, while managed by Double Profit Enterprise, the vessel appeared to make its first voyage to North Korea's territorial waters in 2017.³⁹⁴

Finding 2: A Possible Relative of Tsoi Is Listed on the DIAMOND 8's Bill of Sale

A possible relative of Tsoi appears to have served as the director of the Seychelles-registered company that sold the DIAMOND 8 to its current registered owner, an Indonesian national named Mr. Tan, two months before the vessel's first trip to North Korea in October 2019.³⁹⁵ The bill of sale for the transaction—dated 27 August 2019 and notarized in Hong Kong—shows Tsoi Mui Yung (蔡梅榕), the director of Urban Light Co., Ltd., as signing on behalf of the company to sell the DIAMOND 8 to Tan for USD 1.4 million.³⁹⁶ Notably, an individual of this name is listed in Chinese temple donation records as a family member of Tsoi Ming Chi.^{397 398} Moreover, Chinese-language news media recorded an individual named Tsoi Mui Yung as a member of the Shishi Fellow Townsman Association in Hong Kong (石獅市旅港同鄉總會), along with Tung and Wong in 2018.³⁹⁹

Tan is reportedly a retired sailor who once served on an oil tanker, then named the FU WING (IMO 9066095), which was owned and managed by companies in Wong's network.⁴⁰³

From March 2011 to November 2015, Wong's Rich Gainer International Ltd. was the registered owner, operator, and technical manager for the FU WING.⁴⁰⁴ In November 2015, another Wong-linked entity, Glory Progress Investment Ltd., assumed ownership and management of the FU WING before the vessel was eventually transferred to the BVI-registered Lucky Data Ltd.—which listed Sze Lai Wan as its director—and Winson Oil Trading Pte. Ltd. in July 2017.^{405 406 407}

While it remains unclear whether Tan owns and operates the DIAMOND 8, he seems to have worked on an oil tanker once operated by companies in Wong and Winson's networks. The precise nature of Tan's relationship to these parties remains unclear, as does the question of his complicity. In previous maritime sanctions evasion cases linked to North Korea, the personal information of sailors has possibly been used to register companies and vessels without their knowledge in attempts to obscure the identity of the beneficial owners.⁴⁰⁸ While Wong's companies and associates may have had access to the documents of its current and former crew, it is unclear how Tan's IMO number application in August 2019 included an up-to-date utility bill, given that he allegedly retired in 2018.

Takeaways

Tan denies owning the DIAMOND 8 and it appears unlikely he is the actual owner. Findings from this investigation suggest he likely has neither the financial resources nor the necessary commercial infrastructure to own and operate a large oil tanker procuring fuel from international markets for delivery to North Korea. Yet Tan sailed on a vessel linked to both Winson and Wong, who have repeatedly been identified in open sources as being allegedly engaged in smuggling and other illicit activities. In light of these findings, it is important to determine whether Tan is the bona fide owner of the DIAMOND 8 or whether he has been exploited by criminal actors as a nominee owner to disguise their control of the vessel.

If Tan's denials are true, this raises questions about the sale of the DIAMOND 8 in August 2019, which reportedly involved Tan purchasing the vessel for USD 1.4 million from a Seychelles-registered company that listed Tsoi Mui Yung, a possible relative of Tsoi Ming Chi, as the director. Tsoi Ming Chi is in turn linked to both Winson and an oil tanker that has, until recently, used the same ship manager employed by the DIAMOND 8 during its repeated trips delivering oil to North Korea.

In several respects, the case of the DIAMOND 8 is a microcosm of North Korean fuel smuggling. Through its recent history, the vessel's probable beneficiaries appear to have built firewalls of front companies in secrecy jurisdictions and possible nominee shareholders and directors, as well as complicating detection by moving the vessel's ownership and management from one shell company to another. Although these networks appear at first glance to be distinct, further investigation suggests they are interwoven—among themselves, but also intertwined with organized criminal groups and other DPRK-related entities.

Conclusion

Throughout 2020, despite multinational efforts to monitor and prevent such activities, North Korea procured fuel in violation of UNSC-imposed caps on its oil and petroleum imports. With the international community cracking down on these illicit commodity trades, North Korea and its foreign facilitators have adopted new ways of acquiring fuel. This research suggests that a number of foreign fuel procurement networks with possible links to organized crime have been central to these efforts.

