

2018 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

Team No. 4

IN THE INTERNATIONAL COURT OF JUSTICE

AT THE

PEACE PALACE, THE HAGUE



CASE CONCERNING CONFLICTING ACTIVITIES IN OUTER SPACE,
PLANETARY PROTECTION, AND OUTER SPACE SECURITY

THE DEMOCRATIC REPUBLIC OF NEAPILIA

v.

THE REPUBLIC OF KALVION

ON SUBMISSION TO THE INTERNATIONAL COURT OF JUSTICE
MEMORIAL FOR THE APPLICANT

THE DEMOCRATIC REPUBLIC OF NEAPILIA

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LIST OF ABBREVIATIONS

“50 Rays” programme	“50 Rays of SalPA” programme
ARS	International Law Commission Articles on Responsibility of States for Internationally Wrongful Acts
Clarifications	Responses to Requests for Clarification
FAO	United Nations Food and Agriculture Organization
Facts	Agreed Statement of Facts between the Democratic Republic of Neapilia and the Republic of Kalvion in the Case Concerning Conflicting Activities in Outer Space, Planetary Protection, and Outer Space Security
GA	United Nations General Assembly
ICJ	International Court of Justice
ICJ Statute	Statute of the International Court of Justice
HAMs	Habitable Atmospheric Modules
Kalvion	the Republic of Kalvion
LIAB	Convention on International Liability for Damage Caused by Space Objects
MA	Agreement Governing the Activities of States on the Moon and Other Celestial Bodies
Memorial	Written Submissions on behalf of Neapilia
Neapilia	the Democratic Republic of Neapilia
NSA	Neapilian Space Agency
OST	Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies
RC	Convention on Registration of Objects Launched into Outer Space
PCIJ	Permanent Court of International Justice
SalPA Corp.	Salus Patriae ad Astra Corporation

SIENAR	SIENAR Industries
UMVs	Unmanned Mining Vehicles
UMVs-2	the second generation of UMVs — UMVs Mk2
UN	United Nations
UN Charter	Charter of the United Nations
VCLT	Vienna Convention on the Law of Treaties
Vol.	Volume

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QUESTIONS PRESENTED

- (1) Whether Kalvion's actions constituted an unlawful cyber-attack against Neapilia, contrary to international law and to the peaceful uses of outer space;
- (2) Whether Kalvion is liable for the total loss of the "50 Rays" programme and for all consequential damages, loss of profit and liquidation of SalPA Corp.'s;
- (3) Whether Neapilia should not be held liable for the cessation of Kalvion's mining activities on Mars.

STATEMENT OF FACTS

BACKGROUND

1. The Democratic Republic of Neapilia is a developed country, that has always invested in space technologies. Neapilia has particularly focused on the creation of a human settlement on Mars. In 2040 the Neapilian Space Agency (NSA) launched “TheosAres” — a Civil Space Station orbiting Mars. The Republic of Kalvion is a former developing country. Since 2025 Kalvion’s economy has experienced massive growth accompanied by the development of civil and military space activities.

2. By 2045 the global population of Earth exceeded 9.2 billion and Earth’s natural reserves have reached critical levels. Over-population led to the food crisis, the crisis of renewable natural resources, massive migrations and social unrests. Neapilia is one of the most affected countries because of population explosion within a small territory since 2030. Kalvion suffered from the depletion of non-renewable resources as its economic growth relied on imported oil and gas. Since 2035 UN members looked for collective solutions, however no agreement was reached and states started to pursue separate solutions.

“50 RAYS” PROGRAMME

3. Neapilia considered exploration of outer space to be a remedy against global and national overpopulation and resource crisis. Neapilia could not rely on its resources to fully fund new outer space programmes and invited a private sector to look for such solutions. Private Neapilian company Salus Patriae ad Astra Corporation (SalPA Corp.) proposed a programme of human resettlement on Mars. In June 2046 SalPA Corp. proposed an invention — OptronRay mirrors — comprised of a pair of mirrors, orbiting the poles of Mars, reflecting Sun heat and warming Mars’ surface. As a result, necessary conditions for a human

resettlement were to be created. The first stage of the programme was the Technology Trial. SalPA Copr. planned to use “TheosAres” during the Trial: astronauts there should control mirrors and monitor the impact on the CO₂ ice cap and underlying water ice layer of Mars. SalPA Corp. would concurrently develop a prototype of Habitable Atmospheric Modules (HAMs) that would help to sustain human vital activities on Mars. The results of the Trial were to be reported by the end of 2053.

4. Subject to successful testing, SalPA Corp. anticipated the production of 50 larger OptronRay mirrors with the first deployment by 2060 and full operationability by 2070 (the so-called “50 Rays of SalPA”). The mirrors had been designed to warm the atmosphere of Mars sufficiently to enable the first HAMs to be deployed by 2063, when sufficient quantities of liquid water would be available on the surface. SalPA possessed international patents for its exclusive technology. After the creation of supporting infrastructure, SalPA Corp. allowed public and private investors from around the world to purchase HAM license, whose fees would recover the costs of the technology.

5. Neapilia’s government backed up SalPA Corp.’s programme and HAM’s development by investing public funds and taking a 49% equity stake in the company. Under national law Neapilia authorised SalPA Corp. to conduct the Technology Trial and to use “TheosAres” and its crew. When the first mission launched in February 2050, Neapilia informed the UN Secretary General about the launch and declared the generic purpose of the mission as a “peaceful space exploration mission to Mars”.

KALVION’S MINING ACTIVITIES

6. Kalvion facing its own energy resources problem developed a space programme in 2040 to find natural resources on celestial bodies. After the exploration phase Kalvion chose Mars to start mining operations. Under national law Kalvion authorised SIENAR Industries

(SIENAR) (the multinational company established in Kalvion) to exploit space resources they might obtain on Mars. In 2048 SIENAR deployed nuclear-powered Unmanned Mining Vehicles (UMVs) directly to Mars. By the end of 2049, the mining activities started to provide Kalvion with space resources.

7. In March 2051, SIENAR replaced its UMVs with the second generation of nuclear-powered UMVs (UMVs Mk2) and launched a satellite “Aeneas-1” into polar orbit around Mars. “Aeneas-1” was constructed to derive maximum benefit from the new UMV Mk2 technology. The system was capable of providing Kalvion with a solution for the domestic resources substitution.

THE START OF THE TECHNOLOGY TRIAL

8. In November 2052, SalPA Corp. started the Technology Trial. After the initial success NSA issued an international press release describing “50 Rays of SalPA” programme and inviting all nations to take advantage of this solution “for the benefit of Humankind”. Public and private entities from all nations were invited to pre-order HAMs. The programme was very popular and a number of States and high net-worth individuals were willing to purchase HAMs if the Trial succeeds.

9. Kalvion’s government was concerned that if the “50 Rays” programme succeeds, UMVs and UMV Mk2 would not be able to conduct mining activities as they were designed to operate in Mars’ natural environment. Developing states were troubled by NSA’s announcement as some of them did not have the sufficient budgets to obtain HAMs and were worried that developed states would crowd all the “best places”.

10. In March 2053, Kalvion formally requested Neapilia to cease the Technology Trial specifying its consequences for Kalvion’s space mining programme. In March 2054, Neapilian Minister of Commerce invited Kalvion to purchase HAMs.

LOSS OF COMMUNICATION BETWEEN “AENEAS-1” AND UMVs Mk-2

11. The communication between Kalvion’s “Aeneas-1” and UMVs Mk2 was lost in the beginning of 2054. An independent body of experts concluded that the communication interruption was caused by the disturbances in atmospheric conditions of Mars, possibly caused by Neapilia’s Trial.

12. Kalvion spearheaded a meeting of Heads of States who opposed the “50 Rays” programme. At the end of the meeting, the “Seychelles Declaration” was adopted, which stated that the environment of Mars should remain unaltered until an international consensus is reached. In November 2054 Kalvion requested the UN Security Council to condemn Neapilian acts on Mars as constituting “a threat to international peace and security” and to adopt appropriate measures should Neapilia not cease its activities. The UN Security Council unanimously adopted a Resolution, which “expressed concern” about “the situation on Mars” and “urged” Neapilia to comply with international space law. In response, the Prime Minister of Neapilia pointed out that operations are conducted “for the welfare of all Humankind”, and that their cessation would be “a disaster for Neapilia and all Humankind”, and declared that Neapilia would keep the Security Council informed about the situation.

THE CYBER-ATTACK

13. Notwithstanding the UN Security Council’s Resolution, Kalvion declared its decision to adopt “protection measures” if Neapilia immediately would not cease its Trial. On 5 January 2056, both OptronRay mirrors began to change their angle by 3° per day. It was investigated that Neapilia’s control system had been overtaken by a remote electronic interference which irrevocably “locked” the system, requiring the installation of an entirely new control system. Despite unsuccessful efforts of “TheosAres” staff to restore control, mirrors changed their angle by 30° within 10 days which led Neapilia’s Trial to an unexpected end. SalPA Corp.

announced that it was unable to continue the “50 Rays” programme, which would be suspended indefinitely, all pending orders and contracts for HAMs were cancelled. SalPA Corp. filed for bankruptcy and was liquidated.

On 17 January 2056, Kalvionian Minister of Foreign Affairs revealed that cyber experts from Kalvion interfered with Neapilia’s system and this interference would be maintained until “50 Rays” programme would be definitely abandoned.

14. Following inconclusive diplomatic consultations Neapilia initiated proceedings in the International Court of Justice. There is no issue of jurisdiction before the Court.

