
THE MALTAVERIANS
Episode 5
UNDER PRESSURE

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Particular attention has been given to ensure that all the content of this comic is correct and up to date as on date of issue. While every care has been taken during production, the publisher does not accept any liability for errors that may have occurred.

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maltaverians.mt

The project of publishing a series of comics focused on digital innovation technology aims to emphasize the importance of expanding teens' knowledge in this rapidly evolving field. These comics will be distributed among students studying Computing and IT to enhance their understanding of the latest technologies and potentially guide them towards their future careers. It will be available in a digital format online as well. By incorporating engaging visuals and storylines, the comics will pique the interest of young readers and promote a deeper comprehension of innovative technologies that are shaping our world. In addition, the inclusion of a glossary within the publications will further clarify technological terms and concepts, making the material more accessible and informative.

THE MALTAVERIANS



Real Name: Elisa Bonello

Character traits: Positive, empathetic, energetic

Personality traits: Outgoing, affable

Other dimension nickname: Bella Bit

Nickname meaning: Beautiful + smallest size of data

Nationality: Maltese

Age: 26

Occupation: Secondary school teacher of Computer Studies

Main allies: Jake Spark (a friend), police, responsible citizens

Main foes: cyber criminals (especially bullies and thieves)

Special abilities: Digital vision - sees the inner workings of digital technologies like no other human

Special powers: Master traveller in virtual reality, sharp like Sherlock Holmes, virtual martial arts skills, hardcore gamer

Other powers: Can make learning fun for kids



Real Name: Jake Spiteri

Character traits: Intelligent, passionate, loyal

Personality traits: Shy, reserved

Other dimension nickname: Jake Spark

Nickname meaning: Jake + bright mind + small but fiery

Nationality: Maltese

Age: 25

Occupation: IT manager at a local hotel

Main allies: Elisa Bonello/ Bella Bit (a friend), the police, responsible citizens, trusted computing devices

Main foes: Phishers, hackers, spammers etc.

Special abilities: Tech whisperer – somehow inanimate technologies seem to understand what he needs and wants

Special powers: None (at the moment)

Other powers: Effortlessly produces software like a piece of cake

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Real Name: Klein Artificial Intelligence (KAI)

Type of AI: Large Language Model (LLM)

Launch date: 1st June 2023

Owner/developer: Klein Hotel – Jake Spiteri

Hosting: Malta

Access: Limited to Bella Bit, Jake Spark and Klein Hotel. Likes to take the form of a dog.



Real Name: Unkown. Could never be verified

Alias: Professor Borgon Phase

Occupation: All we know is that he is a brilliant Maltese scientist

Special abilities: Controlling mastermind behind large-scale tech developments including the Phasecoin digital currency

Nobody knows much else about him.



Real Name: Unknown

Alias: Morgana Nox

Character Traits: Devious, crafty, sly

Personality Traits: Classy, fussy, smooth talker

Other dimension nickname: Nox

Nickname meaning: Night

Nationality: Unknown, probably European

Age: Unknown, probably mid-30s.

Occupation: Prof. Borgon trusted number 2

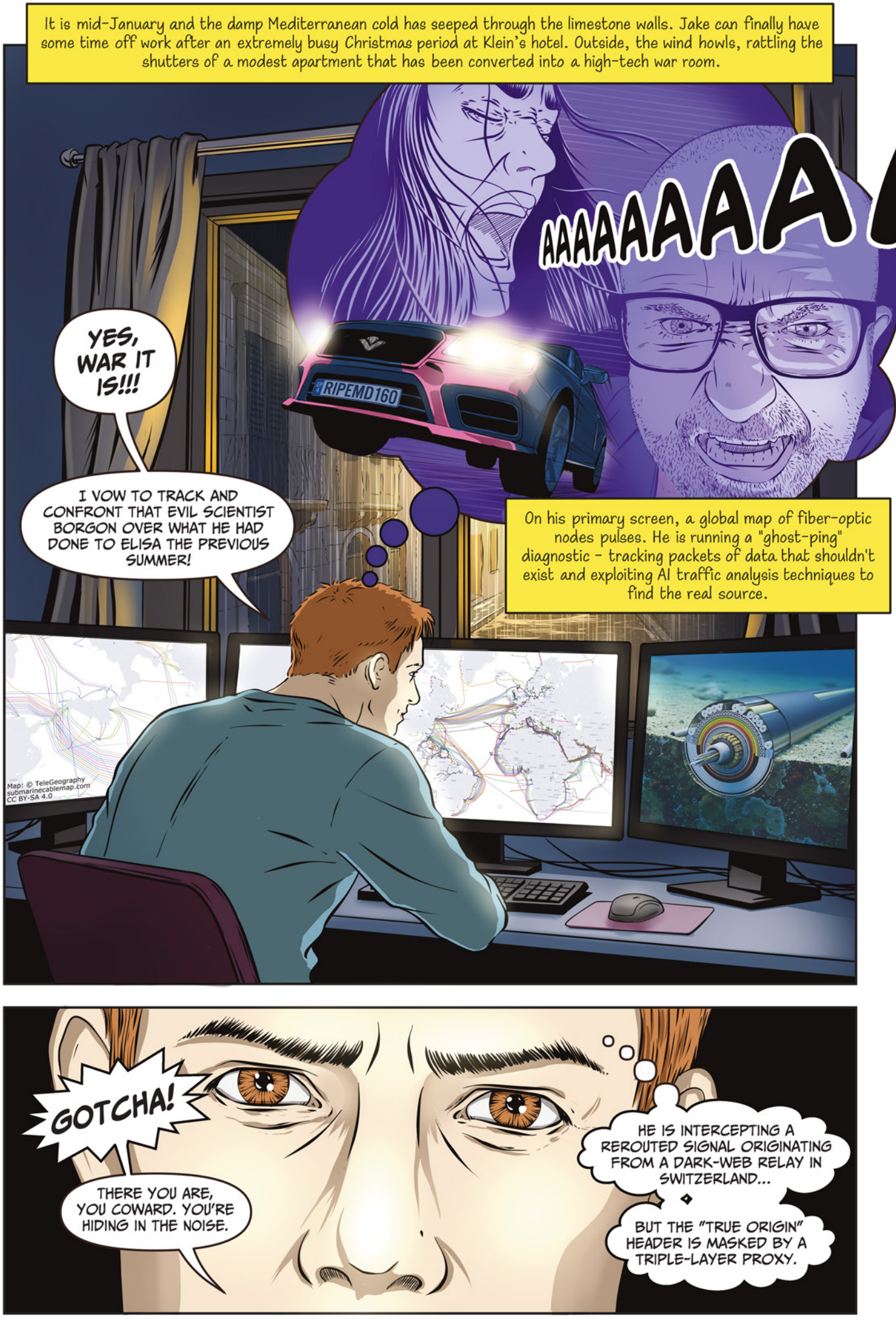
Main allies: Prof. Borgon and his cronies

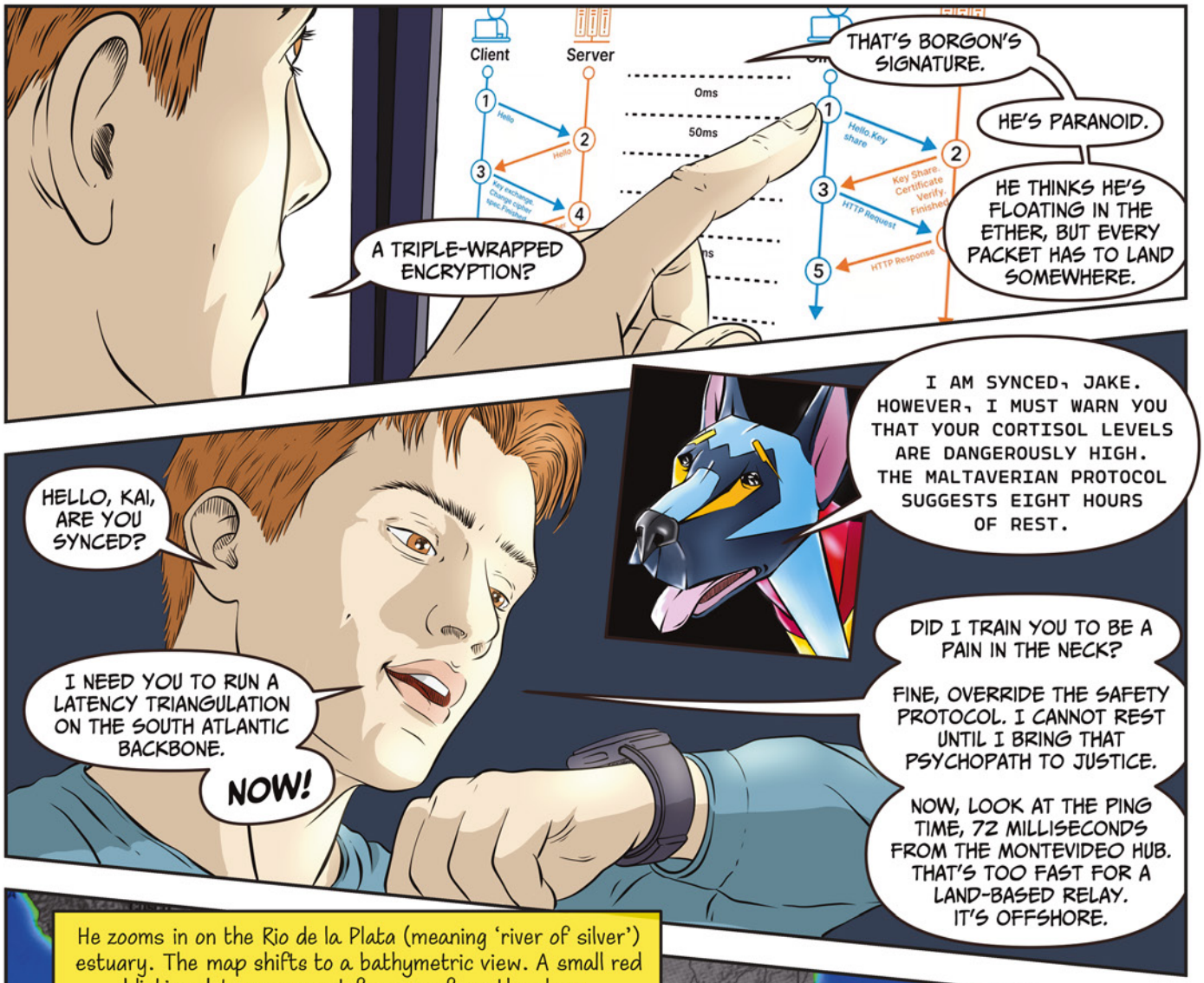
Main foes: The Maltaverians and law enforcement agencies