As detailed in this report, disparities in fuel pricing and differences in regulatory regimes across East Asia have created the conditions for rampant fuel smuggling and have nurtured an ecosystem where a variety of actors can arbitrage illicitly across borders and generate immense profits.

With a long-documented history of partnering with criminal networks in Asia and farther afield, North Korea appears to be evading sanctions by actively exploiting the fuel smuggling sector. The illicit actors with whom it appears to be working have developed sophisticated tactics for evading detection, including developing a multilayered shuttle system that diverts fuel sourced from the licit market to be smuggled to North Korea. As a result, North Korea is able to tap into this existing black market, while the sheer size of the fuel smuggling and bunkering industry in the region helps conceal DPRK-related transactions.

Despite efforts to curb DPRK-related fuel smuggling, two areas in the East Asian region stand out as focal points in this illicit fuel market. The first focal point is Taiwan and its EEZ, which is a hotbed of apparent STS transfers of oil products often sourced from Taiwanese-operated tankers or the country's storage facilities and refineries. Several DPRK-linked networks also appear to operate out of Taiwanese port cities, such as Kaohsiung, while many of the publicly identified cases of DPRK-linked fuel smuggling trace directly back to Taiwan. Disrupting these networks and their activities requires active enforcement assistance from Taiwanese authorities, who should be able to participate in intelligence sharing mechanisms with the UN Panel of Experts and other Member State-led coalitions to enforce international sanctions against North Korea.

The second focal point is China and its EEZ; this investigation found multiple Chinese individuals and companies deeply embedded in the illicit fuel supply chain, and that China's EEZ, and the coastal waters of Fujian province, in particular, continue to provide a stage for North Korean illicit maritime activities. By failing to crack down on North Korea's sanctions violations in its territorial waters, including activities involving vessels sanctioned by multilateral authorities, China is enabling North Korea's fuel smuggling supply chain.

The problem is not, however, limited to Taiwan and China. The nodes of this region's fuel smuggling networks spread across the globe, including but not limited to Southeast Asia, a region with several fuel trading hubs whose ports and crew services are commonly exploited by

illicit actors. In addition, the frequent registration of vessels and commercial entities in flag of convenience states and secrecy jurisdictions, many located outside Asia, shows that stopping these practices requires a multilateral and multipronged approach. To do so, stakeholders in the private and public sectors should implement additional measures to share information locally and internationally, invest in better maritime domain awareness, and enhance supply chain transparency and security.

This community of fuel smuggling networks involves major players in the marine bunkering and oil trading industry, who operate in the licit market and can thus procure and supply fuel at scale. Through a complex web of front companies and individuals, transshipments designed to muddy the chain of custody, as well as tactics to obfuscate their role in supplying fuel to DPRK-linked vessels, these actors have violated UNSC sanctions by creating distance between themselves and the points where their fuel is traded.

The interactions and interrelationships described in this report paint a worrying picture for oil traders and other energy industry interests, the shipping sector, and financial institutions at large. The ease and frequency with which petroleum products are diverted from lawful trade to North Korea underscores the need to improve visibility within the entirety of the fuel supply chain, while also ramping up due diligence measures. On the other hand, fuel smuggling operations ultimately depend on the ability to source oil—a commodity priced and traded in USD and are thus subject to some US oversight. As the suppliers and financiers of these criminal networks must purchase oil through legitimate bank accounts, they are vulnerable to sanctions, de-risking, and other actions that restrict their ability to interact with the broader international oil market and financial system.

Finally, evidence in this report detailing the intersection of organized criminal networks and sanctions-evading behavior should prompt regulators to rethink their approach to sanctions enforcement. North Korea's means of acquiring numerous goods and services extralegal to the state, such as access to the financial system, weapons or fuel, should also be monitored in a framework similar to that associated with non-state interests, such as terrorist or transnational criminal organizations. To better disrupt this system of illicit activities, states require greater scrutiny of the underground economies and black markets providing North Korea with contraband goods and services.

In sum, states and international organizations should expand the scope of their mandate for enforcing sanctions against North Korea's involvement in and with organized criminal activities through interagency and international cooperation. Prosecuting isolated instances of sanctions violations can have some effect, but the impact of such efforts is typically limited to the targeted entities, and can create information silos, which complicate the sharing of crucial data and intelligence between relevant stakeholders. As North Korea's sanctions evasion tactics evolve and expand into other realms of illicit activity, effective countermeasures require proactive engagement between public and private sector stakeholders, as well as law enforcement agencies, financial institutions, and non-governmental organizations.