SUMMARY OF ARGUMENT**I. KALVION'S ACTIONS CONSTITUTED AN UNLAWFUL CYBER-ATTACK AGAINST NEAPILIA, CONTRARY TO INTERNATIONAL LAW AND TO THE PEACEFUL USES OF OUTER SPACE**

A. Existing international law applies to cyberspace. Kalvion's actions qualify as a cyber-attack since their effects constitute damage to Neapilia's objects.

B. The cyber-attack undertaken by Kalvion's cyber experts constitutes an internationally wrongful act as it is attributable to Kalvion and breached its international obligations. The cyber-attack constitutes the use of force in its scale and effects. Therefore, the cyber-attack violated the customary rule on the peaceful uses of outer space as well as treaty provisions of Art. 2(4) of the UN Charter, Art. IV OST and Art. 3 MA. The cyber-attack also constitutes a hostile act in violation of Art. 3 MA. Kalvion violated the principle of non-intervention as its cyber-attack intervened in internal matters in which each state is permitted to decide freely and met the necessary threshold of coercion, having compelled Neapilia to refrain from conducting "50 Rays" programme. Kalvion violated its consultation obligation under Art. IX OST.

C. Wrongfulness of Kalvion's actions cannot be precluded as they do not qualify as lawful countermeasures. Kalvion could not undertake countermeasures as Neapilia did not commit any internationally wrongful act. Neapilia complied with the obligation not to introduce adverse changes in Mars' environment under Art. 7(1) MA. Acting in compliance with Art. 8(3) MA, Neapilia did not interfere with Kalvion's activities on Mars as there was no causal link between Neapilia's Trial and the cessation of mining. Neapilia complied with the obligation to pay due regard to corresponding interests of Kalvion and present and future generations under Art. IX OST and Art. 4(1) MA. Kalvion's actions do not satisfy the criteria of lawful countermeasures under ARS as they affected the obligation to refrain from use of

force and obligations under other peremptory norms, namely principle of non-intervention. The declared countermeasures were not commensurate with the injury suffered and do not satisfy procedural requirements.

II. KALVION IS LIABLE FOR THE TOTAL LOSS OF THE “50 RAYS” PROGRAMME AND FOR ALL CONSEQUENTIAL DAMAGES, LOSS OF PROFIT AND LIQUIDATION OF SALPA CORP.’S

A. Neapilia, being a shareholder of SalPA Corp., which conducted the “50 Rays” programme and held international patents for OprtronRay mirrors and HAMS’ technologies, has standing to file a claim for damage under LIAB. Kalvion by its cyber-attack gained control over Neapilian space object — “TheosAres” — and used it to inflict damage to OprtronRay mirrors by changing their angle. Inflicting damage by space objects under states’ control falls within the scope of LIAB’s application. Kalvion is liable under LIAB since all necessary criteria of liability – damage and fault – are met. The damage took the form of the total loss of the “50 Rays” programme and consequential damages (loss of profits and liquidation of SalPA Corp.), all of which are recoverable under LIAB. Therefore, Kalvion is liable under LIAB.

B. Even if Kalvion’s actions do not fall within the scope of LIAB’s application, Kalvion would be liable under Art. VII OST. The OST is applicable in parallel with LIAB, if the criteria under Art. III LIAB are not met, but the damage occurred. Therefore, Kalvion is liable under the OST.

C. In any event, Kalvion is liable, *i.e.* obliged to pay compensation for inflicted damage, under general rules of state responsibility. Kalvion’s cyber-attack constituted an internationally wrongful act. Therefore, Kalvion is obliged to provide for reparation in the form of a compensation for damage. Rules of determination of damage and compensation for it are identical in LIAB and ARS, thus Kalvion is liable for the total loss of the “50 Rays” programme and consequential damages, loss of profits and liquidation of SalPA Corp. under ARS.

III. NEAPILIA IS NOT LIABLE FOR THE CESSATION OF KALVION'S MINING ACTIVITIES ON MARS

A. Kalvion may not bring claim for the cessation of mining activities on behalf of a multinational company SIENAR under diplomatic protection. SIENAR is the only entity that has standing to bring such claim. Even if Kalvion has standing, Neapilia is not liable under Art. III LIAB as the criteria of damage and fault are not met. Neapilia did not inflict damage to Kalvion's space objects, natural or juridical persons by conducting the "50 Rays" programme. Even if the damage was inflicted, it was not foreseen, thus, Neapilia is not liable. Moreover, the criterion of "fault" is not met since Neapilia had no the intention to inflict damage to the mining activities and acted in accordance with the precautionary duty.

B. Since no damage was inflicted, Neapilia is also not liable under Art. VII OST.

C. In any event, Neapilia is not liable under general rules of state responsibility. The basis for liability in the law of state responsibility is an internationally wrongful act. No wrongful act was committed by Neapilia, thus Neapilia shall bear no liability.

ARGUMENT**I. KALVION'S ACTIONS CONSTITUTED AN UNLAWFUL CYBER-ATTACK AGAINST NEAPILIA, CONTRARY TO INTERNATIONAL LAW AND TO THE PEACEFUL USES OF OUTER SPACE****A. EXISTING INTERNATIONAL LAW APPLIES TO CYBER-OPERATIONS**

The most highly qualified publicists, whose teachings represent subsidiary means of determination of the rules of law under Art.38(1)(d) of the ICJ Statute, converge in the opinion that existing international law applies to cyber-operations though currently there are no cyber-specific international norms.¹ Moreover, state practice supports applicability of international law to cyberspace: it is stressed in UNGA Resolutions that in the digital age when cyber threats may endanger international stability and welfare,² it is necessary to respect the role of international law in cyber-relations of states.³ Therefore, international law applies to cyber-operations.

B. KALVION'S ACTIONS CONSTITUTE A CYBER-ATTACK

There is no “*cyber-attack*” definition in treaties or customary law, yet one may be deduced from different doctrinal sources and state practice.

Kalvion's actions constitute a cyber-attack as defined by Tallinn Manual 2.0,⁴ ICRC Report 31IC/11/5.1.2,⁵ the U.S. Memorandum on Joint Terminology for Cyberspace Operations,⁶ the U.S. Department of Defence's Dictionary of Military Terms,⁷ NATO Glossary of Terms and

¹TM 2.0, p.3; Tsagourias, p.13; Pirker, p.193-194; Osula/Roigas, p.20-21; Hathaway/Crootof, p.817; Delibasis, p.15-17

²Res.64/211; Res.69/28

³Res.70/125

⁴TM 2.0, p.415

⁵Report 31IC/11/5.1.2, p.37

⁶Memorandum for Chiefs, p.5

⁷Military Dictionary

Definitions⁸ and doctrine.⁹ All these sources set qualifying element for cyber-operation to be considered as cyber-attack: damage or destruction. For the purpose of the cyber-attack, damage to the object is understood as the interference with functionality, especially the one, which requires the reinstallation of the operating system.¹⁰

The cyber-attack undertaken by Kalvion's cyber experts¹¹ rendered Neapilian control system completely non-functional.¹² To restore the functionality an entirely new control system would have to be reinstalled,¹³ hence, Kalvion's cyber-operation caused damage. Since Kalvion's cyber-operation caused damage to Neapilian objects, it constitutes a cyber-attack.

C. THE CYBER-ATTACK IS UNLAWFUL AS IT CONSTITUTES AN INTERNATIONALLY WRONGFUL ACT

Under customary rule of international law an action or omission constitutes an internationally wrongful act when it is attributable to a state and constitutes a breach of state's international obligation.¹⁴ Norms of state responsibility are applicable to cyber activities of states.¹⁵ Kalvion's cyber-attack constitutes an internationally wrongful act as it is attributable to Kalvion (1) and constitutes a breach of its international obligations (2).

1. The cyber-attack is attributable to Kalvion

Conduct shall be considered as an act of a state under international law if the state acknowledges and adopts the conduct in question as its own.¹⁶ Foreign Ministers represent their state's position internationally and their official statements may create international legal

⁸NATO Glossary, p.2-C-11

⁹Hathaway/Crootof, p. 826; Lin, p.63

¹⁰TM 2.0, p.417-418 (para 11); Report 32IC/15/11, p.41; Hathaway/Crootof, p.826

¹¹Facts, para 33; Memorial I.C.1.

¹²Facts, para 31

¹³Facts, para 31

¹⁴Art. 2 ARS; Phosphates in Morocco, p.28; Consular Staff, p.29; Gabčíkovo-Nagymaros, p.54

¹⁵Klabbers, p.485; TM 2.0, p.80 (para 4)

¹⁶Art. 11 ARS; Concession des phares, p.198; Consular Staff, p.35

obligations binding on the state.¹⁷ Kalvion's Minister of Foreign Affairs revealed that the interference with the control system was undertaken by Kalvion's cyber experts.¹⁸ Since the Minister of Foreign Affairs acknowledged and adopted the cyber-operation on behalf of the state| in the official capacity, these actions are attributable to Kalvion.