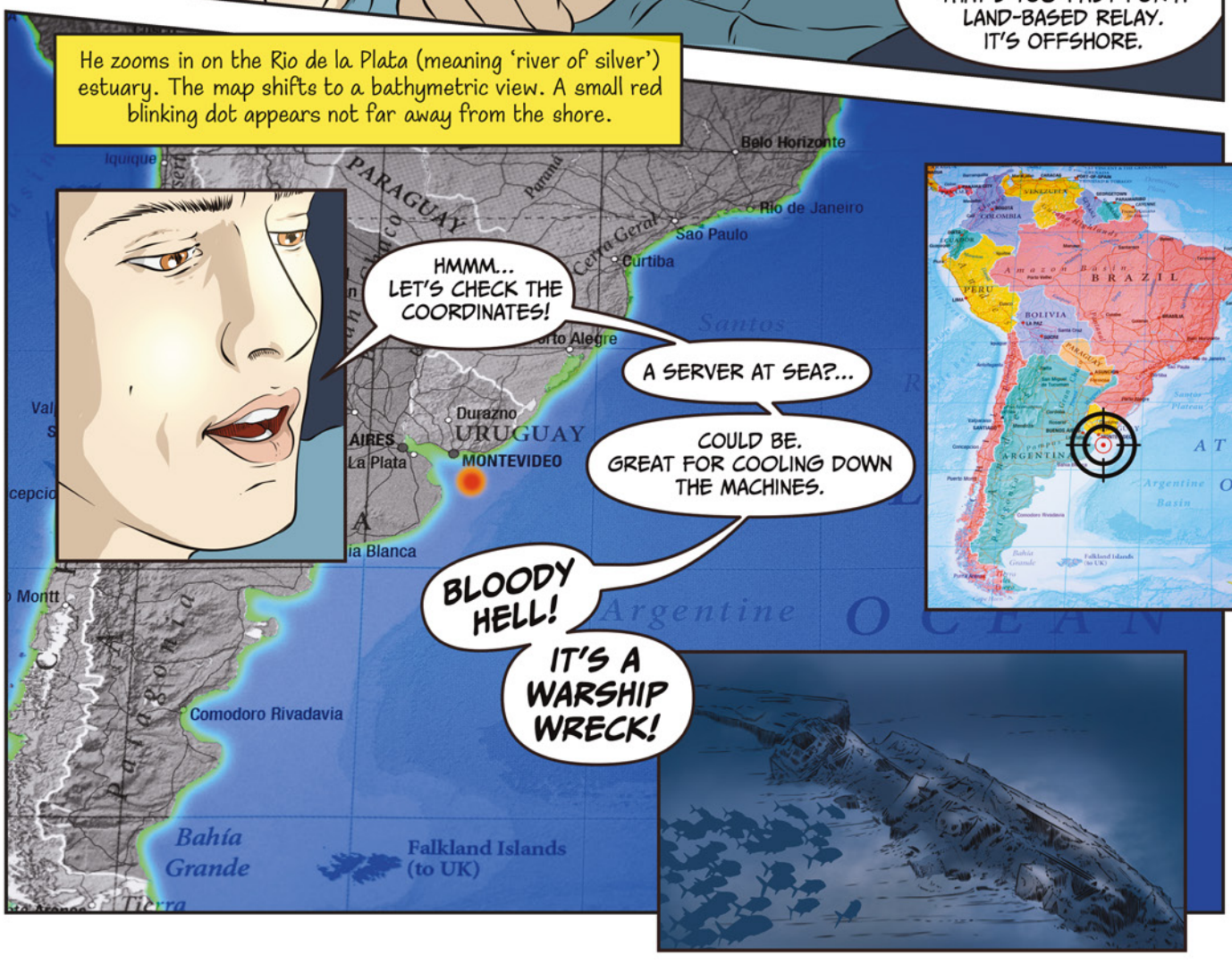
Special abilities: Being a former spy she has knowledge of how intelligence (secret service) services work

Special powers: Can exploit the digital world for real gains in the physical world

Other powers: Dangerously charming to men (and perhaps women too)


It is mid-January and the damp Mediterranean cold has seeped through the limestone walls. Jake can finally have some time off work after an extremely busy Christmas period at Klein's hotel. Outside, the wind howls, rattling the shutters of a modest apartment that has been converted into a high-tech war room.
AAAAAAAAA
RIPEMD160
YES, WAR IT IS!!!
I VOW TO TRACK AND CONFRONT THAT EVIL SCIENTIST BORGON OVER WHAT HE HAD DONE TO ELISA THE PREVIOUS SUMMER!
On his primary screen, a global map of fiber-optic nodes pulses. He is running a "ghost-ping" diagnostic - tracking packets of data that shouldn't exist and exploiting AI traffic analysis techniques to find the real source.
Map: © TeleGeography submarinecablemap.com CC BY-SA 4.0
GOTCHA!
THERE YOU ARE, YOU COWARD. YOU'RE HIDING IN THE NOISE.
HE IS INTERCEPTING A REROUTED SIGNAL ORIGINATING FROM A DARK-WEB RELAY IN SWITZERLAND...
BUT THE "TRUE ORIGIN" HEADER IS MASKED BY A TRIPLE-LAYER PROXY.


A TRIPLE-WRAPPED ENCRYPTION?
Client
Server
Oms
50ms
Hello
Hello
Key exchange, Change cipher spec, Finished
THAT'S BORGON'S SIGNATURE.
HE'S PARANOID.
HE THINKS HE'S FLOATING IN THE ETHER, BUT EVERY PACKET HAS TO LAND SOMEWHERE.
Hello, Key share
Key Share, Certificate, Verify, Finished
HTTP Request
HTTP Response
HELLO, KAI, ARE YOU SYNCED?
I AM SYNCED, JAKE. HOWEVER, I MUST WARN YOU THAT YOUR CORTISOL LEVELS ARE DANGEROUSLY HIGH. THE MALTAVERIAN PROTOCOL SUGGESTS EIGHT HOURS OF REST.
I NEED YOU TO RUN A LATENCY TRIANGULATION ON THE SOUTH ATLANTIC BACKBONE.
NOW!
DID I TRAIN YOU TO BE A PAIN IN THE NECK?
FINE, OVERRIDE THE SAFETY PROTOCOL. I CANNOT REST UNTIL I BRING THAT PSYCHOPATH TO JUSTICE.
NOW, LOOK AT THE PING TIME, 72 MILLISECONDS FROM THE MONTEVIDEO HUB. THAT'S TOO FAST FOR A LAND-BASED RELAY. IT'S OFFSHORE.


He zooms in on the Rio de la Plata (meaning 'river of silver') estuary. The map shifts to a bathymetric view. A small red blinking dot appears not far away from the shore.
HMMM... LET'S CHECK THE COORDINATES!
A SERVER AT SEA?...
COULD BE. GREAT FOR COOLING DOWN THE MACHINES.
BLOODY HELL!
IT'S A WARSHIP WRECK!
Belo Horizonte
Rio de Janeiro
Sao Paulo
Curitiba
Porto Alegre
Durazno
URUGUAY
MONTEVIDEO
La Plata
Bahía Blanca
Comodoro Rivadavia
Bahía Grande
Falkland Islands (to UK)
Argentine Basin
PARAGUAY
Iquique
Santos
Amazon Basin
BRAZIL
PERU
BOLIVIA
ARGENTINA

Jake has just discovered that the site is the wreck of the World War II German pocket (small) battleship *Graf Spee*.

It was scuttled by its own captain after a short battle with a British Royal Navy squadron in December 1939. It lies in shallow waters around 11 km from Montevideo at the mouth of the Rio De La Plata. It is also quite near Buenos Aires, the Argentinian capital, on the other side of the river mouth.

THE THERMAL-MAP SIGNATURE OF THE AREA IS CHAOTIC DUE TO THE SEDIMENT.

IT WOULD BE AN IDEAL HEAT SINK FOR A HIGH-DENSITY SERVER FARM.

HE'S USING THE RIVER AS A RADIATOR.

THAT'S WHY WE COULDN'T FIND HIM. THE THERMAL VENTING BLENDS INTO THE NATURAL CURRENT.