Recommendations

The authors recommend the following in light of the findings of this report.

The United Nations (UN)

As the highest governing organ on multilateral efforts to arrest North Korea's nuclear and missile development, the UN and UNSC should condemn Pyongyang's ongoing efforts to skirt international law and take action against the illicit actors who abet North Korea's sanctions evasion.

The UNSC should:

- Investigate, or otherwise take independent action against the vessels and their associated entities identified in this report as smuggling fuel to North Korea, as well as others that have been identified by the UN Panel of Experts, Member States, and nongovernmental organizations.
- Amend UNSC resolutions (UNSCR), in particular, Paragraph 9 of UNSCR 2397 to stipulate that UN Member States "shall seize, inspect, and freeze, and impound any vessel subject to its jurisdiction in its territorial waters," if the Member State has reasonable grounds to believe that the vessel is involved in DPRK-linked illicit activities; thereby making Member States more accountable for North Korea-related illicit maritime activity in their coastal waters.
- Create a mechanism to include non-Member States, such as Taiwan, in the sharing of information related to North Korea's illicit activities and sanctions violations.
- Amend Paragraph 11 of UNSCR 2375 to state that Member States "shall prohibit their nationals, persons subject to their jurisdiction, entities incorporated in their territory, or subject to its jurisdiction, and vessels flying their flag, from facilitating or engaging in ship-to-ship transfers to or from any vessels, DPRK-flagged or otherwise, of any goods or items that are being supplied, sold, or transferred to or from the DPRK." The current wording of Paragraph 11 restricts STS transfers with DPRK-flagged vessels only; the findings of this report however, demonstrate that North Korea is increasingly relying on foreign-flagged vessels to evade sanctions. In order to close this loophole, the UNSCR should prohibit STS transfers with any vessels that may ultimately transact with North Korean interests.

States and Government Authorities

National Governments (both UN Member States and non-Member States, such as Taiwan) should implement concrete legislative measures to enhance compliance with sanctions on North Korea, and imbue mandates across government agencies to investigate North Korean sanctions evasion from multiple angles, including its overlap with transnational organized crime, money laundering, and maritime supply chains.

The States and Government Authorities should:

- Improve compliance with the UN-mandated obligation to apply “enhanced monitoring” to prevent entities under their jurisdiction, including banks and insurers, from facilitating financial transactions (including, but not limited to transactions for bunkering or payments for smuggled cargo) that violate UN sanctions on North Korea.
- Enact comprehensive anti-money laundering legislation similar to the U.S. Anti-Money Laundering Act of 2020 (AMLA), including measures to:
 - » Tighten suspicious activity reporting rules for banks.
 - » Facilitate sharing of information on suspected transnational criminal or sanctions violating activities between the public and private sector, as well as across jurisdictions.
 - » Implement and/or expand the authority of government agencies to subpoena records from foreign banks through correspondent banking relationships.
- Expand the scope of monitoring of North Korea's illicit activities to law enforcement agencies tasked with investigating transnational organized crime, in order to ensure cooperation between all relevant government stakeholders and to prevent information silos.
- Make appropriate revisions to policies on preferentially priced fuel to close loopholes that allow fuel smugglers to procure lower priced fuel in bulk and exploit cross-border price disparities.

Multilateral and National Level Maritime Authorities

Given that shipping is a major vector of North Korea's procurement and sale of sanctioned commodities, maritime authorities at all levels should implement stricter regulatory standards and due diligence checks in the operation of the global shipping fleet.

The IMO should:

- Provide due diligence guidelines on flag registry operation and require its member states that are typically classified as "flags of convenience" states to enforce higher levels of compliance checks on the registration of new vessels and routine check-ins with registered vessels. Specifically, the IMO should recommend for flag registration to include full disclosure of a vessel's beneficial owners.
- Work with stakeholders in the public, private, and nongovernmental sectors to create a free and easily accessible database of historical and current vessel registration information, which can also function as a hub for information sharing on vessels.
- Create a universal blacklist of entities (and their beneficial owners) that have submitted fraudulent information in vessel registration and operation, and prohibit shipping registries from issuing flags to vessels owned and operated by such actors.
- Publish circulars of incoming and outgoing vessels, including notes on vessels that are struck off from the registry.
- Report red flags and findings of illicit activity to the IMO and relevant multinational and national authorities, and alert other shipping registries of relevant risks through information-sharing MOUs.