2. Kalvion violated its international obligations

By committing the cyber-attack Kalvion violated the principle of peaceful uses of outer space (a), the principle of non-intervention (b) and its consultation obligation under Art. IX OST (c).

a. The cyber-attack is contrary to the peaceful uses of outer space principle

The customary principle of peaceful uses of outer space serves as a basis for contemporary space law and was enshrined¹⁹ in numerous UNGA space resolutions.²⁰ UNGA Resolutions can constitute evidence of both elements of custom: general state practice²¹ and *opinio juris*.²² This custom was subsequently codified and detailed in Art. IV OST and Art. 3 MA.²³ Both of the treaties are binding upon Kalvion,²⁴ and Neapilia relies on these treaties to claim Kalvion's violations of the peaceful uses of outer space principle under Art. IV OST and Art. 3 MA.

i. Kalvion violated Art. 2(4) UN Charter, Art. IV OST and Art. 3(2) MA as the cyber-attack constitutes the use of force

According to Art. 2(4) UN Charter, all UN Members "shall refrain in their international relations from the threat or use of force against the territorial integrity or political

¹⁷Watts/Foakes, p.1-2

¹⁸Facts, para 33

¹⁹WOLTER, p.10; LYALL/LARSEN, p.510

²⁰Res.1721(XVI); Res.1802(XVII); Res.1963(XVIII); Res.1962(XVIII)

²¹S.W. Africa, p.291

²²Nicaragua, p.106-107

²³WOLTER, p.17, 21; LYALL/LARSEN, p.508; Tronchetti, p.332, 335

²⁴Facts, para 37

independence of any State, or in any other manner inconsistent with the Purposes of the United Nations”.²⁵ According to Art. 3(2) MA any threat or use of force on celestial bodies is prohibited.²⁶ According to Art. IV OST celestial bodies shall be used exclusively for peaceful purposes.²⁷

Reference to the Purposes of the UN in Art. 2(4) means that the prohibition of threat or use of force serves not only to protect territorial integrity or political independence of a state,²⁸ but also applies to inter-state relations in outer space. Therefore, Art. 2(4) UN Charter, Art. IV OST and Art. 3(2) MA stipulate the same prohibition on the use of force in outer space. As is evidenced by state practice, *i.e.* France stating in its reservation to MA, that it considers the prohibition under Art. 3(2) as a “reaffirmation” of the principle of non-use of force under UN Charter.²⁹ Thus, actions which constitute the use of force are in violation of all three of the above-mentioned provisions.

A cyber-operation constitutes a use of force when it has necessary scale and effects.³⁰ The criterion of “scale and effects” was used by the Court to qualify certain actions as an armed attack.³¹ This criterion is also applicable to the qualification of cyber-operations as a use of force.³²

The criterion of “scale and effects”³³ comprise several elements, four most relevant of which are considered below. Presence of any of the elements is sufficient for an action to be qualified as a use of force.³⁴

²⁵ Art. 2(4) UN Charter

²⁶ Art. 3 MA

²⁷ Art. IV OST

²⁸ TM 2.0, p.329 (para 2)

²⁹ UNTC

³⁰ Roscini, p.242; Ziolkowsky, p.172-173; TM 2.0, p.330; Lin, p.73

³¹ Nicaragua, para 195

³² TM 2.0, p.331 (para 1)1

³³ Ziolkowsky, p.173; TM 2.0, p.334-336

³⁴ TM 2.0, p.333

First element: the cyber-operation qualifies as use of force when it significantly impacts the functioning of controlling technology, especially that of essential state system.³⁵ The control system of the “50 Rays Programme”, attacked by Kalvion, was essential for Neapilia since the programme was the only means capable of resolving the overpopulation crisis, affecting Neapilia the most for 26 years and causing “widespread social rioting”.³⁶ Irrevocably locking the control system of the programme³⁷ Kalvion significantly impacted controlling system of essential Neapilia’s programme and therefore, committed an act of the use of force.

Second element: cyber-operations that result in kinetic effects of physical nature qualify as a use of force.³⁸ Kalvion’s cyber-attack changed the mirrors’ angle by 30°, ³⁹ which can be qualified as kinetic effects of physical nature and therefore constituted the act of use of force.

Third element: cyber-operations that significantly impinge critical national interests qualify as a use of force.⁴⁰ While Neapilia was one of the countries most affected by the overpopulation crisis,⁴¹ the programme intended to resolve its problems served Neapilia’s vital national interest. By interfering with the programme, Kalvion impinged on Neapilia’s critical national interests, committing an act of the use of force.

Fourth element: the operations whose effects are measurable and direct are qualified as a use of force.⁴² Kalvion’s cyber-attack was aimed directly at the functionality of OptronRay mirrors’ control system and cyber-attack’s effects (non-functionality of 2 mirrors and the control system) can be measured.⁴³

³⁵Antolin-Jenkins, p.172 *shared by* Roscini, p.246; Lin, p.74;

³⁶Facts, para 6

³⁷Facts, para 31

³⁸Ziolkowsky, p.173

³⁹Facts, para 30

⁴⁰TM 2.0, p.334 (para 9)

⁴¹Facts, paras 6-7

⁴²TM 2.0, p.334-335 (para 9)

⁴³Facts, paras 28-30

Meeting four above-mentioned elements Kalvion's cyber-attack had necessary scale and effects to be qualified as the use of force in violation of Art. 2(4) UN Charter, Art. IV OST, Art. 3(2) MA.

ii. Even if the cyber-attack cannot be qualified as the use of force, it constitutes a hostile act in violation of Art. 3 MA

The wording of Art.3(2) MA prohibiting “any threat or use of force or any other hostile act or threat of hostile act” on celestial bodies⁴⁴ means that a use of force is but one of the possible hostile acts and there can be hostile acts that are less grave than a use of force.⁴⁵ Since MA lacks the definition of a “hostile act”⁴⁶ it must be interpreted in accordance with the ordinary meaning.⁴⁷ The ordinary meaning of the word “hostile” is “marked by malevolence, having an intimidating, antagonistic, or offensive nature”.⁴⁸

Kalvion's actions interfered with and ultimately locked Neapilian control system and changed mirrors' angle leading to the suspension of the Technology Trial,⁴⁹ thus depriving Neapilia of a chance to resolve global and national crisis. Even if not the use of force, such actions are malevolent, antagonistic, offensive and are qualified as hostile act.

b. Kalvion violated the principle of non-intervention

The principle of non-intervention prohibits all states to intervene directly or indirectly in internal or external affairs of other states.⁵⁰ The Court stated several times that this principle is of customary nature,⁵¹ as *opinio juris* in its respect is “numerous and not difficult to find”.⁵²

⁴⁴ Art. 3(2) MA

⁴⁵ Zedalis, p.68

⁴⁶ Zedalis, p.68

⁴⁷ VCLT, Art. 31(1), applies to MA as customary norm: Genocide Case, para 160; Indonesia/Malaysia, p.645-646; Botswana/Namibia

⁴⁸ Merriam-Webster's; Burton's, p.315; Black's Law, p.806

⁴⁹ Facts, paras 31-32

⁵⁰ Declaration on Friendly Relations, princ.3; Declaration on Rights and Duties; Nicaragua, para 205

⁵¹ Congo, paras 161-165; Nicaragua, para 202; Corfu Channel, p.35; Kohen, p.157

Prohibited intervention must have two elements: affect matters of internal or external affairs (i) and be coercive (ii).⁵³

i. Kalvion intervened in Neapilian internal affairs

Matters of internal affairs are matters in which each state is permitted “to decide freely”, in particular on the “choice of political, economic, social system”.⁵⁴ Kalvion intervened in Neapilian’s attempt to resolve the overpopulation crisis, which caused widespread social rioting in Neapilia.⁵⁵ The choice of the lawful ways to resolve its social problems is the matter on which Neapilia is permitted “to decide freely”, therefore by affecting such matters Kalvion intervened in Neapilia’s internal affairs.

ii. The intervention was coercive

The use of force is always recognized to be coercive and to constitute an intervention.⁵⁶ As it was submitted above,⁵⁷ Kalvion’s cyber-attack constitute use of force. Even if the cyber-attack is not qualified as a use of force, it is still coercive since in order to be coercive an act must deprive the state of its freedom of choice and force the state to refrain from acting in a particular way.⁵⁸ Kalvion’s Minister of Foreign Affairs declared that Kalvion’s cyber operation “would be maintained pending a declaration of the authorities of Neapilia that the ‘50 Rays’ programme would be definitely abandoned”.⁵⁹ This statement signifies that by committing the cyber-attack Kalvion indeed intended to coerce Neapilia to discontinue the Technology Trial and abandon the programme, *i.e.* to refrain from acting in a particular way.

⁵² Nicaragua, para 202

⁵³ Nicaragua, para 205; TM 2.0, p.314 (para 6); Kohen, p.161

⁵⁴Nicaragua, para 205

⁵⁵Facts, paras 6-7

⁵⁶TM 2.0, p.319 (para 22); Nicaragua, para 205

⁵⁷Memorial C.2.a.i

⁵⁸Declaration on Friendly Relations, princ.3, proved to be customary in Congo, para 162; TM 2.0, p.317 (para 18)

⁵⁹Facts, para 33

Since Kalvion's actions possess both elements of prohibited intervention Kalvion violated the non-intervention principle.

c. In any event Kalvion violated consultation obligation under Art. IX OST.