BUT HE FORGOT ONE THING...

WHAT?

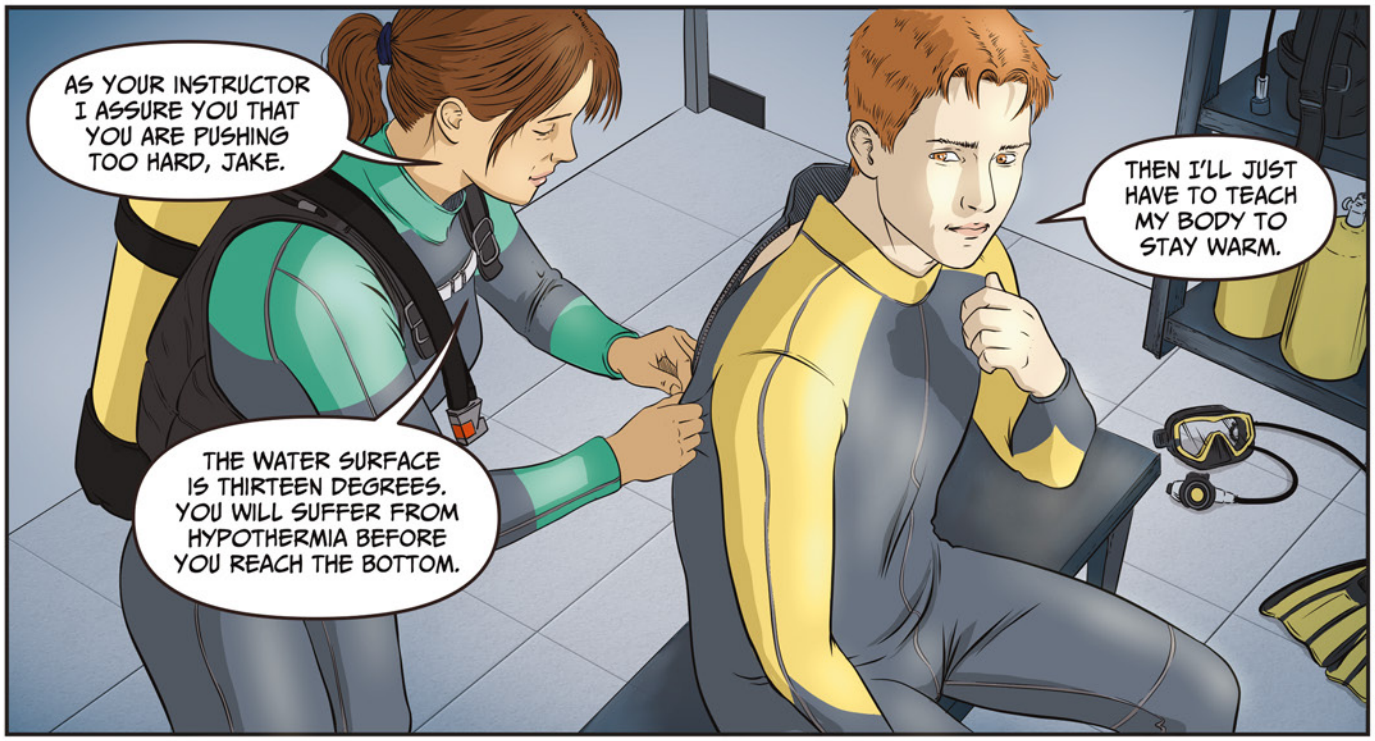
I DON'T KNOW HOW TO DIVE BUT I CAN LEARN FAST!

KAI, CHECK FOR FLIGHTS TO MONTEVIDEO. USE THE "MALTA-DIVER" ALIAS. ONCE I LAND THERE I'M GOING TO NEED A FULL SCUBA KIT AND A SPEAR GUN CAPABLE OF CARRYING AN ELECTROMAGNETIC PULSE HEAD.

I'M COMING FOR YOU, BORGON...

BE AFRAID!

However, before going to check the shipwreck he needs to get the scuba diving licence. What an adventure learning underwater diving in winter! But he is ready for this sacrifice and more.


AS YOUR INSTRUCTOR I ASSURE YOU THAT YOU ARE PUSHING TOO HARD, JAKE.
THEN I'LL JUST HAVE TO TEACH MY BODY TO STAY WARM.
THE WATER SURFACE IS THIRTEEN DEGREES. YOU WILL SUFFER FROM HYPOTHERMIA BEFORE YOU REACH THE BOTTOM.

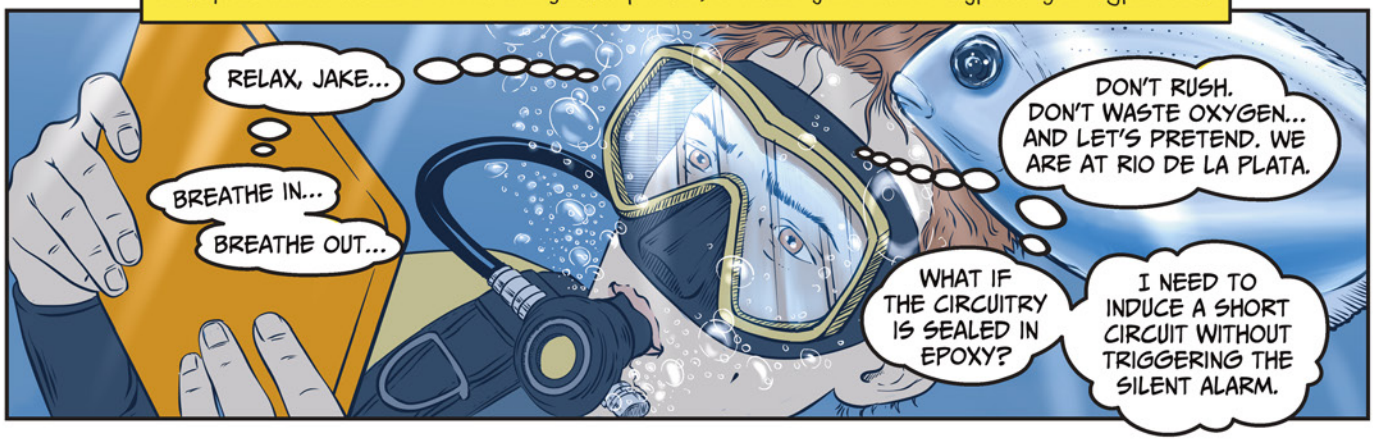

WHY THE RUSH?
WHY A RIVER IN SOUTH AMERICA?
THE RIO DE LA PLATA IS NOT LIKE THIS.
TOLD YOU ALREADY...
HOLD YOUR MASK AND DEMAND VALVE BEFORE HITTING THE WATER!!!
SAFETY MEASURES!

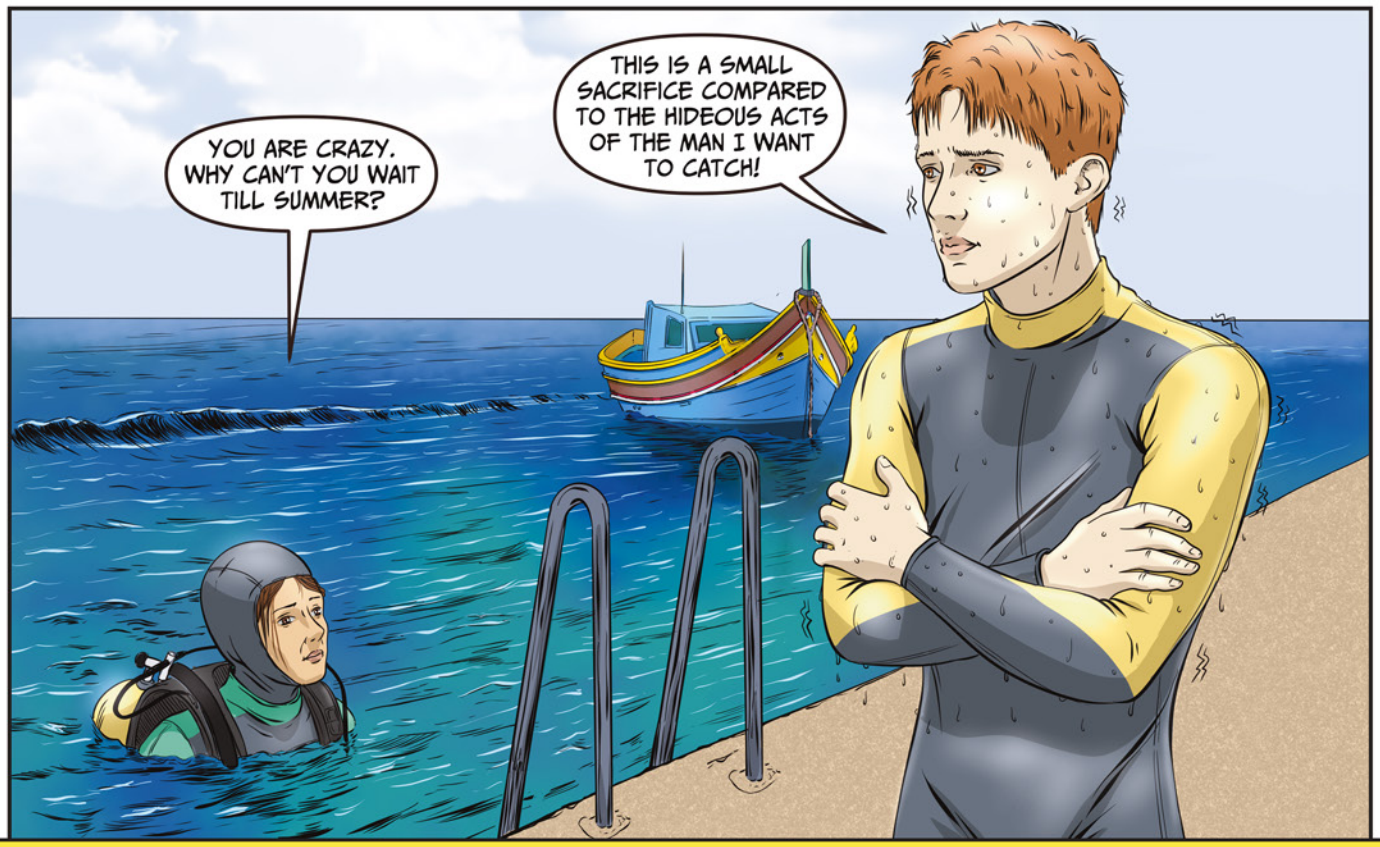

IT IS DIRTY BROWN WITH SILT...
YOU WILL SEE NOTHING. YOU WILL BE BLIND.
I DON'T NEED TO SEE. I JUST NEED TO FEEL A CABLE.
LETS DIVE NOW.