Classification societies should:

- Prohibit the issuance of classification to vessels that have been sanctioned, designated, or blacklisted for association with DPRK illicit activities.

Port and Customs Authorities and Coast Guards should:

- Implement an automatic alert system for vessels that have been blacklisted in association with DPRK illicit shipping activities entering a state's territorial waters and applying for port entry. This alert system should also include the fraudulent AIS profiles used by DPRK-linked vessels.
- Seize, detain, and investigate vessels that appear to be disabling their AIS transponders in their territorial waters.
- Board and investigate vessels engaged in suspicious bunkering operations and establish that both transacting parties have legitimate documentation.
- Perform proactive and regular checks on cargo in transit to or from the DPRK, or transiting through known DPRK illicit shipping hubs, and seize vessels carrying prohibited or sanctioned commodities.

State maritime authorities and flag registries should:

- Prohibit the entry of vessels into its flag registry that do not have a "genuine link" with the flag state (such as registration of owners and managers, and physical operation of those companies in a state's territories). (Article 91 of the UN Convention on the Law of the Sea (UNCLOS))
- Increase use of remote sensing data such as AIS transmission records and satellite imagery to monitor its fleet for participation in illicit activities, and implement a warning and deregistration system for non-compliant vessels.

The Private Sector: Finance, Shipping, and Oil Trading

While illicit actors may attempt to conceal their trail and shipments of prohibited goods, the shipping and oil trading sectors typically require high amounts of capital and licit sources of fuel. This makes these fuel smuggling networks vulnerable to de-risking and other measures to cut their ties to the international banking system and oil market.

Financial Institutions should:

- Perform comprehensive Know-Your-Customer (KYC) checks to mitigate risk of transacting with and providing credit to sanctioned parties or their related entities.
 - » Diversify KYC and due diligence measures to include risk measurements specific to different industries (e.g. for shipping companies, compliance checks should include a review of a company's fleet and the fleet's shipping activities), rather than relying solely on list-based screening.
- Continue to flag and report suspicious activities to relevant financial intelligence units, including, but not limited to the use of secrecy jurisdictions and shell companies, lack of verifiable business operations or public profile, and the use of nominee shareholders and directors.

Maritime Insurers should:

- Prohibit insurance coverage to vessel owners and operators who do not present documentation on the vessel's full beneficial ownership structure.
- Implement measures to monitor a suspicious vessel's activities, and deny coverage to vessels that regularly lose AIS transmission, especially in known STS transfer hotspots and near North Korea's EEZ.

Oil Traders and Bunkering Service Providers should:

- Implement a comprehensive set of due diligence checks on transacting parties and vessels prior to each sale.
- Prohibit sales to vessels that are not broadcasting AIS transmissions.
- Prohibit sales to vessels that are falsifying or misrepresenting their identity (e.g. physical alterations to the vessel that do not match the vessel's reported identifiers, or vessels broadcasting a fake identity or spoofing that of another vessel on AIS).
- Prohibit purchases of fuel from transacting parties that do not have all necessary supporting evidence to establish a legitimate chain of custody of fuel.