State must undertake international consultations if there is an activity or experiment planned by the state or its nationals (i); the state has reason to believe the activity or experiment would cause potentially harmful interference (ii); and it would potentially interfere with the activities of other states in the peaceful exploration and use of outer space (iii).⁶⁰ Kalvion's cyber-attack met all three criteria.

i. The cyber-attack was an activity planned by Kalvion

Kalvion warned Neapilia about the possibility to take "protection measures" before the cyber-operation was undertaken,⁶¹ thus, Kalvion planned it.

ii. Kalvion had reason to believe the activity would cause potentially harmful interference

"Harmful interference" in space constitutes obstruction that is injuring, damaging or interfering with normal operation.⁶² Physical interference is one of categories of harmful interference.⁶³ "Reason to believe" in Art. IX OST should be interpreted as having knowledge that proves the assertion that a planned activity would cause potentially harmful interference.⁶⁴

Kalvion's actions locked Neapilian control system, having interfered with its functionality, and changed mirrors' angle, having physically interfered with mirrors' movement.⁶⁵

Therefore, Kalvion's actions constituted harmful interference. All these actions were made

⁶⁰Art. IX OST

⁶¹Facts, para 29

⁶²Black, p.5; Mineiro, p.337 using Merriam-Webster's; Annex to ITU Convention

⁶³Mineiro, p.337

⁶⁴Mineiro, p.336

⁶⁵Facts, paras 31-32

intentionally, therefore Kalvion was in full knowledge of their effects and therefore had reason to believe that they would cause potentially harmful interference.

iii. Kalvion's actions interfered with the activities of other states in the peaceful exploration and use of outer space

Neapilian activities were activities in peaceful exploration and use of outer space, as Neapilia did not commit any prohibited military actions, acting in full compliance with the provisions of Art. IV OST and Art. 3 MA.⁶⁶

Thus, Kalvion had reason to believe that its actions would cause potentially harmful interference with activities of other states in the peaceful exploration and use of outer space, yet it did not undertake any international consultations, in breach of Art. IX OST.

B. KALVION'S ACTIONS CANNOT BE QUALIFIED AS LAWFUL COUNTERMEASURES

Kalvion claims that its actions are “lawful countermeasures”,⁶⁷ precluding wrongfulness of its act. However, Kalvion's cyber-attack cannot be qualified as lawful countermeasures since Neapilia did not commit any internationally wrongful act (1) and the cyber-attack does not meet the requirements of lawful countermeasures (2).

1. Neapilia did not commit any internationally wrongful act

A state may only take countermeasures against a state which is responsible for an internationally wrongful act.⁶⁸ Neapilia complied with its international obligations and, therefore, cannot be the target of countermeasures.

⁶⁶Art. IV OST; Art. 3 MA

⁶⁷Facts, para 33

⁶⁸Art. 49(1) ARS; Gabčíkovo-Nagymaros, para 83

a. Neapilia complied with its obligation not to introduce adverse changes in Mars' environment under Art. 7(1) MA

States shall not disrupt the existing balance of celestial bodies' environment by introducing adverse changes.⁶⁹ Space environmental law cannot be considered separately from the concepts of terrestrial environmental law.⁷⁰ Changes in the Earth' environment in order to ensure human vital activities are introduced daily and are considered permissible, *i.e.*, industrialized farming causes 'acceptable' level of environmental harm.⁷¹

Changes of Mars' environment, intended to make Mars (the only planet with the needed potential)⁷² suitable for human resettlement in the face of the global overpopulation crisis⁷³, do not qualify as adverse given that the alternative of not making such changes could threaten the future of the whole human population. Non-functionality of Kalvion's UMVs Mk-2⁷⁴ alone does not mean that the changes were adverse.

Thus, Neapilia complied with Art. 7(1) MA.

b. Neapilia complied with its obligation not to interfere with the activities of other states under Art. 8(3) MA

State's activities on celestial bodies shall not interfere with the activities of other states there.⁷⁵ Kalvion claims, that Neapilia's activities led to the cessation of communication between "Aeneas-1" and the UMVs Mk2.⁷⁶

Firstly, the independent body of experts stated that the direct reasons of such cessation were the disturbances in the atmosphere and temperature conditions of Mars.⁷⁷ These disturbances

⁶⁹Art. 7(1) MA

⁷⁰LYALL/LARSEN, p.275

⁷¹HOLDER/LEE, p.78

⁷²Facts, para 8

⁷³Facts, para 19

⁷⁴Facts, paras 17,21

⁷⁵Art. 8(3) MA

⁷⁶Facts, paras 24,36

⁷⁷Facts, para 24

were “possibly” caused by the deployment of the OptronRay mirrors,⁷⁸ however, they could have been caused by natural factors as well. For instance, dust storms are inherent environmental condition of Mars and they sometimes affect the whole planet.⁷⁹ Dust storms may be durable and severe, for example the one in September 1971 - January 1972 made it impossible for space probe “Mariner 9” to make photos of the surface of Mars.⁸⁰ Dust storms could affect UMVs functionality.⁸¹

Secondly, Kalvion itself declared that its mining system would only be non-functional if the whole “50 Rays” programme succeeds – that is when all 50 mirrors would be functional.⁸² However, by the time of the cessation of communication with UMVs Mk-2 only two mirrors were deployed.⁸³

Kalvion bears the burden of proving that Neapilia’s actions were the reason of the cessation of communication between “Aeneas-1” and UMVs-2.⁸⁴ Since Kalvion can provide only experts’ opinion that state just “possible” causality, causal link between Neapilia’s actions and the cessation of communication cannot be decisively affirmed, and in the absence of such causality, Neapilia cannot be found in breach of Art. 8(3) MA.

c. Neapilia complied with its consultation obligation under Art. IX OST

State must undertake international consultations if:

- 1) There is an activity or experiment planned by the state or its nationals;
- 2) The state has reason to believe that the activity or experiment would cause potentially harmful interference; and,

⁷⁸Facts, para 24

⁷⁹Martian Dust Storms

⁸⁰Mariner 9

⁸¹Rucker, p. 84

⁸²Facts, para 21

⁸³Facts, para 19

⁸⁴Nicaragua Jurisdiction, para 101; Asylum Case, p.281

3) The interference must potentially interfere with the activities of other states in the peaceful exploration and use of outer space.⁸⁵

Neapilia acted in accordance with Art. IX OST since it had no reason to believe that its actions would interfere with activities of other states. Art. IX OST leaves the assessment of existence of reason to believe in potentially harmful interference to states' discretion due to three main reasons.

Firstly, Art. IX does not authorize any international body to assess whether there is "reason to believe".⁸⁶

Secondly, since the OST was created as a treaty of proscriptive principles which cannot be interpreted by solely reviewing their text, state practice for the interpretation is needed.⁸⁷

Thirdly, state practice has yet to clearly establish the scope of the consultation obligation.⁸⁸

Therefore, Neapilia had the discretion to decide whether it has reason to believe in potentially harmful interference. Prior to its Technology Trial Neapilia assessed that there was no reason to believe that harmful interference would occur, since Kalvion's UMVs could work in harsh environmental conditions of Mars and Neapilia inferred that making these conditions milder and more Earth-like would not harm UMVs. Thus, Neapilia complied with its consultation obligation under Art. IX OST.

d. Neapilia complied with its obligation to pay due regard to the corresponding interests of other states under Art. IX OST

States shall conduct their activities in outer space with due regard to the corresponding interests of other states.⁸⁹ "Due regard" does not impose a uniform obligation to avoid any

⁸⁵Art. IX OST

⁸⁶Mineiro, p.351

⁸⁷Mineiro, p.352

⁸⁸Mineiro, p.352

⁸⁹Art. IX OST

impairment of other states' interests⁹⁰ and depends on the nature and importance of other states' interests as well as on the nature and importance of activities, affecting them.⁹¹

Neapilia's activities were intended to resolve global crisis,⁹² therefore they served the interests of all Humankind. The will of states to exercise special protection over the Humankind's interests is evidenced by the notions of *jus cogens, erga omnes* and the concept of "common heritage" in international law.⁹³ Kalvion's interests in mining Mars' resources for purely domestic use⁹⁴ weigh less than those of Humankind.

Thus, conducting its Technology Trial Neapilia paid due regard to the corresponding interests of other states under Art. IX OST.

2. Kalvion's cyber-attack does not satisfy criteria of lawful countermeasures

To be lawful, countermeasures must satisfy each of the following criteria: countermeasures must not affect the obligation to refrain from use of force (a) as well as obligations under other peremptory norms of international law (b); countermeasures should be commensurate with the injury suffered (c). Also states should notify the responsible state of their decision to take countermeasures and offer negotiations (d). Kalvion's actions do not meet these requirements.

a. Kalvion's actions contradict criterion of Art. 50(1)(a) ARS not to affect obligation to refrain from the use of force

Countermeasures cannot affect the obligation to refrain from the use of force.⁹⁵ Kalvion's actions constituted use of force,⁹⁶ therefore, they do not qualify as lawful countermeasures.