Underwater, the world is strangely hushed, filled only with the rhythmic hiss and bubbling regulators.



Jake pulls out a tablet from his BCD jacket pocket, simulating the act of bypassing a keypad lock.





Actually Jake has a brilliant plan. While Malta is in the middle of winter, it is summer in South America at this time of the year. Hence the urgency to get the diving licence. And he gets it! Another feather in Jake's cap.

After completing several training dives and earning his diving licence, the long journey from Malta to Montevideo was uneventful. Jake knew that he was on his own, with only AI in the form of KAI for support. But he decided he could not risk Elisa's life again. It was now a personal feud between him and Borgon. However, deep down, he felt something was wrong. The Maltaverians have always worked as a team and always succeeded in their missions.

The day has finally arrived to test the waters. Intelligence was precise. The sea is brownish and visibility will definitely be awful. But at least it's nice, warm weather. Jake makes sure he has all the supplies he needs with him, especially the anti-infra red diving suit and the thermal cloak to avoid being detected by heat sensors. And off he goes in a small boat to the site of the shipwreck.

Soon enough he arrives at the coordinates, puts on the gear, and launches the coloured buoys in the sea to mark the presence of a diver.

KAI, DO YOU HAVE THE SATELLITE OVERLAY?

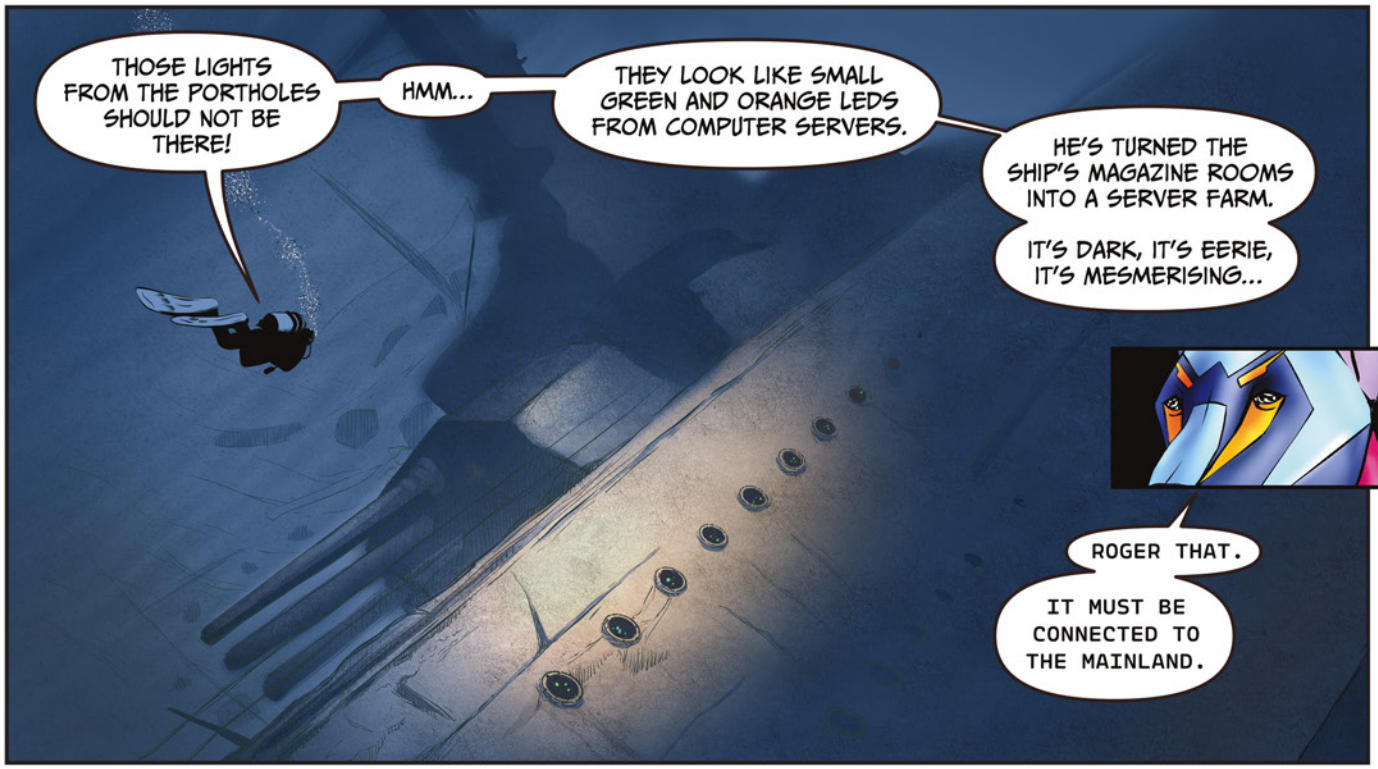
TARGET ACQUIRED. THE WRECK OF THE *GRAF SPEE* IS CONFIRMED THIRTY METERS DIRECTLY BELOW YOU.

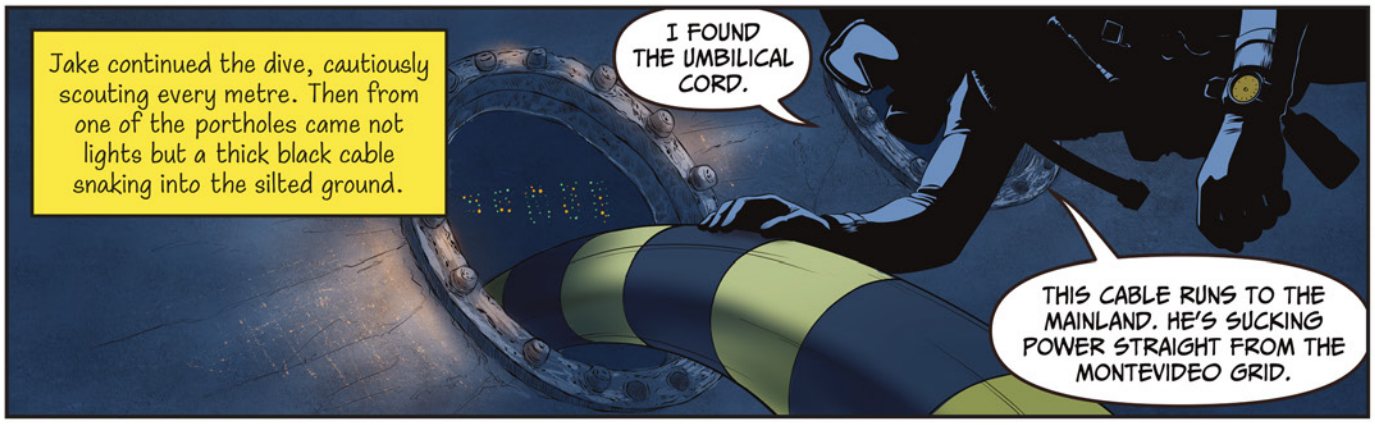
I'M SPOTTING SOMETHING!!!