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- 270 The network behind the AQUAMARINE appears to have a commercial relationship with the Winson Group. A financial document dated 5 June 2020 detailing a USD 180 million mortgage for three vessels, including the AQUAMARINE, lists Leader Power Global and its director, Chien Chen Yi, alongside Sze Lai Wan—Tony Tung’s wife and a Winson Group executive—as officers of the companies mortgaging the vessels. In addition, the document indicates Chien Chen Yi is the director of the BVI-registered company Eastern Sail Holdings Ltd. According to IHS Markit, the group owner company of Eastern Sail Holdings, Super Fleet Holdings, shares an email domain (fleet@glory-sp.com) with Glory Sparkling and is located on the 25th floor of the commercial building at No. 29 Haibian Road, which is one of the five floors reportedly owned by Winson Shipping Taiwan. Source: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
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- 275 There are indications that Wong Tin Chuk may have died in recent months. According to the directory of the Hong Kong Association for Promotion of Peaceful Reunification of China, for which Wong is listed as a vice chairman, Wong's name is in a black box, which the association has used to identify members that have died. An archived version of the association's website from October 2019 shows Wong's name without a black box. Source: "組織架構" Hong Kong Association for Promotion of Peaceful Reunification of China Limited, n.d., <http://www.happrc.hk/en/org.php>; "組織架構" Hong Kong Association for Promotion of Peaceful Reunification of China Limited [Archived on Wayback Machine], October 2019, <https://web.archive.org/web/20191006001016/http://www.happrc.hk/sc/org.php>.
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- 301 Hong Kong corporate registry documents for Bewin Shipping (Hong Kong) Ltd. (達勝船務(香港)有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
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- 329 A number of other open sources appear to confirm that Tsoi Ming Chi also has links to Shishi. For example Chinese corporate documents list Tsoi Ming Chi as a former director in at least three Shishi-based textile companies. Sources: “福建省石狮银鑫纺织有限公司.” Qichacha, n.d., www.qcc.com/firm/838689a051395d-c1d340421666473cc4.html; “福建省石狮市林边兄弟制衣厂” 钉钉企业信息查询, n.d., www.dingtalk.com/qidian/company-0003CFB57F3e79.html. Other members of Tsoi’s family, including his son, also appear to be involved in the textile industry in the city. Documents for Hong Kong properties owned by Tsoi Ming Chi show that a member of his family is named Tsoi Hoi Shauu (蔡海哨). An individual of the same name appears on Chinese corporate records as the director of several companies based in Shishi, including three textile companies. One of these textile companies was previously owned by an individual named Tsoi Ming Chi until being taken over by Tsoi Hoi Shauu. Sources: “石狮市十大杰出留学人员风采展示.” 雪花新闻, 28 October 2018, <http://www.xuehua.us/a/5ebcfe5386ec4d390e4dd7ae>; “石狮宝益海拓纺织科技有限公司.” Qichacha, n.d., <http://www.qcc.com/firm/2560c365c693b0c28e5b9a029fdc7193.html>; “石狮市金海纺织品贸易有限公司.” Qichacha, n.d., <http://www.qcc.com/firm/b3fcd8a3f7b18e4ff458443a076cafb4.html>.
- 330 Sources: IHS Markit; corporate documentation from Hong Kong, Taiwan, Singapore, and the British Virgin Islands; property records from Hong Kong and Singapore; Facebook; DomainTools.
- 331 On 26 August 2016, the BVI-registered Bright Clear Global Limited (the mortgagor) entered into a mortgage with the BVI-registered Rosy Route Limited (the mortgagee) in which the former used the oil products tanker then known as the BOUNTIFUL 5 (IMO 9062685) to secure a term loan facility valued at USD 2 million. The document indicates Tsoi Ming Chi as the borrower behind Bright Clear Global. This vessel mortgage appears to be linked to a loan agreement dated 28 July 2016 between Tsoi Ming Chi (the borrower) and Rosy Route (the mortgagee). Source: Description of Charge, Bright Clear Global Ltd., (the “Mortgagor”), Title of Document: Application form for Mortgage Registration as Supplemented by a Deed of Covenants (together the “Mortgage”), Attachment ID: BCGLO816/1 Registration No.: 1880227.
- 332 On 6 October 2016, the Hong Kong-registered Sure Metro Ltd. (the mortgagor) entered into a mortgage with the BVI-registered Rosy Route Limited (the mortgagee) in which the former used the oil products tanker then known as the BONVOY 6 (IMO 8682969) to secure a term loan facility valued at USD 2 million. The document indicates that Tsoi Ming Chi and Au Chat Kwan signed on behalf of Sure Metro and Rosy Route, respectively. This vessel mortgage appears to be linked to a loan agreement dated 28 July 2016 between Tsoi Ming Chi (the borrower) and Rosy Route (the mortgagee). Source: Hong Kong corporate registry documents for Sure Metro Ltd. (順國際有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 333 Hong Kong corporate registry documents for Sure Metro Ltd. (順國際有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 334 Hong Kong corporate registry documents for Winson Pacific Ltd. (永順亞太投資有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 335 Memorial for an instrument to be registered in the Land Registry under the Land Registration Ordinance, Memorial Number 15112501340086. Legal Charge between Tsoi Ming Chi, Tsoi Sau Pan, Tsoi Hoi Shauu and Winson Finance Ltd., dated 3 November 2015. Accessible at: Integrated Registration Information System Online Services: The Land Registry, n.d., <https://www1.iris.gov.hk/eservices/welcome.jsp>.
- 336 Hong Kong corporate registry documents for Winson Finance Ltd. (永順財務有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 337 The New York Times; Taiwan corporate registry documents for Ding Yifu Co., Ltd. (鼎益富有限公司), Accessible at: 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>.
- 338 Taiwan corporate registry documents for Ding Yifu Co., Ltd. (鼎益富有限公司), Accessible at: 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>. Note: a BVI-registered company named Zenith Vantage Ltd. that uses the same Chinese name (鼎益富有限公司) is registered in Hong Kong. The director of Zenith Vantage is Tsoi Hoi Shauu (蔡海哨), who is identified in Hong Kong property records as the child of Tsoi Ming Chi. Source: Memorial for an instrument to be registered in the Land Registry under the Land Registration Ordinance, Memorial Number 15112501340086. Deed of Gift between Tsoi Ming Chi, Tsoi Sau Pan, and Tsoi Hoi Shauu, dated 15 October 2019. Accessible at: Integrated Registration Information System Online Services: The Land Registry, n.d., <https://www1.iris.gov.hk/eservices/welcome.jsp>.
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- 340 The Chinese characters for “Yongshun” in Yongshun Oil Products Storage Co., Ltd. are identical to the Chinese characters used by the Winson Group to denote “Winson.”
- 341 Taiwan corporate registry documents for Taishun Trading Co., Ltd. (台順貿易股