⁹⁰Chagos, para 519

⁹¹Chagos, para 519

⁹²Facts, paras 7,19,28

⁹³ Villalpando, p.338, 400-406; Tanaka, p.333, 339; TRINDADE, p.4, 327

⁹⁴Facts, para 3

⁹⁵Art. 50(1)(a) ARS; Declaration on Friendly Relations, princ.1; Corfu Channel, p.35; Nicaragua, para 249; S.C.Res.316; S.C.Res.111

b. Kalvion's actions contradict Art. 50(1)(d) ARS not to affect obligations under peremptory norms

Countermeasures cannot affect the obligations under peremptory norms.⁹⁷ Principle of non-intervention constitute peremptory norm of general international law.⁹⁸ Kalvion violated principle of non-intervention,⁹⁹ therefore Kalvion violated obligation not to affect peremptory norms.

c. Kalvion's actions are not commensurate with the injury suffered as required under Art. 51 ARS

Countermeasures must be commensurate with the injury suffered.¹⁰⁰ Even if the cessation of communication between “Aeneas-1” and UMTVs-2 was caused by Neapilia, it could lead only to the decrease of mining productivity but not to its full cessation, as UMTVs-1 were autonomous and could work without communication with “Aeneas-1”,¹⁰¹ therefore Kalvion had the possibility to proceed with mining to resolve its resource crisis. Kalvion's cyber-attack led to the total loss of “50 Rays” programme and liquidation of SalPA Corp,¹⁰² totally depriving Neapilia of the only possibility to resolve the crisis. Thus, Kalvion's countermeasures were not commensurate with the injury suffered.

d. Kalvion failed to fulfil procedural requirements under Art. 52 (1)(b) ARS

Before taking countermeasures an injured state shall notify the responsible state of any decision to take countermeasures and offer to negotiate.¹⁰³ Kalvion neither notified Neapilia of the decision to take countermeasures nor offered negotiations. Kalvion did notify Neapilia

⁹⁶Memorial I.C.2.a).i

⁹⁷Art. 50(1)(d) ARS

⁹⁸Sette-Camara sep.op., p.199; Dupuy, p.8; Macdonald, p.870

⁹⁹Memorial I.C.2.b)

¹⁰⁰Art. 51 ARS; Air Services, para 83; Gabčikovo-Nagymaros, paras 85,87; Territorial Jurisdiction, p.27

¹⁰¹Facts, paras 17,18

¹⁰²Facts, para 32

¹⁰³Art. 52(1)(b) ARS; Air Services, paras 91,94-96

of “protection measures”,¹⁰⁴ which cannot be regarded as proper notification since protection measures do not equal countermeasures under ARS. “Countermeasures” is a well-established term of international law, whose main element is always non-performance of state’s international obligation.¹⁰⁵ There is no established legal term “protection measures” in international law. For example EU in its official press-release used word ‘to protect’ in order to describe EU sanctions or “restrictive” measures.¹⁰⁶ And such measures do not constitute non-performance of state’s international obligations,¹⁰⁷ contrary to countermeasures. Therefore, being notified of “protection measures” Neapilia could infer, that Kalvion was going to undertake some lawful responsive measures. Since Kalvion failed to duly notify Neapilia of countermeasures Kalvion violated its procedural obligation.

C. KALVION SHOULD BEAR RESPONSIBILITY FOR ITS INTERNATIONALLY WRONGFUL ACT

The state responsible for internationally wrongful act must cease it, offer guarantees of non-repetition and make full reparation for the injury.¹⁰⁸ Neapilia hereby asks the Court to recognize Kalvion’s cyber-attack as an internationally wrongful act. Therefore, Kalvion should cease its cyber-attack and offer guarantees of its non-repetition. Kalvion is under the obligation to make restitution by restoring the functionality of Neapilia’s control system and restoring mirrors’ angle. All questions of compensation for the damage caused are considered below.¹⁰⁹

¹⁰⁴Facts, para 29

¹⁰⁵Art. 49 ARS; Commentary, para 6; Air Services, para 8

¹⁰⁶EU web-site

¹⁰⁷TFEU, Art. 215

¹⁰⁸Art. 30,31 ARS

¹⁰⁹Memorial, II

II. KALVION IS LIABLE FOR THE TOTAL LOSS OF THE “50 RAYS” PROGRAMME AND FOR ALL CONSEQUENTIAL DAMAGES, LOSS OF PROFIT AND LIQUIDATION OF SALPA CORP.

Total loss of the “50 Rays” programme and consequential damages in the form of loss of profit and liquidation of SalPA Corp. constitute damage inflicted upon Neapilia, thus it has standing to bring the claim before the Court (A). Kalvion is liable for the total loss of the “50 Rays” programme as well as for all consequential damages under Art. III LIAB (B). Even if Kalvion is not liable under LIAB, it is liable under Art. VII OST (C). In any event, Kalvion is liable under general rules of international law (D).

A. NEAPILIA HAS STANDING BEFORE THE COURT

The Parties recognize the jurisdiction of the Court.¹¹⁰ However, if the Respondent raises the issue of *jus standi*,¹¹¹ — the link allowing the state to bring the claim on precise legal rule,¹¹² the Applicant submits that it has standing both for the total loss of the “50 Rays” programme and consequential damages to SalPA Corp.

Under Art. I(a), III LIAB those states which suffered the loss or damage to their property possess *jus standi* to invoke liability.¹¹³ Neapilia authorized SalPA Corp. to conduct the Technology Trial using the national civil space station and astronauts.¹¹⁴ Neapilia owned 49% of SalPA Corp.’s (the company holding an international exclusive patent for OptronRay mirrors and HAMs’ technologies) equity stake.¹¹⁵ Moreover, the “50 Rays” programme served Neapilian national interest of solving global and national overpopulation crisis.¹¹⁶

¹¹⁰Facts, para 37

¹¹¹Art.34(1) ICJ Statute; AMERASINGHE, p.117

¹¹²Martínez, p.4

¹¹³Dunk, p.90-91

¹¹⁴Facts, paras 2,10,14

¹¹⁵Facts, paras 12,14

¹¹⁶Facts, para 7

The “50 Rays” programme consisted of several parts, each performing special functions: 1) OptronRay mirrors, warming Mars’ surface, 2) “TheosAres”, controlling the mirrors and 3) HAMs, designed to sustain life in new Mars conditions, subject to deployment after the success of the Technology Trial.¹¹⁷ The interconnectedness of all parts of the programme made it impossible to continue operations in a situation of damage to even one of its components.¹¹⁸ Kalvion’s actions brought to a halt operationality of the OptronRay mirrors. In any event, the damage is inflicted to Neapilia as it was the shareholder of SalPA Corp. Thus, the total loss of the “50 Rays” programme, loss of profits and the liquidation of SalPA Corp. constitutes damage to Neapilia and it has standing before the Court.

B. KALVION IS LIABLE UNDER ART. III LIAB

Kalvion’s liability is based on LIAB (2) and arises from damage caused by Kalvion (3). *Condiciones sine quibus non* of liability under Art. III LIAB are the damage caused in a place other than the surface of the Earth (3) by space object of one launching state (1) to space object of another launching state (2) due to the fault of the latter (4). As all the criteria for liability are met and Neapilia complied with LIAB procedure established for filing a claim on liability (5), Kalvion is liable.

1. Damage was caused to Neapilia’s space objects

“TheosAres” and OptronRay mirrors are “space objects” (a) to which Neapilia is a launching state (b).

a. “TheosAres” and OptronRay mirrors are “space objects” within the meaning of Art. I(d) LIAB

The definition of a “space object” contained in Art. I(d) LIAB — “component parts of a space object as well as its launch vehicle and parts thereof” — is vague. A more precise definition

¹¹⁷Facts, paras 10-11

¹¹⁸Facts, paras 11

that can be used as a means of interpretation of this treaty provision is contained in national space laws. It can be either object “launched or intended to be launched into outer space, including its components”¹¹⁹ or even “launch vehicles, payloads, and any components thereof that are intended to go above 100 kilometers”.¹²⁰ The doctrine describes a “space object” as “any man-made object which is at least attempted to be physically brought into outer space”.¹²¹ Both “TheosAres” and OptronRay mirrors are man-made objects launched into space,¹²² therefore, they fall under the definition of “space objects”.

b. Neapilia is a launching state of “TheosAres” and OptronRay mirrors under Art. I(c) LIAB

Under Art. I(c) LIAB a “launching state” is the state “which launches or procures the launching of a space object” or a “State from whose territory or facility a space object is launched”. This definition is identical to the definition given in Art. I(a)(i)(ii) RC for the purposes of national registration of space objects.

Neapilia launched and registered “TheosAres” and OptronRay mirrors,¹²³ thus, is qualified as the “launching state” thereof.

2. Kalvion’s control over “TheosAres” is equal to actions of the launching state

Though Kalvion did not launch “TheosAres”, it exercised control over it and thus is liable. Space activities, including those involving cyber operations, are subject to the space law regime of liability¹²⁴. It stems from the interpretation of the general rule of Art.VI OST, that “appropriate state” in terms of liability is the state able to control the object. To identify such

¹¹⁹Art.2 Austrian Space Law

¹²⁰Part 2(8) Australian Space Law

¹²¹Dunk, p.87

¹²²Facts, paras 2,9

¹²³Facts, para 2; Clarifications, para 13

¹²⁴ TM 2.0, Rule 60(b), p.281 (para 4)

state both: legal entitlement and factual capability must be evaluated.¹²⁵ General terms of Art. I(c) LIAB need evolutionary interpretation as treaties “of continuing duration” shall be presumed to designate such general terms of evolving meaning.¹²⁶ Once Kalvion committed the cyber-attack, Neapilia lost the factual capability to control the object, while Kalvion gained control over it and was *de facto* able to act as the “launching states”.

Neapilia admits that it is formally the launching state in respect of “TheosAres” and OptronRay mirrors,¹²⁷ but emphasizes that the control over “TheosAres” was exercised by Kalvion when the damage was inflicted. By its cyber-attack Kalvion overtook OptronRay’s control system and used it to change the angle of OptronRay mirrors,¹²⁸ inflicting damage upon Neapilian space objects. Thus, for the purposes of application of LIAB, Kalvion’s actions qualify as the actions of the launching state.