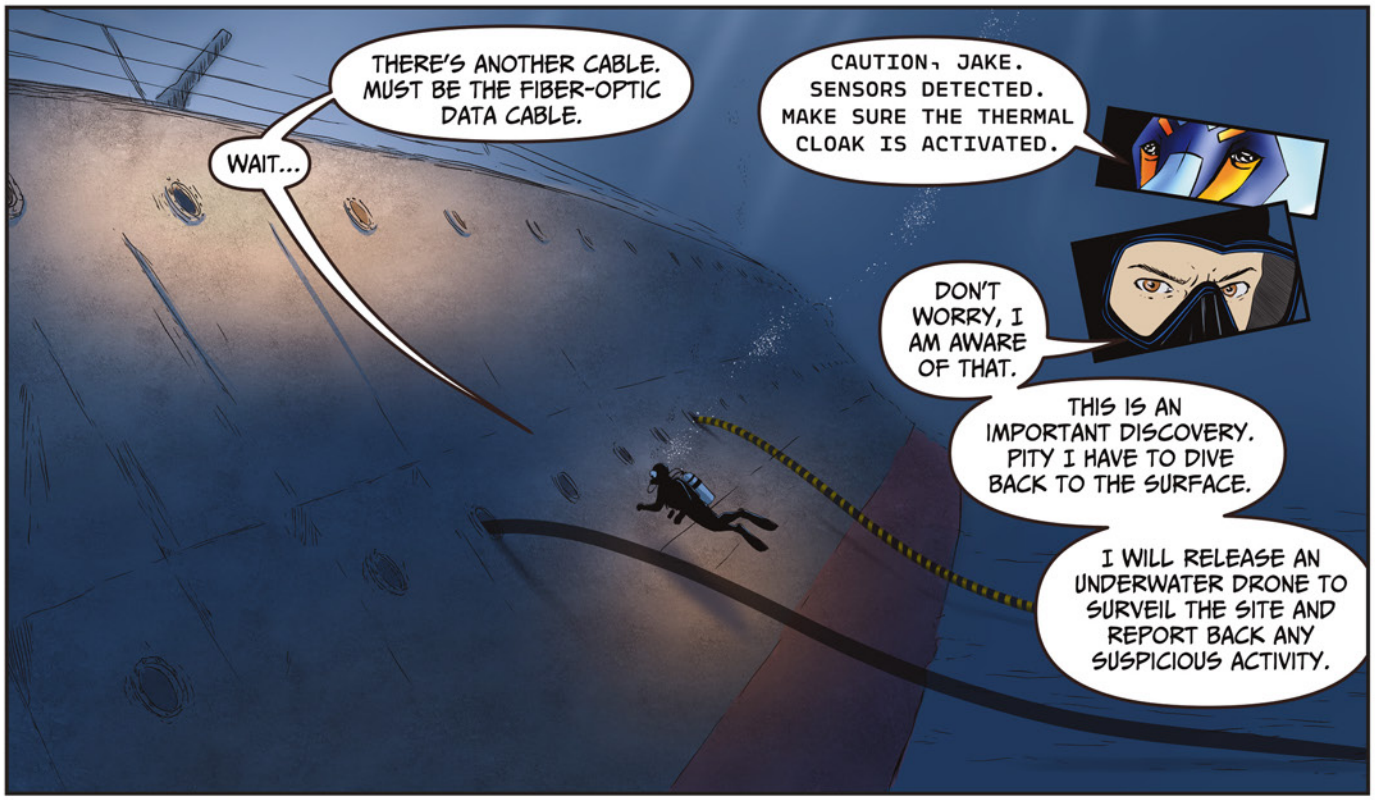
NOTHING LIKE THE CRYSTAL-CLEAR BLUE WATERS AROUND MALTA.

BUT I'M NOT HERE FOR FUN.

I HAVE A MISSION TO COMPLETE. THERE MUST BE SOMETHING ABOARD THIS WRECK... AND I NEED TO FIND IT.


THOSE LIGHTS FROM THE PORTHOLES SHOULD NOT BE THERE!
HMM...
THEY LOOK LIKE SMALL GREEN AND ORANGE LEDS FROM COMPUTER SERVERS.
HE'S TURNED THE SHIP'S MAGAZINE ROOMS INTO A SERVER FARM.
IT'S DARK, IT'S EERIE, IT'S MESMERISING...
ROGER THAT.
IT MUST BE CONNECTED TO THE MAINLAND.

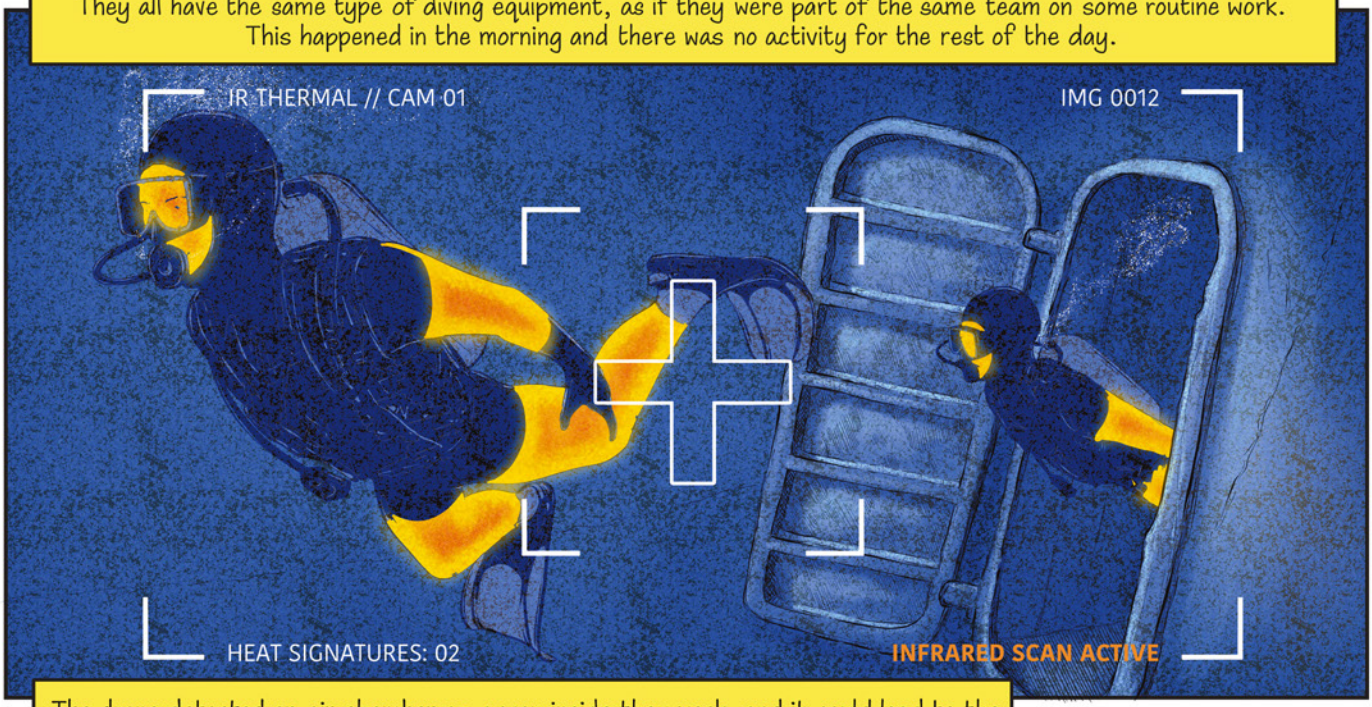

Jake continued the dive, cautiously scouting every metre. Then from one of the portholes came not lights but a thick black cable snaking into the silted ground.
I FOUND THE UMBILICAL CORD.
THIS CABLE RUNS TO THE MAINLAND. HE'S SUCKING POWER STRAIGHT FROM THE MONTEVIDEO GRID.


THERE'S ANOTHER CABLE. MUST BE THE FIBER-OPTIC DATA CABLE.
WAIT...
CAUTION, JAKE. SENSORS DETECTED. MAKE SURE THE THERMAL CLOAK IS ACTIVATED.
DON'T WORRY, I AM AWARE OF THAT.
THIS IS AN IMPORTANT DISCOVERY. PITY I HAVE TO DIVE BACK TO THE SURFACE.
I WILL RELEASE AN UNDERWATER DRONE TO SURVEIL THE SITE AND REPORT BACK ANY SUSPICIOUS ACTIVITY.

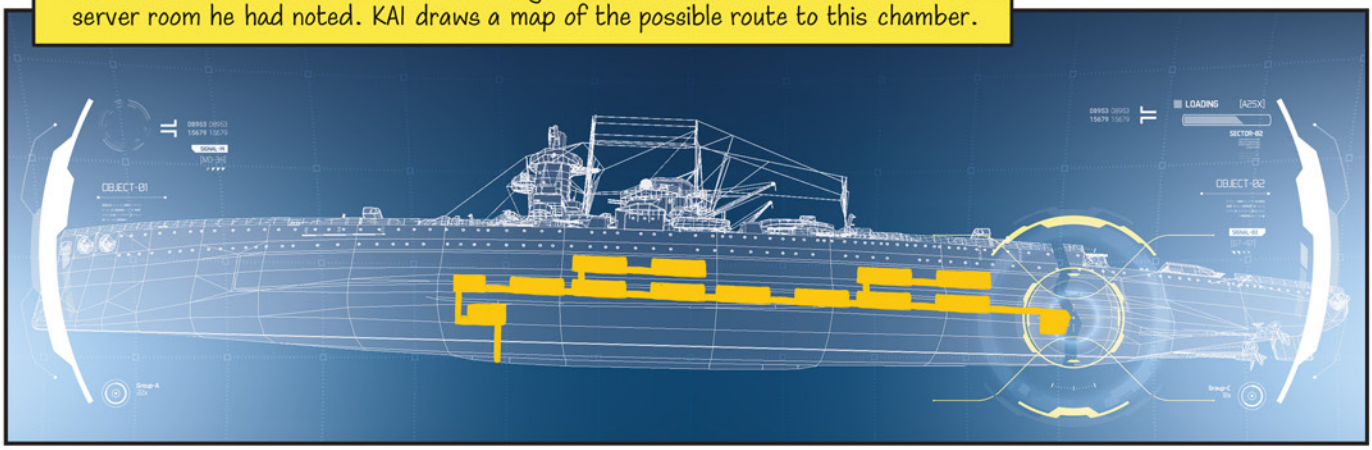
VRRRMMMM

Within 48 hours the drone had proved its worth.

It detects an IR cloaked scuba diver going inside the ship from one open door but a few seconds later two come out. They all have the same type of diving equipment, as if they were part of the same team on some routine work. This happened in the morning and there was no activity for the rest of the day.