- 份有限公司), Accessible at: 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>.
- 342 Taiwan corporate registry documents for Winson Shipping Taiwan Co., Ltd. (永順船舶股份有限公司), Accessible at: 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>.
- 343 According to a vessel mortgage entered between Tsoi Ming Chi and Winson-linked Rosy Route Ltd. in August 2016, Tsoi is listed as the owner of the BVI-registered Bright Clear Global Limited (亮明環球有限公司), which was in turn the registered owner of the mortgaged oil tanker then known as the BOUNTIFUL 5 (IMO 9062685).
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- 345 The New York Times
- 346 Taiwanese corporate registry documents for New Sheng Management Consulting Co., Ltd. (新晟管理顧問有限公司), Accessible at: 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>.
- 347 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 348 According to the Taiwanese corporate registry, New Sheng Management Consulting Co., Ltd. (新晟管理顧問有限公司) was dissolved on 14 October 2020. Accessible at: 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>.
- 349 IHS Markit lists New Sheng Management's address at Room 2, 6th Floor, 29, Haibian Road, Lingya District, Kaohsiung, Taiwan (高雄市苓雅區海邊路29號6樓之2) which, according to the Taiwanese corporate registry, was the company's registered address until October 2018, when it moved to Room A1, 23F-1, 29, Haibian Road, Lingya District, Kaohsiung City, Taiwan (高雄市苓雅區海邊路29號23樓之1). Sources: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>; 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>.
- 350 According to the Taiwanese corporate registry, Chang Ming Chung (張明中) was the supervisor for and shareholder of Shengye Investment Development Co., Ltd. (勝業投資開發股份有限公司), which was dissolved on 2 September 2015. Historical records list Chien Yuan Ju (簡苑如), the representative and a shareholder of Winson Shipping Taiwan, serving in the same capacity for Shengye Investment from its incorporation on 21 June 2013 until 22 July 2013. Tony Tung, using the Chinese name "董東尼," became the non-shareholding representative of the company while Chien transitioned into the role as director. Accessible at: 商工登記公示資料查詢服務, n.d. <https://findbiz.nat.gov.tw>.
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- 352 Tsoi has been listed on a variety of company documents for entities that owned or managed oil tankers, such as the Hong Kong-registered Sure Metro Ltd., the BVI-registered Bright Clear Global Limited, and the Panama-registered Bonvoy Shipping S.A.
- 353 Description of Charge, Bright Clear Global Ltd., (the "Mortgagor"), Title of Document: Application form for Mortgage Registration as Supplemented by a Deed of Covenants (together the "Mortgage"), Attachment ID: BCGL0816/1 Registration No.: 1880227.
- 354 Source: Data provided to the authors.
- 355 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 356 "S/2020/151." United Nations Security Council, 02 March 2020, <https://undocs.org/S/2020/151>; "S/2020/840." United Nations Security Council, 26 August, 2020, <https://undocs.org/S/2020/840>.
- 357 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 358 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 359 According to the Hong Kong corporate registry, Lu Sheng Shipping was incorporated on 15 July 2019. Lu Sheng Shipping lists an Indonesian national who Incorporated on 15 July 2019, Hong Kong corporate registry documents indicate that the director of Lu Sheng Shipping is an Indonesian national who lists an address used by a branch office of Mingyang Maritime Service (HK), the former manager of another oil tanker named the BONVOY 3 that allegedly delivered oil to the DPRK in 2019 and 2020. Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 360 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 361 IMO Global Integrated Shipping Information System: Recognized Organizations, n.d., <https://gis.imo.org/Public/RO/ViewAuthorisation.aspx?Country=MNG&Org=1009>