3. Consequences of Kalvion’s actions constitute damage within the meaning of Art.III LIAB

a. The total loss of the “50 Rays” programme constitutes damage

Loss of property of juridical persons¹²⁹ is “damage” within the meaning of Art.III LIAB. While LIAB does not specify the “loss”, currently the ordinary meaning¹³⁰ of “loss” may be derived from state practice in the field of space insurance.¹³¹ Space-leading countries like USA, France and the Netherlands have provisions in national space insurance laws regulating the concept of “loss”,¹³² while some European Union’s states resort to general regulation on products’ liability for the definition.¹³³ Thus, “total loss” means *inter alia* the impossibility to

¹²⁵STUBBE, p.265

¹²⁶ Navigational Rights, para 66

¹²⁷Memorial II.A.2.a.ii

¹²⁸Facts, paras 30-31

¹²⁹Art. I(a) LIAB

¹³⁰ Art.31(1) VCLT

¹³¹Gaubert, p.911

¹³²Gaubert, p.91814-9201

¹³³EU Directive 1999/34/EC

control an object by ground stations¹³⁴ and to use it for the arranged purpose.¹³⁵ As a result of Kalvion's cyber-attack, Neapilia *de facto* lost the possibility to control its space objects and use them in accordance with the original intention of implementing the programme.

A prerequisite of liability is the causal link between the action and damage, the assessment of which is based on criterion of foreseeability.¹³⁶ Kalvion foresaw the total loss of the "50 Rays" programme, *i.e.* the impossibility to control OptronRay mirrors, since the cyber-attack was committed by Kalvion with the sole purpose of forcing Neapilia to "definitely abandon" the programme.¹³⁷ Thus, Kalvion is liable for the total loss of the "50 Rays" programme.

b. Kalvion inflicted consequential damage

Damage, loss or injury, which flow not directly and from the act, but from its consequences or results — are recoverable under LIAB.¹³⁸ The damage is qualified as consequential if it is compensable. Compensation paid to restore "the condition which would have existed if the damage had not occurred" is determined "in accordance with international law" (Art.XII LIAB). The general rule provides that compensation covers any financially assessable damage including lost profits.¹³⁹

Consequential damage in the form loss of profit (i) and liquidation of SalPA Corp. (ii) occurred as a result of Kalvion's cyber-attack.¹⁴⁰

i. Kalvion is liable for the loss of profit of SalPA Corp.

Loss of profit, *i.e.* absence of anticipated increase of assets,¹⁴¹ is consequential damage arising from existence of relations with third parties.¹⁴² Contractual arrangements are the evidence of

¹³⁴Gaubert, p.934

¹³⁵Insuring Space Activities, p.8; Gould, p.53; Meredith, p.13

¹³⁶Commentaries to Art. 31 ARS, para 10; *Portuguese Colonies case*, p.1031; Carpanelli, p.6-7; Christol, p.358-359

¹³⁷ Facts, para 33

¹³⁸Christol, p.360; Diamond, p.668; Burke, p.282

¹³⁹Art. 36 ARS

¹⁴⁰Memorial II.A.2.b

loss of profit, allowing its recovery.¹⁴³ This approach was confirmed during LIAB's drafting¹⁴⁴ and upheld by practice of the leading space nation, the USA, in *Martin Marietta v. INTELSAT case*, prescribing that lost profits are recoverable if that is established by applicable treaty governing the relations.¹⁴⁵ This interpretation is a subsidiary means for determination of the rule of law under Art. 38(1)(d) ICJ Statute.

HAMs are integral part of the "50 Rays" programme to be deployed on Mars in 2063 after appropriate changes of the environment ensure "sufficient quantities of liquid water [...] on the surface",¹⁴⁶ therefore, suspension of the programme in 2056¹⁴⁷ led to the cessation of HAMs development and production. SalPA Corp. was approached "by a number of States and high net-worth individuals" willing to purchase HAMs "subject to successful demonstration of the first OptronRay mirrors during the Technology Trial"¹⁴⁸, yet execution of these purchase arrangements was rendered impossible after the cyber-attack. Therefore, the two criteria are met as there were contractual relations with anticipated profit and they were lost due to the cessation of the programme. Thus Kalvion is liable for the loss of profit of SalPA Corp.

ii. *Kalvion is liable for the liquidation of SalPA Corp.*

Liquidation of a company qualifies as financially accessible damage, subject to compensation.¹⁴⁹ Such damage is recoverable in space sector as consequential damages.¹⁵⁰

¹⁴¹EE&MC Compensation Loss of Profit, p.1; Commentaries to Art. 36 ARS, para 27

¹⁴²Ashley, p.264

¹⁴³Commentaries to Art. 36 ARS, para 27; *Cape Horn Pigeon case*, p.63; *Yuille Shortridge and Co. case*; *Sapphire International Petroleums*, p.187,189; *Factory at Chorzów*, p.47-48,53; *LIAMCO case*, p.140

¹⁴⁴UN Doc A/AC.105/C.2/L.10, Art. II

¹⁴⁵*Martin Marietta Corp. v. INTELSAT*

¹⁴⁶Facts, paras 10-11

¹⁴⁷Facts, para 32

¹⁴⁸Facts, para 20

¹⁴⁹Art. 36(2) ARS; Commentaries to Art. 36 ARS, para 25; *Saiga-2*, para 175; *Hedley v. Heller*

Moreover, when the damage is inflicted with intent, the court adjudicating the claim may arrange punitive damages as part of reparation.¹⁵¹

Liquidation of SalPA Corp. resulted from loss of profit due to the total loss of the “50 Rays” programme, which Kalvion intentionally caused by its cyber-attack and for which Kalvion is liable,¹⁵² thus Kalvion is liable for the liquidation of SalPA Corp.

4. Kalvion is at fault

The term “fault” is neither defined by LIAB nor by state practice.¹⁵³ Thus, the Applicant resorts to LIAB’s *travaux préparatoires*, which define “fault” as “willful or reckless act or omission”,¹⁵⁴ the definition developed in the doctrine — “intent or negligence to cause damage in respect of someone else active in space”¹⁵⁵ and the notion of fault as “intention to harm” adopted in ARS.¹⁵⁶ Kalvion several times demanded the cessation of the “50 Rays” programme, including spearheading a high-level meeting and approaching the UN Security Council.¹⁵⁷ Not satisfied with the results, Kalvion committed the cyber-attack.¹⁵⁸ Kalvionian Minister of Foreign Affairs admitted the intent to ensure the termination and full abandonment of the “50 Rays” programme.¹⁵⁹ Thus, Kalvion is liable under Art. III LIAB.

5. Required procedure under LIAB is fulfilled

Neapilia complied with requirements to file the claim (a) and since the establishment of the Claims Commission is not mandatory (b), may invoke LIAB.

¹⁵⁰Mosteshar, p.8

¹⁵¹Palmisano, para 36; Wittich, para 44

¹⁵²Facts, para 32; Memorial III.B.3.a,c

¹⁵³Iridium 33 and Cosmos 2251 Collision

¹⁵⁴UN Doc A/AC.105/C.2/L.8/Rev.1, Art. II(2)

¹⁵⁵Dunk Liability, p.366; Smith, p.580

¹⁵⁶Commentaries to Art.2 ARS, para 10

¹⁵⁷Facts, paras 23,25-26

¹⁵⁸Facts, para 30

¹⁵⁹Facts, para 33

a. Neapilia presented its claim via diplomatic channels and within a one-year term after occurrence of damage

A claim for compensation of damage must be presented through diplomatic channels¹⁶⁰ within one year after the occurrence of damage.¹⁶¹

The cyber-attack, which caused the damage to the “50 Rays” programme, occurred in January, 2056.¹⁶² At the same month SalPA Corp. was liquidated¹⁶³ and Neapilia protested against Kalvion’s cyber-attack and entered into diplomatic consultations,¹⁶⁴ the result of which proved inconclusive.¹⁶⁵ In September 2056¹⁶⁶ Neapilia initiated the proceedings in the ICJ. Thus, Neapilia complied with the requirements to file a claim against Kalvion under LIAB.

b. Establishment of a Claims Commission is not mandatory

If a claim is presented through diplomatic channels, but was not resolved within one year, a Claims Commission shall be established.¹⁶⁷ However, the only case when LIAB was invoked as a ground for claim pointed the non-obligatory nature of the Commission’s creation.¹⁶⁸

This practice shall be taken into consideration for LIAB interpretation under Art. 31(3)(b) VCLT as subsequent practice of the application of the treaty¹⁶⁹.

Thus, having complied with necessary requirements, Neapilia may invoke LIAB as a basis of Kalvion’s liability for damage.

¹⁶⁰Art.IX LIAB

¹⁶¹Art.X(1) LIAB

¹⁶²Facts, para 30

¹⁶³Facts, paras 30,32

¹⁶⁴Facts, para 34

¹⁶⁵Facts, paras 30,34

¹⁶⁶Case Publication

¹⁶⁷Art.XIV LIAB

¹⁶⁸“Cosmos 954” case

¹⁶⁹ Art. 31(3)(b) VCLT

C. EVEN IF LIAB IS NOT APPLICABLE, KALVION IS LIABLE UNDER ART. VII OST

Art. VII OST enshrines liability for damage caused by space objects, thus, constituting *lex generalis* for liability in the space, while LIAB rules are applicable as *lex specialis*.¹⁷⁰ However, Art. XXIII(1) LIAB specifies that it “does not affect other international agreements in force insofar as relations between the State Parties to such agreements are concerned”. Neapilia and Kalvion are parties to the OST and LIAB.¹⁷¹ Therefore, even if LIAB is not applicable, liability for damage arises from Art. VII OST. While the damage (the total loss of “50 Rays” programme and consequential damage to SalPA Corp.) was inflicted by Kalvion,¹⁷² the latter is liable under Art. VII OST.