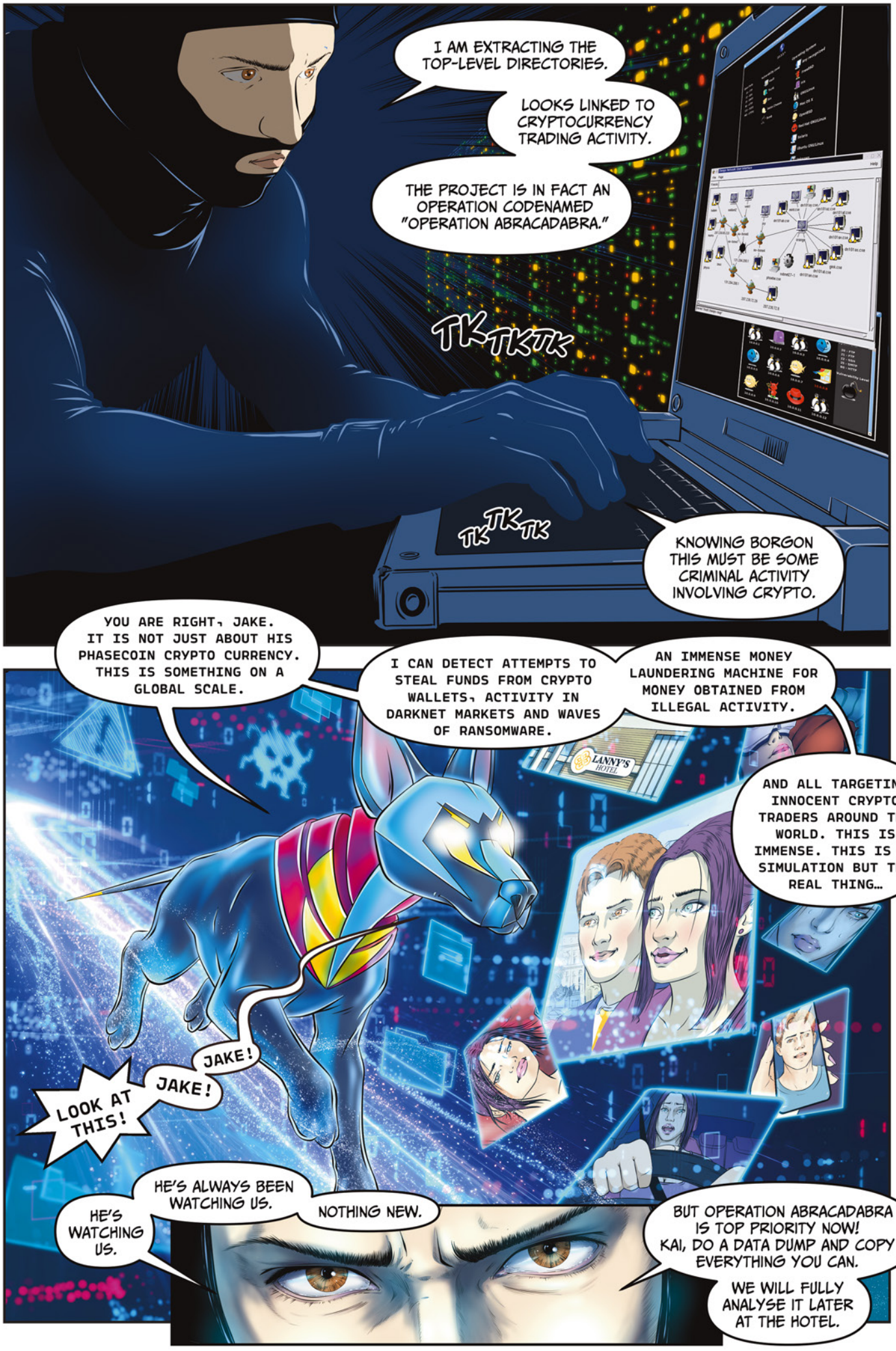


The drone detected an air chamber as a way inside the wreck, and it could lead to the server room he had noted. KAI draws a map of the possible route to this chamber.



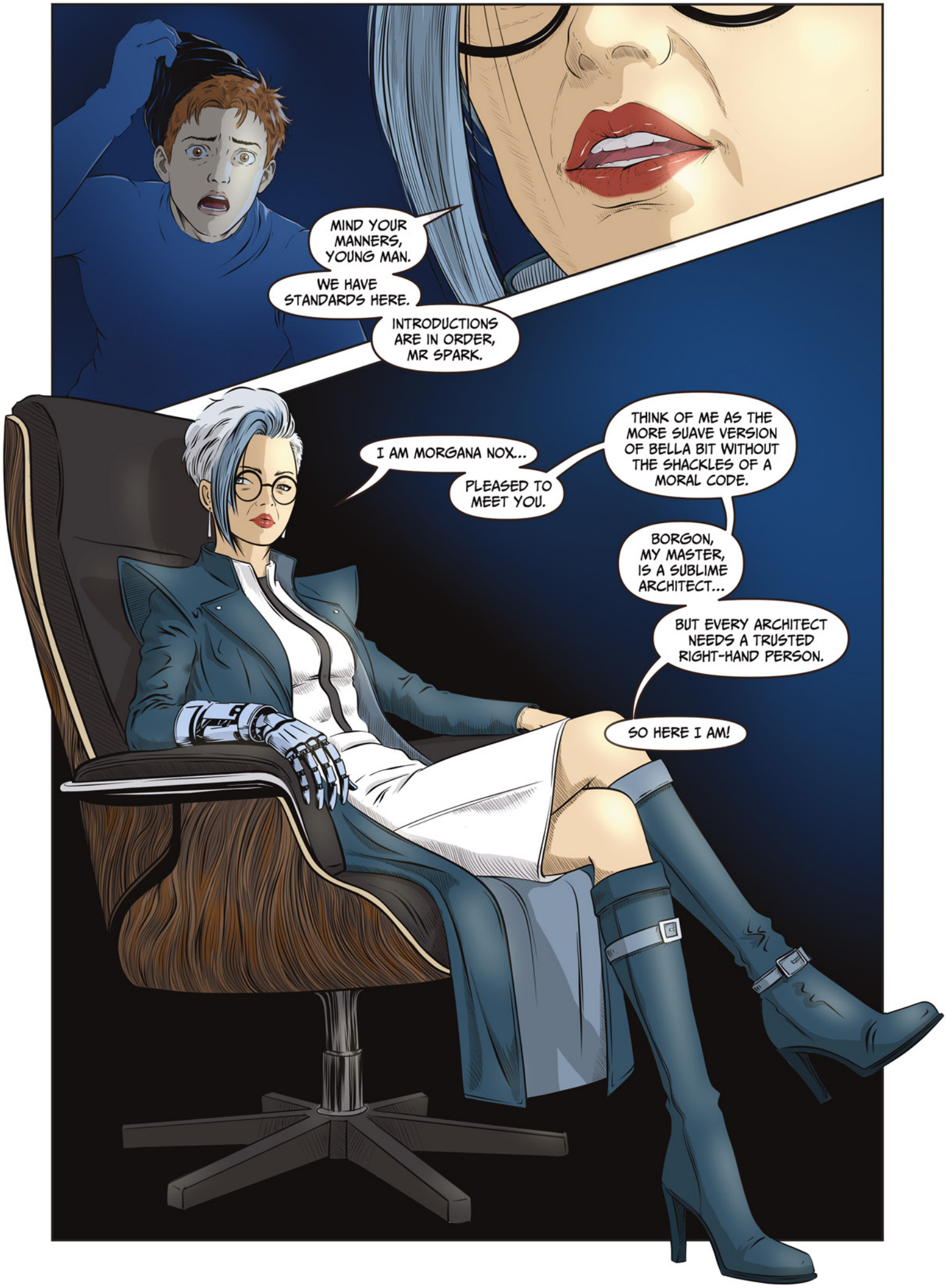

The afternoon of the following day Jake goes to the shipwreck site again and following KAI's indications he emerges into a small moon pool (air chamber). He rips off his mask, gasping.
KAI, DO YOU READ ME?
I'M IN THE TRANSITION ZONE. PRESSURE IS FOUR ATMOSPHERES.
Jake runs a compact scanner over a sleek, modern keypad embedded in the rusted steel.
BIOMETRIC AND CAPACITIVE SENSORS. HE'S USING A ROLLING ENCRYPTION KEY. KAI, I NEED THE OVERRIDE CODE.
CALCULATING... TRY B-6-7-4-6-N.
TI
TI
TI
OPEN SESAME!
ACCESS GRANTED