- 362 North Korea's Ocean Maritime Management (OMM) was sanctioned by the UNSC in July 2014 following the interdiction of a North Korean vessel called the CHONG CHON GANG by Panamanian authorities in 2013. The vessel, operated by OMM, was carrying Soviet-era weaponry from Cuba, hidden under a consignment of sugar. Subsequent investigations revealed that OMM commanded an extensive network of ships and entities abroad. According to the Panel, OMM's network spanned across Asia, Europe, South America, and the Middle East and acted as a key facilitator of North Korea maritime sanctions evasion. Sources: "S/2015/131." United Nations Security Council, 23 February 2015, <https://www.undocs.org/S/2015/131>; "S/2017/150." United Nations Security Council, 27 February 2017, <https://www.undocs.org/S/2017/150>.
- 363 The JIE SHUN case was reportedly the largest known interdiction of ammunition in the history of sanctions against North Korea. Zhang allegedly organized the vessel's protection and indemnity insurance, acted as its emergency contact, and registered the vessel's operator. Source: "S/2017/150." United Nations Security Council, 27 February 2017, <https://www.undocs.org/S/2017/150>.
- 364 "S/2017/150." United Nations Security Council, 27 February 2017, <https://www.undocs.org/S/2017/150>.
- 365 Hong Kong corporate registry documents for Baili Shipping and Trading Ltd. (百利船舶貿易有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 366 This XIN HAI (IMO 7636638) is a different vessel from the XIN HAI (IMO 9129213) (formerly known as the Cook Islands-flagged RICH UNITED), the latter of which conducted an apparent STS transfer with the EVER GRANDEUR—a Winson-linked vessel—in April 2020. Notably, in August 2020, the RICH UNITED changed its name to the XIN HAI and flag to Mongolia. Source: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 367 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 368 Although IHS Markit shows the XIN HAI (IMO 7636638) was transferred to the North Korean flag in March 2020, the vessel's profile was not updated until early 2021. Source: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 369 Sources: IHS Markit; corporate documentation from Hong Kong, China, and the British Virgin Islands; UN Panel of Experts reports; International Maritime Organization (IMO).
- 370 Forthcoming report by the UN Panel of Experts seen by the authors.
- 371 In their reports published in March and August 2020, the UN Panel of Experts erroneously identified another tanker also named the BONVOY 3 (IMO 8978784) but formerly flagged to Honduras as the vessel that allegedly delivered fuel to North Korea in 2019 and 2020. The correct BONVOY 3 vessel is reportedly the one registered with IMO 8714085. Sources: "S/2020/151." United Nations Security Council, 2 March 2020, <https://undocs.org/S/2020/151>; "S/2020/840." United Nations Security Council, 28 August 2020, <https://undocs.org/S/2020/840>; and the aforementioned forthcoming Panel report for 2021.
- 372 AIS data provided by Pole Star Space Applications, Geolcollect, and Windward. Satellite imagery provided by Maxar Technologies, Airbus Defence and Space, and Planet Labs.
- 373 "Cancellation Form: FU SHUN 3." Mongolia Ship Registry, Mongolia Maritime Administration, 24 December 2020.
- 374 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 375 "Sure Metro 2014-2019 Annual Returns." Hong Kong corporate registry documents, Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 376 According to IHS Markit, the BONVOY 3's (IMO 8714085) flag status is listed as "Fiji FALSE" from March 2017 to May 2018. AIS data from Windward show the vessel transmitted the fraudulent Fiji identifiers as early as January 2017 up until its last recorded transmission in May 2020. Accessible at: IHS Markit Maritime