D. IN ANY EVENT, KALVION IS LIABLE UNDER GENERAL RULES OF INTERNATIONAL LAW

A consequence of an international wrongful act is obligation to make reparation,¹⁷³ which may take a form of compensation if the damage is not made good by restitution.¹⁷⁴ Within the law of state responsibility the term “liability” is referred to as a duty to pay for all damages,¹⁷⁵ *i.e.* pay compensation.

The ground for claim for compensation — international wrongful act or damage — is the only difference between ARS and LIAB. Consequently, compensation may be paid in a parallel with each other, if both grounds are met. Otherwise, discharge of compensation under LIAB does not preclude compensation under ARS.

¹⁷⁰LACHS, p.114

¹⁷¹Facts, para 37

¹⁷²Memorial II.A.2.b

¹⁷³Art.31 ARS

¹⁷⁴Art.36 ARS; *Gabčíkovo-Nagymaros, para 152*

¹⁷⁵Commentaries to Art. 31 ARS, para 12 referred to T.Weir “Complex liabilities”; Commentaries to Art. 47 ARS, para 4; *Certain Phosphate Lands in Nauru, PO*, para 48; CRAWFORD, p.643

As was shown above LIAB and ARS have identical rules on determination of damage and its compensation,¹⁷⁶ therefore, damage suffered by Neapilian is recoverable in a form of compensation.¹⁷⁷ Thus, Kalvion being responsible for an international wrongful act,¹⁷⁸ is under the obligation to pay compensation for all inflicted damages.

¹⁷⁶Memorial II.A.3.a,b

¹⁷⁷Memorial II.A.3.a,b

¹⁷⁸Memorial I.C,D

III. NEAPILIA IS NOT LIABLE FOR THE CESSATION OF KALVION'S MINING ACTIVITIES ON MARS

Kalvion may not invoke Neapilia's liability in relation to Kalvion's illegal mining activities on Mars (A). Even if Kalvion's mining activities on Mars are legal, Kalvion lacks standing to file a claim against Neapilia (B). Neapilia is not liable for the cessation of Kalvion's mining activities on Mars neither under Art. III LIAB (C), nor under Art. VII OST (D). In any event, Neapilia is not liable under general international law (E).

A. KALVION'S MINING ACTIVITIES ON MARS ARE ILLEGAL, THEREFORE, KALVION MAY NOT RAISE THE CLAIM OF NEAPILIA'S LIABILITY

Extraction of space resources by individual subjects of law amounts to their appropriation and is prohibited (1). Even if such activity is allowed, the sole purpose shall be scientific research but not commercial use (2). Thus, in any event, Kalvion's mining activities on Mars are illegal.

1. Kalvion's mining activities on Mars violate the non-appropriation principle

Neapilia relies on the *ex injuria jus non oritur* principle stipulating that states cannot benefit from an illegal act.¹⁷⁹

Art.II OST provides for an obligation of non-appropriation of the outer space, the Moon and celestial bodies. *Travaux préparatoires* reveal the content of the Art.II OST as prohibition of creating sovereignty and property rights in space.¹⁸⁰ In addition Art.11 MA provides for the status of natural resources in space as "common heritage of mankind" and prohibits establishment of property rights over them.

¹⁷⁹ Eastern Greenland, p.45; Anzilotti dis.op., p.95; BROWNIE, p.509

¹⁸⁰ F.Tronchetti, p.3 referring to Pop

Private entities are allowed to carry out space activities once authorized by a state of nationality in conformity with Art.VI OST, which, consequently, implies that when a state is prohibited from conducting an activity it also cannot authorize a private entity to perform it.¹⁸¹ “Resource extraction is a functional equivalent to appropriation”¹⁸² and when states grant private entities property rights over space resources they exercise appropriation under Art.II OST “by any other means”.¹⁸³ At the same time, in relation to private property rights, the OST “undercuts the ability of any government to recognize or enforce a private claim”.¹⁸⁴ Contrary to its obligations under space law treaties, Kalvion authorized SIENAR to extract resources on Mars and further used it for domestic purposes,¹⁸⁵ which constitutes appropriation.

Thus, while Kalvion’s mining activities on Mars were illegal, Kalvion cannot claim Neapilia’s liability arising from its cessation.

Even if mining activities on Mars are legal per se, Kalvion’s mining activities on Mars violate the non-appropriation principle, as their purpose is not scientific research

Even presuming that mining and use of resources on Mars can be legal, the regime of such activities in absence of specially established rules under Art.11 MA shall be similar to regimes which govern resources of other common heritage of mankind areas.

While the management of resources of seabed and ocean floor and subsoil thereof, which have the status common heritage of mankind,¹⁸⁶ is regulated by International Seabed

¹⁸¹ F.Tronchetti, p.3

¹⁸²Blount&Robinson, p.170

¹⁸³ Blount&Robinson, p.166

¹⁸⁴ Pop, p.278 referring to Silber K. “A little piece of heaven — space-based commercial development will happen sooner than you think. How a system of extraterrestrial property rights might emerge. Reason; November 1998”

¹⁸⁵ Facts, paras 16-17

¹⁸⁶ Art.136 UNCLOS

Authority,¹⁸⁷ it is relevant to consider Antarctica which does not have similar specific authority. Legal regime of Antarctica with its developments is considered to be that of common heritage of mankind.¹⁸⁸ The legal regime of explorative and exploitative activities of Antarctica resources are deemed to be conducted only with the view of scientific research purpose, not commercial use.¹⁸⁹

Kalvion's mining activities were conducted for the purpose of resources supply,¹⁹⁰ therefore, are not scientific.

Since Kalvion's mining activities on Mars are illegal, Kalvion is precluded from claiming Neapilia's liability for their cessation.

B. EVEN IF KALVION'S MINING ACTIVITIES ARE LEGAL, KALVION LACKS STANDING TO FILE A CLAIM FOR DAMAGE CAUSED TO SIENAR

State of nationality of juridical person, *i.e.* state of incorporation, may exercise diplomatic protection over the company.¹⁹¹ Nevertheless, when a company is controlled or exercises its activities in a state other than the state of incorporation, the former is determined as the "state of nationality" for the purpose of diplomatic protection.¹⁹² Irrespective of diplomatic protection, Art. XI(2) LIAB allows juridical persons to pursue a claim directly against LIABLE state.

Firstly, though SIENAR was established in Kalvion, it is a multinational company.¹⁹³ SIENAR specializes in cutting age space technologies and is linked with Kalvion only through the provision of products of its activities.¹⁹⁴ However, acknowledging multinational

¹⁸⁷ Art.153 UNCLOS

¹⁸⁸ Keyuan, p.197

¹⁸⁹ Tronchetti, p.806; Art. 7 Madrid Protocol

¹⁹⁰ Facts, para 17

¹⁹¹ Art. 9 ADP

¹⁹² Art. 9 ADP; Commentaries to Art. 9 ADP, para 5

¹⁹³ Facts, para 16

¹⁹⁴ Facts, para 16

character of SIENAR and lacking information about other SIENAR's activities, determination of Kalvion as "state of nationality" for diplomatic protection is precluded.

Secondly, being a developed country,¹⁹⁵ Neapilia has efficient legal system providing for accessible means of legal redress. It is SIENAR that developed UUVs, launched and deployed them and "Aeneas-1" on Mars and its orbit¹⁹⁶ and allegedly suffered damage from the cessation of mining activities on Mars. Moreover, SIENAR is still conducting its activities. Cumulatively, SIENAR not Kalvion has standing to present the claim for damage due to the cessation of mining activities on Mars.

C. NEAPILIA IS NOT LIABLE UNDER ART. III LIAB

Even if Kalvion may invoke LIAB, Neapilia is not liable under Art. III as the necessary criteria are not met (1). Regardless of fulfillment of criteria under Art. III LIAB, Neapilia is not liable as Kalvion did not comply with procedure of filing the claim (2).

1. Even if Kalvion may invoke LIAB, Neapilia is not liable under Art. III

As was stated above, liability under Art. III LIAB arises if cumulative criteria are met: the damage is caused to space object of one state by space objects of other launching state due to the fault of the latter.¹⁹⁷ While space activities are conducted by means of space objects, damage to respective space objects amounts to the damage to space activities.

Neapilia indeed qualifies as the launching state of space objects "TheosAres" and OptronRay mirrors.¹⁹⁸ However, Neapilia did not inflict damage to Kalvion's objects (a). Even if the damage was caused by Neapilia, it was neither foreseeable (b) and nor led to the cessation of

¹⁹⁵Facts, para 2

¹⁹⁶Facts, paras 16-18

¹⁹⁷Memorial II.2,3.c

¹⁹⁸Memorial II.A.2.a.ii

Kalvion's mining activities (c). In any event, the absence of Neapilia's fault gives no rise to liability (d).

a. Neapilia did not inflict damage to Kalvion

Activities of Kalvion's space objects "Aeneas-1", UUVs-2 on Mars' surface (i) and flights of cargo ships (ii) taken in conjunction, form "Kalvion mining activities on Mars" and neither of which were damaged by Neapilia.

i. Neapilia did not inflict damage to Kalvion's "Aeneas-1" and UUVs-2

Neapilia admits that in the context of space objects functionality, electronic or laser interference may amount to damage.¹⁹⁹ Nevertheless, an obligation to make reparation and compensation arises only when the causal link between the action of the state and the damage suffered by the other party from it is established²⁰⁰ and LIAB is applicable to damage with an adequate causality.²⁰¹ "A degree of certainty" shall be provided²⁰² for the Court to pronounce on LIABility for damage.