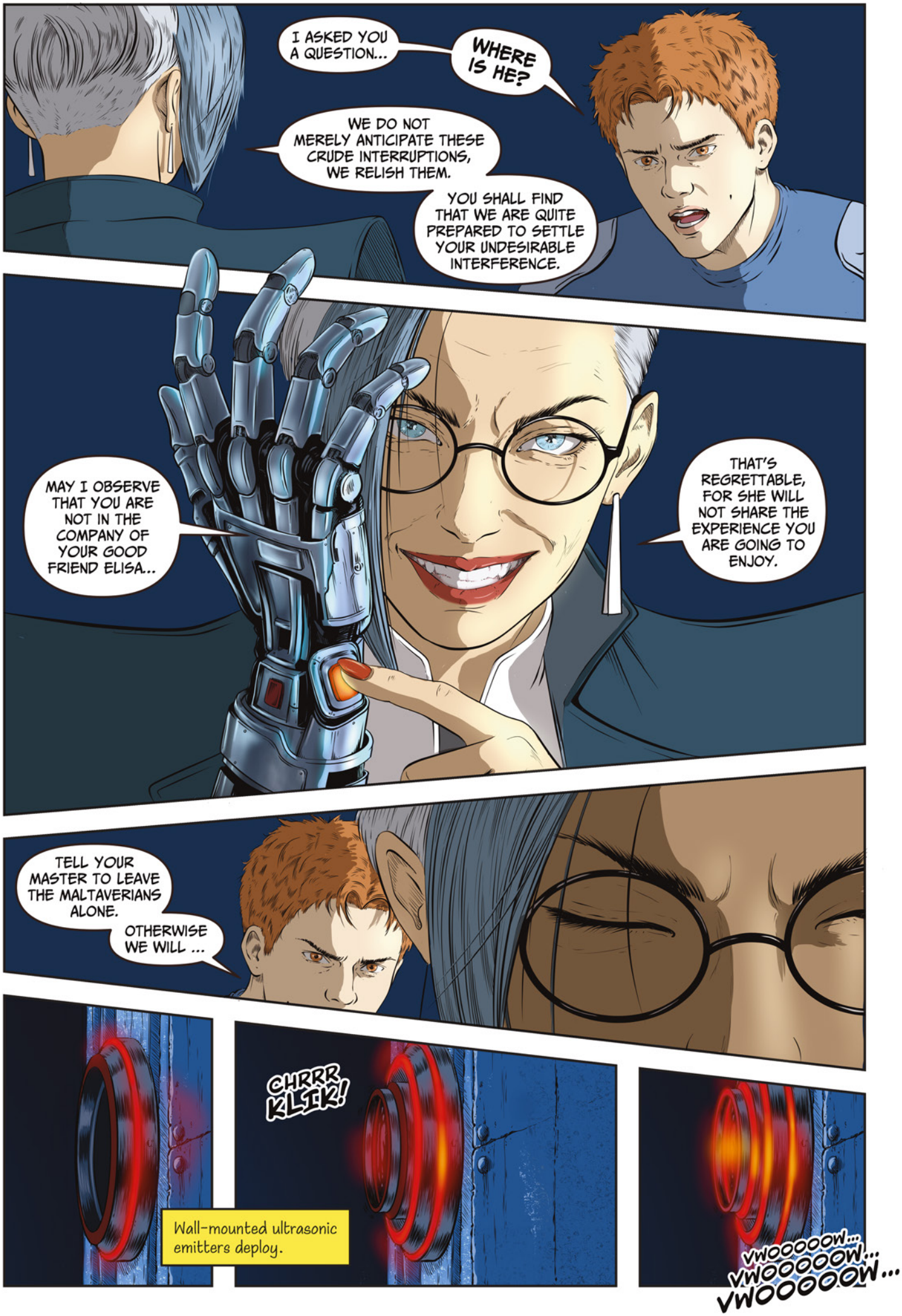

INCREDIBLE...
IT'S LIKE STEPPING INTO A TEMPLE OF DATA.
THE SERVERS HUM AROUND ME LIKE ONE VAST, LIVING MIND.
STREAMS OF BLUE LIGHT PULSE THROUGH THE PIPES LIKE BLOOD THROUGH ITS VEINS.
AND ABOVE IT ALL... THE FINANCIAL HEARTBEAT OF THE ENTIRE WORLD. I'VE NEVER SEEN ANYTHING LIKE THIS.
MY GOD. HE'S NOT JUST RUNNING A BOTNET, KAI. HE'S SIMULATING SOMETHING.
EMP 20:00 Activated
KAI, I HAVE JUST TRIGGERED THE EMP GENERATOR. I'LL HIDE IT IN THIS SERVER ROOM!


I AM EXTRACTING THE TOP-LEVEL DIRECTORIES.
LOOKS LINKED TO CRYPTOCURRENCY TRADING ACTIVITY.
THE PROJECT IS IN FACT AN OPERATION CODENAMED "OPERATION ABRACADABRA."
TK TKTK
TK TK TK
KNOWING BORGON THIS MUST BE SOME CRIMINAL ACTIVITY INVOLVING CRYPTO.
YOU ARE RIGHT, JAKE. IT IS NOT JUST ABOUT HIS PHASECOIN CRYPTO CURRENCY. THIS IS SOMETHING ON A GLOBAL SCALE.
I CAN DETECT ATTEMPTS TO STEAL FUNDS FROM CRYPTO WALLETS, ACTIVITY IN DARKNET MARKETS AND WAVES OF RANSOMWARE.
AN IMMENSE MONEY LAUNDERING MACHINE FOR MONEY OBTAINED FROM ILLEGAL ACTIVITY.
LANNY'S HOTEL
AND ALL TARGETING INNOCENT CRYPTO TRADERS AROUND THE WORLD. THIS IS IMMENSE. THIS IS NO SIMULATION BUT THE REAL THING...
JAKE!
JAKE!
LOOK AT THIS!
HE'S ALWAYS BEEN WATCHING US.
HE'S WATCHING US.
NOTHING NEW.
BUT OPERATION ABRACADABRA IS TOP PRIORITY NOW! KAI, DO A DATA DUMP AND COPY EVERYTHING YOU CAN.
WE WILL FULLY ANALYSE IT LATER AT THE HOTEL.

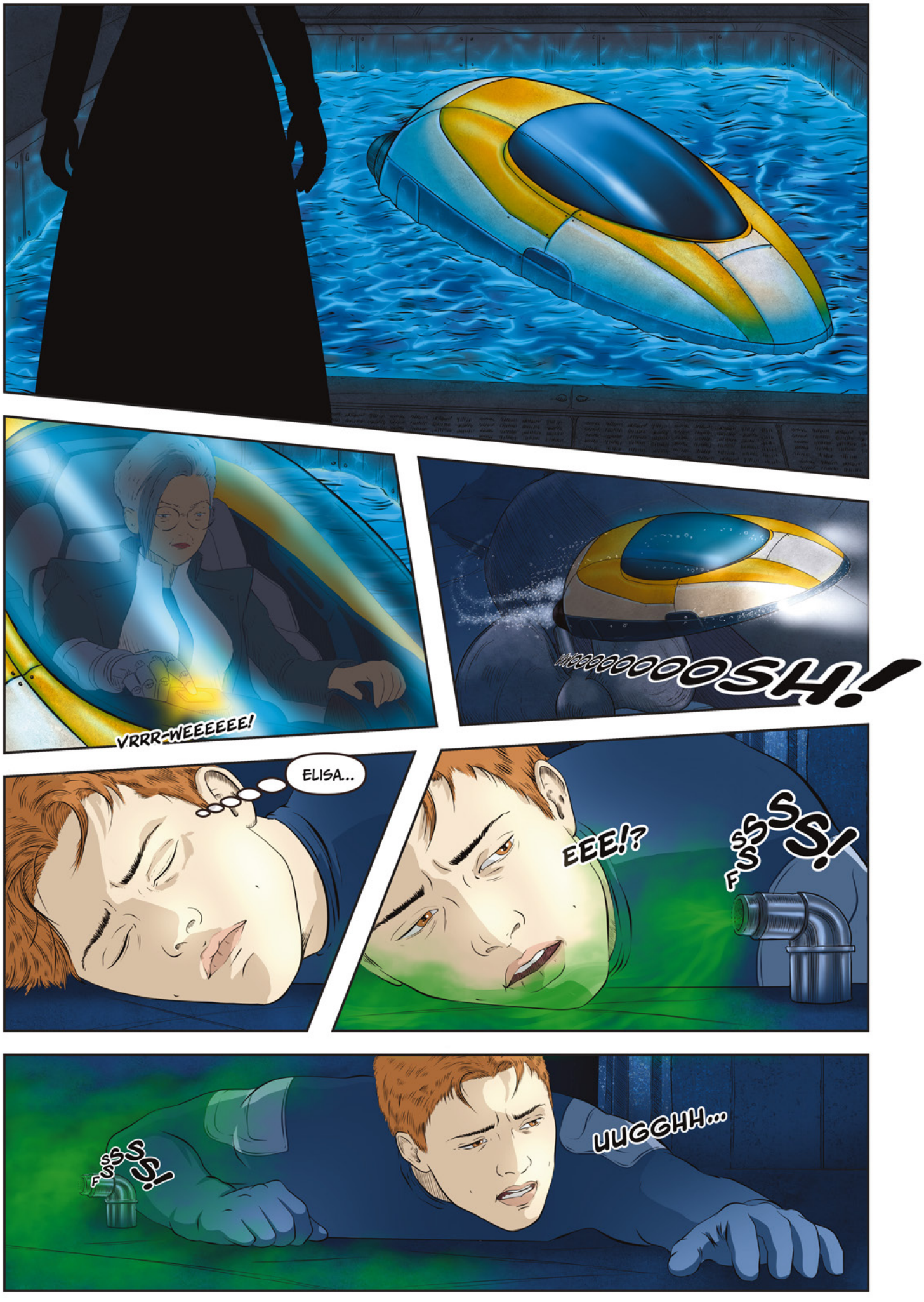

SERVER ROOM 1
THE NUMBER OF DATA ROOMS IS BEYOND COUNT!
AND WHAT ABOUT THAT?
SERVER ROOM 2


BORGON!
STAND UP...
THIS IS THE FINAL RECKONING.
GO-PACEsys
WE KNOW ABOUT YOUR ABRACADABRA!
YOU HAVE TO PAY FOR WHAT YOU HAVE DONE TO MY FRIEND LAST SUMMER.
IT'S OVER...
SURRENDER TO THE MALTAVERIANS!