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- 377 Mandhana, N. “Fake Signals and Illegal Flags: How North Korea Uses Clandestine Shipping to Fund Regime.” *The Wall Street Journal*, 28 November 2018, www.wsj.com/articles/fake-signals-and-illegal-flags-how-north-korea-uses-clandestine-shipping-to-fund-regime-1543402289.
- 378 “Fraudulent Ship Registries Fall Under the Radar.” IHS Markit, 8 November 2018, ihs.com/research-analysis/fraudulent-ship-registries-fall-under-the-radar.html.
- 379 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 380 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 381 Hong Kong corporate registry for Lu Chang Shipping (HK) Ltd. (鷺昌船務(香港)有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 382 “Branch Offices.” Dalian Mingyang Ship Management Co., Ltd., n.d., http://www.dlmingyang.com/FRBranchOfficesAction_init.action?mainMenuId=MENU_02&chrMenuId=CHR_MENU_6.
- 383 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 384 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 385 Hong Kong corporate registry documents for Lu Chang Shipping (HK) Ltd. (鷺昌船務(香港)有限公司) and Lu Sheng Shipping (HK) Ltd. (鷺盛船務(香港)有限公司), Accessible at: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 386 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 387 H. Mardianto’s full name has been redacted in this report.
- 388 Sources: IHS Markit; corporate documentation from Hong Kong, Singapore, Taiwan, the British Virgin Islands; Hong Kong court records; Panama vessel mortgages; New York Times.
- 389 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 390 Sources: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>; Winson Group, n.d., <http://winsonoil.com>.
- 391 Sources: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>; Republic of Panama, Document of Maritime Labor Compliance (DMLC) for the EVER GRANDEUR (IMO 9296559) dated 18 October 2018.
- 392 “Angel 125.” Inter-American Tropical Tuna Commission, n.d., <https://www.iattc.org/VesselRegister/VesselDetails.aspx?VesNo=14959&Lang=en>.
- 393 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 394 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 395 Mr. Tan’s full name has been redacted in this report.
- 396 Bill of sale (Body Corporate) for the ROYAL ACE between Urban Light Ltd. and Tan dated 27 August 2019.
- 397 Also listed as members of this family are Tsoi Sau Pan (蔡秀品) and Tsoi Hoi Shaau (蔡海哨), the same names that appear on Hong Kong corporate and land registry documents for companies and properties owned or associated with Tsoi Ming Chi. Sources: Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>; Integrated Registration System Online Services: The Land Registry, n.d., <https://www1.lris.gov.hk/eservices/welcome.jsp>.
- 398 “尊供”五百罗汉像“缘启.” 美篇, 10 February 2017, <https://www.meipian.cn/d1rsf15>.
- 399 “慶祝成立二十八周年暨第十五屆董事就職典禮.” Shishi Fellow Townsman Association in Hong Kong, 07 December 2018, <http://pdf.wenweipo.com/2018/12/07/a09-1207.pdf>.
- 400 Identity documents and utility bills seen by authors.
- 401 Despite the shared name of “Sierra Leone Maritime Administration,” SLMARAD is a Cyprus-based company contracted to manage the Sierra Leone flag registry and is distinct from the Sierra Leone Maritime Administration (SLMA), a government agency in Freetown, Sierra Leone.
- 402 The New York Times
- 403 According to IHS Markit, the vessel was named the FU WING from June 2014 to July 2017 and ANGEL 206 from July 2017 to October 2019, and FIRST LADY from October 2019 to present (as of 11 March 2021). According to the New York Times, Tan served as a sailor on this vessel when it was named the FU WING. Sources: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>; The New York Times
- 404 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 405 In November 2015, Wong’s Rich Gainer International passed ownership of the FU WING to the BVI-registered Glory Progress Investment Development Ltd. As mentioned above, the director of Glory Progress Investment is Ng Chi Mang (吳志猛), who is also the sole director of Bewin Shipping (Hong Kong) Ltd. According to Hong Kong corporate registry documents, Bewin Shipping is described as being a special purpose vehicle company in the care of Rich Gainer. Sources: IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>; Hong Kong corporate registry documents for Bewin Shipping (Hong Kong) Ltd. (達勝船務(香港)有限公司), Integrated Companies Registry Information System (ICRIS), n.d., <https://icris.cr.gov.hk>.
- 406 IHS Markit Maritime Intelligence Risk Suite (MIRS), n.d., <https://mirs.maritime.ihs.com>.
- 407 Republic of Panama, formalized sales contract for the sale of the ship “ANGEL 206” from Glory Progress Investment Development Ltd. to Lucky Data Ltd., dated 20 June 2018.
- 408 Areddy, J., Gordon, M., & Mandhana, N. “How Hong Kong Makes Evading North Korea Sanctions Easier.” *The Wall Street Journal*, 16 March 2018, <https://www.wsj.com/articles/how-hong-kong-makes-evading-north-korea-sanctions-easier-1521228390>.