While the Respondent claims that the only possible reason for the cessation of the mining activities are Neapilia's actions, it fails to consider other possible reasons for changes in the environment, for instance, dust cycles, including storms.²⁰³

Taking this into consideration the reasoning that the "loss of communication" occurred "due to disturbances in the atmosphere" only "possibly" caused by Neapilia's programme,²⁰⁴ the loss can be equally attributed to a dust storm, and, therefore, the causal link between Neapilia's actions and the cessation of mining activities of missing.

¹⁹⁹Dunk, p.85; Smith&Kerrest, p.111,114-115,126-129,174-175; HURWITZ, p.50,53-54

²⁰⁰Commentaries to Art. 31 ARS, para 9; Commentaries to Art. 36 ARS, para 5

²⁰¹Kerrest & Thro, p.67 referring to UN Doc A/AC.105/C.2/SR.103 (1968)

²⁰²Corfu Channel, Merits, p.17

²⁰³ Memorial I.B.1.b)

²⁰⁴Facts, para 24

ii. Neapilia did not inflict consequential damage to Kalvion's natural and juridical persons

As was submitted above,²⁰⁵ in accordance with the definition given in the doctrine “consequential damage” means either damage or loss arising from the consequences of injury, which main characteristic is link to the act.²⁰⁶

The termination of Kalvion’s cargo flights between the Earth and Mars resulted from the cessation of mining activities on Mars.²⁰⁷ While Neapilia is not liable for respective cessation,²⁰⁸ Neapilia is also not liable for termination of Kalvion’s supply flights with Marcian resources.

b. The damage was unforeseeable

The test for the causal link between the act and damage covered by liability is the test of its foreseeability.²⁰⁹ The damage to Kalvion’s space objects and the consequent cessation of Kalvion’s mining activities could not have been anticipated in a term of 15 month after the beginning of the Technology Trial for several reasons. Firstly, UMVs-2 has been considered as reliable mining technology with an operational lifetime of 5 years.²¹⁰ When the Technology Trial began, only 1,5 year of UMVs-2 operational lifetime has past.²¹¹ Secondly, the most recoverable mineral resources on Mars are of volcanic origin and are concentrated in craters,²¹² not in polar areas where OptronRay mirrors were functioning. Finally, a satisfactory change of Mars environment was anticipated ten years after the programme’s

²⁰⁵Memorial II.3.b)

²⁰⁶Christol, p.360; Diamond, p.668; Foster, p.158

²⁰⁷Facts, para 24

²⁰⁸Memorial for the Applicant, III B 2 (a),(b)(i)

²⁰⁹Carpanelli, p.6-7; Christol, p.358-359; Commentaries to Art. 31 ARS, para 10; *Portuguese Colonies case*, p.1031

²¹⁰Facts, paras 17-18,23

²¹¹Facts, paras 18-19

²¹²NASA Scientists Discover Unexpected Mineral on Mars

launch — only by 2063 and only after the second generation of larger mirrors is deployed for a three-year term.²¹³

Thus, merely beginning to perform the Technology Trial with first generation of smaller mirrors on Mars poles, Neapilia could not foresee the damage to Kalvion’s space objects having long operational lifetime and being situated in other areas of Mars. Therefore, Neapilia is not liable for the cessation of Kalvion’s mining activities.

c. Even if the damage was caused by Neapilia, it did not lead to the cessation of Kalvion’s mining activities on Mars

Kalivon insists that cessation of its mining activities on Mars resulted from the loss of communication between “Aeneas-1” and UMVs-2, “possibly” caused by deployment of OptronRay mirrors.²¹⁴

Assuming *arguendo* that the deployment of OptronRay mirrors could interfere with the communication of “Aeneas-1” and UMV’s-2, still that is functionality aspect of the satellite, but not the UMVs technology as such. Kalvion mining activities were successfully conducted without any supporting satellite for 5 years prior to the deployment of “Aeneas-1”.²¹⁵ Therefore, Neapilia could decrease the amount of mined resources to the level of 2048-2051,²¹⁶ if Kalvion uses UMVs-1 once again, but the cessation of Kalvion’s mining activities on Mars as a whole was not caused by Neapilia’s actions. Thus, Neapilia is not liable for respective cessation.

²¹³Facts, para 11

²¹⁴Facts, para 24

²¹⁵Facts, para 17

²¹⁶Facts, para 17

d. In any event, Neapilia acted diligently and the damage to Kalvion's mining activities was inflicted in the absence of Neapilia's fault

As was previously indicated, “fault” for the purposes of Art. III means intent or negligence.²¹⁷

While Neapilia’s “50 Rays” programme had the sole intent of solving the global overpopulation crisis “for the benefit and welfare of all Humankind”,²¹⁸ the criterion of “intent” in respect of fault is not met.

“Negligence”, as referred to during LIAB’s drafting, means “full knowledge that the damage will probably result”.²¹⁹ Absence of negligence is proved by actions in conformity with due diligence principle,²²⁰ *i.e.* taking by responsible government diligent steps to achieve desired result.²²¹ According to customary “no harm” rule states informed about existence of a danger, are obliged to give necessary notification,²²² and take precautionary measures to prevent harm, at least to give warning to avoid and abate harmful effects.²²³ “Obligations of prevention”²²⁴ are obligations of conduct, not the result.²²⁵ In order to solve national and global overpopulation crisis, in absence of any collective solution, Neapilia has been looking for a space-based solution since 2030.²²⁶ The OptronRay operation was of no danger to Mars or any activity on it and was announced before Kalvion started mining activities on Mars.²²⁷ Neapilia fulfilled procedures prescribed by space law treaties and kept the public updated on

²¹⁷Memorial II.A.3.c

²¹⁸Facts, paras 4,19,28

²¹⁹Mazaroff, p.90

²²⁰Palmisano, para 23; Koivurova, paras 1, 4

²²¹Koivurova, paras 1, 3

²²²Corfu Channel, p.22; Koivurova, para 3

²²³Sucharitkul, p.831

²²⁴ILC Report1999, para 178

²²⁵Ibid; HANQIN, p.165; Koivurova, para 8

²²⁶Facts, paras 4, 5, 7

²²⁷Facts, paras 9, 10,17

the programme's performance.²²⁸ Thus, Neapilia acted diligently and cannot be found at fault and thus liable.

2. Regardless of merits of liability under Art. III LIAB, Neapilia is not liable as Kalvion did not comply with procedure of filing a claim

Kalvion failed to present the claim for damage via diplomatic channels (a) and within one year from the occurrence of damage or identification of launching state (b), thus, is not eligible to file a claim before the Court. The Applicant admits that establishing a Claims Commission is not mandatory.²²⁹

a. Kalvion did not comply with the requirement of presenting a claim via diplomatic channels

According to Art. IX LIAB the claim for compensation for damage must be presented via diplomatic channels or through the Secretary General of the United Nations if states do not maintain diplomatic relations. Neapilia and Kalvion have maintained diplomatic relations and earlier Kalvion contacted Neapilia to request cessation of the "50 Rays" programme prior of damage occurrence.²³⁰ However, when Kalvion's activities suffered damage, allegedly caused by Neapilia, Kalvion did not resort to diplomatic channels to present respective claim to Neapilia before filing a claim to the Court, thus, may not invoke Neapilia's liability under LIAB.

b. Kalvion failed to meet the time-limit requirement for presenting a claim

The claim for damages must be presented within one year from the moment of inflicting damage or identification of LIABle state.²³¹

²²⁸Facts, paras 15, 19

²²⁹Memorial II.A.3.d.ii

²³⁰Facts, para 23

²³¹Art.X(1) LIAB

Kalvion insists that damage to its mining activities on Mars occurred in March 2054 due to Neapilian space activities,²³² which signifies that the occurrence of the damage and identification of LIABLE state by Kalvion took place around that time. However, the claim for liability was raised by Kalvion after January 2056,²³³ with a delay of approximately two years.

Thus, failing to comply with the time limit for filing the claim, Kalvion is not eligible to present it before the Court.

D. NEAPILIA IS NOT LIABLE UNDER ART. VII OST

As was stated above, if the state is not liable under Art. III LIAB, it may still be liable under Art. VII OST.²³⁴

Nevertheless, the criterion of “damage” must be met. As Neapilia’s space objects did not inflict damage to Kalvion’s ones,²³⁵ Neapilia is not liable for cessation of Kalvion’s mining activities on Mars.

E. IN ANY EVENT, NEAPILIA IS NOT LIABLE UNDER GENERAL INTERNATIONAL LAW

As the Applicant has stated above, liability as duty to compensate for damage may arise as a consequence of an internationally wrongful act.²³⁶

While Neapilia complied with its obligations,²³⁷ no obligation of compensation to Kalvion for the cessation of Kalvion’s mining activities on Mars arises.

²³²Facts, para 24; Clarifications, para 16

²³³Facts, paras 34-36

²³⁴Memorial II.B

²³⁵Memorial III.A.2.a,b

²³⁶Memorial II.C

²³⁷Memorial I.D.1

SUBMISSIONS TO THE COURT

For the foregoing reasons, the Government of the Democratic Republic of Neapilia, Applicant, respectfully requests the Court to adjudge and declare that:

1. Kalvion’s actions constituted an unlawful cyber-attack against Neapilia, contrary to international law and to the peaceful uses of outer space;
2. Kalvion is liable for the total loss of the “50 Rays” programme and for all consequential damages, loss of profit and liquidation of SalPA Corp.’s; and
3. Neapilia is not liable for the cessation of Kalvion’s mining activities on Mars.

Respectfully submitted on behalf of the Applicant,

Agents for the Applicant