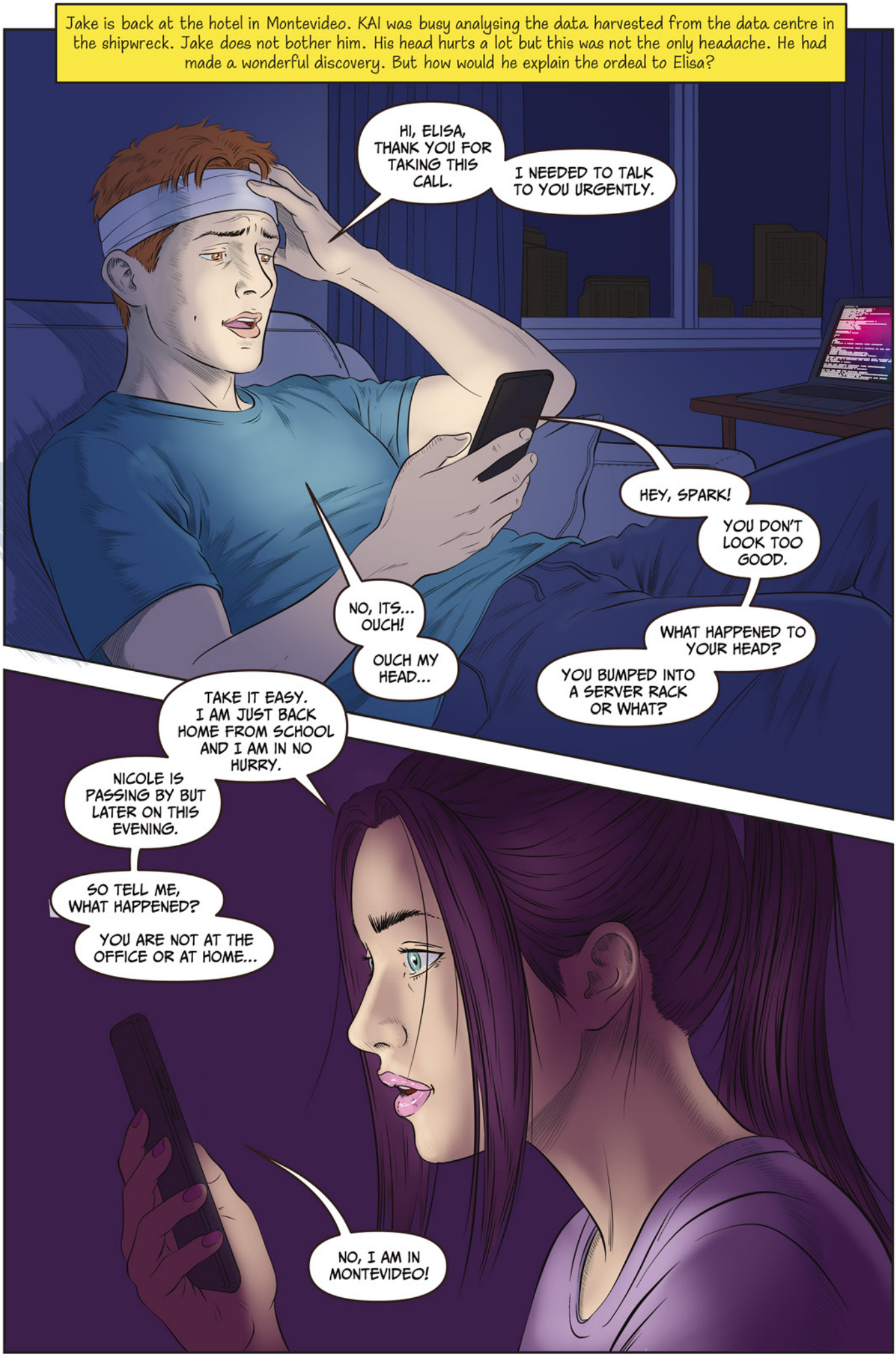

MIND YOUR MANNERS, YOUNG MAN.
WE HAVE STANDARDS HERE.
INTRODUCTIONS ARE IN ORDER, MR SPARK.
I AM MORGANA NOX...
PLEASED TO MEET YOU.
THINK OF ME AS THE MORE SUAVE VERSION OF BELLA BIT WITHOUT THE SHACKLES OF A MORAL CODE.
BORGON, MY MASTER, IS A SUBLIME ARCHITECT...
BUT EVERY ARCHITECT NEEDS A TRUSTED RIGHT-HAND PERSON.
SO HERE I AM!

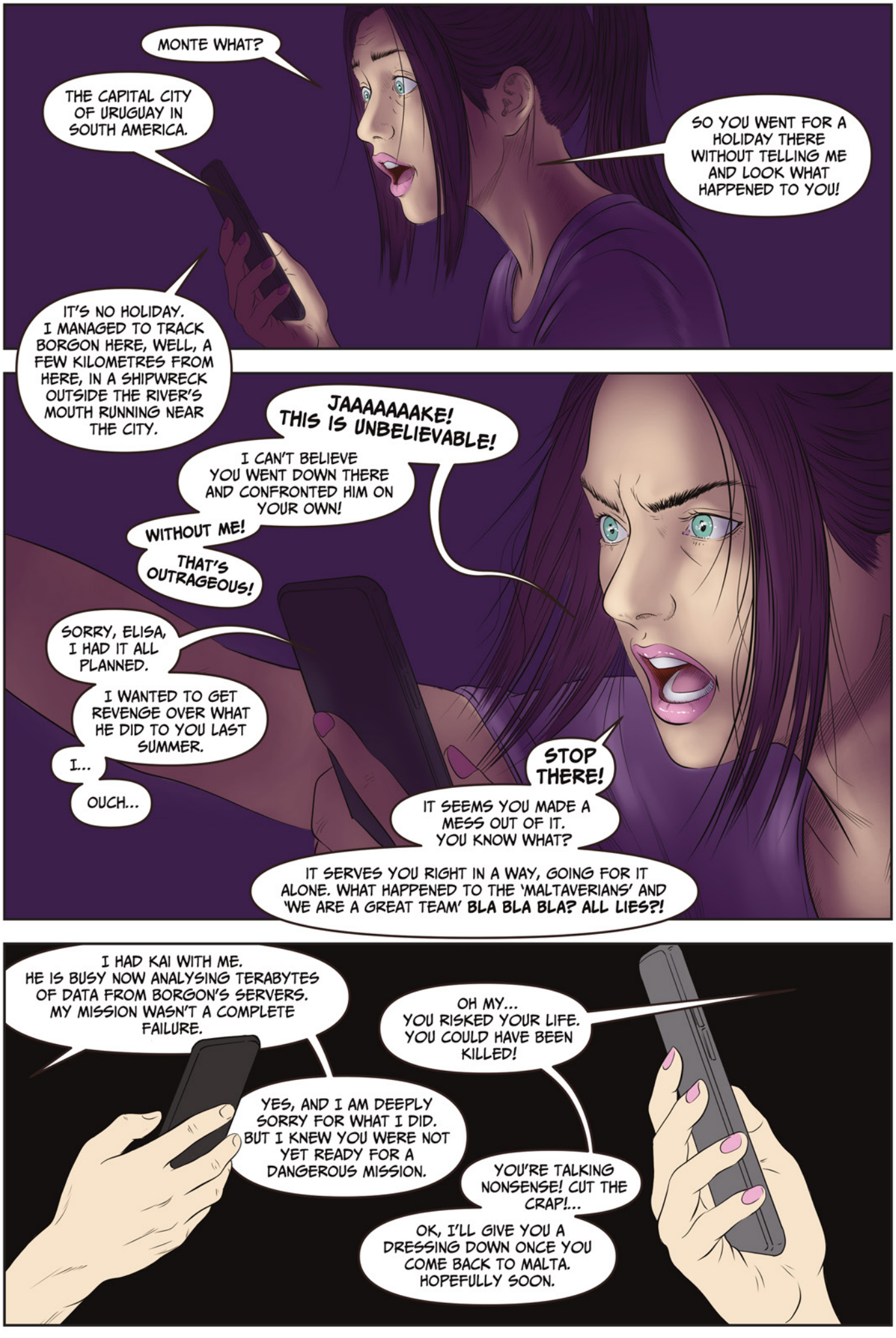

I ASKED YOU A QUESTION...
WHERE IS HE?
WE DO NOT MERELY ANTICIPATE THESE CRUDE INTERRUPTIONS, WE RELISH THEM.
YOU SHALL FIND THAT WE ARE QUITE PREPARED TO SETTLE YOUR UNDESIRABLE INTERFERENCE.
MAY I OBSERVE THAT YOU ARE NOT IN THE COMPANY OF YOUR GOOD FRIEND ELISA...
THAT'S REGRETTABLE, FOR SHE WILL NOT SHARE THE EXPERIENCE YOU ARE GOING TO ENJOY.
TELL YOUR MASTER TO LEAVE THE MALTAVERIANS ALONE.
OTHERWISE WE WILL ...
CHRRR KLIK!
Wall-mounted ultrasonic emitters deploy.
VWOOOOOW...
VWOOOOOW...
VWOOOOOW...

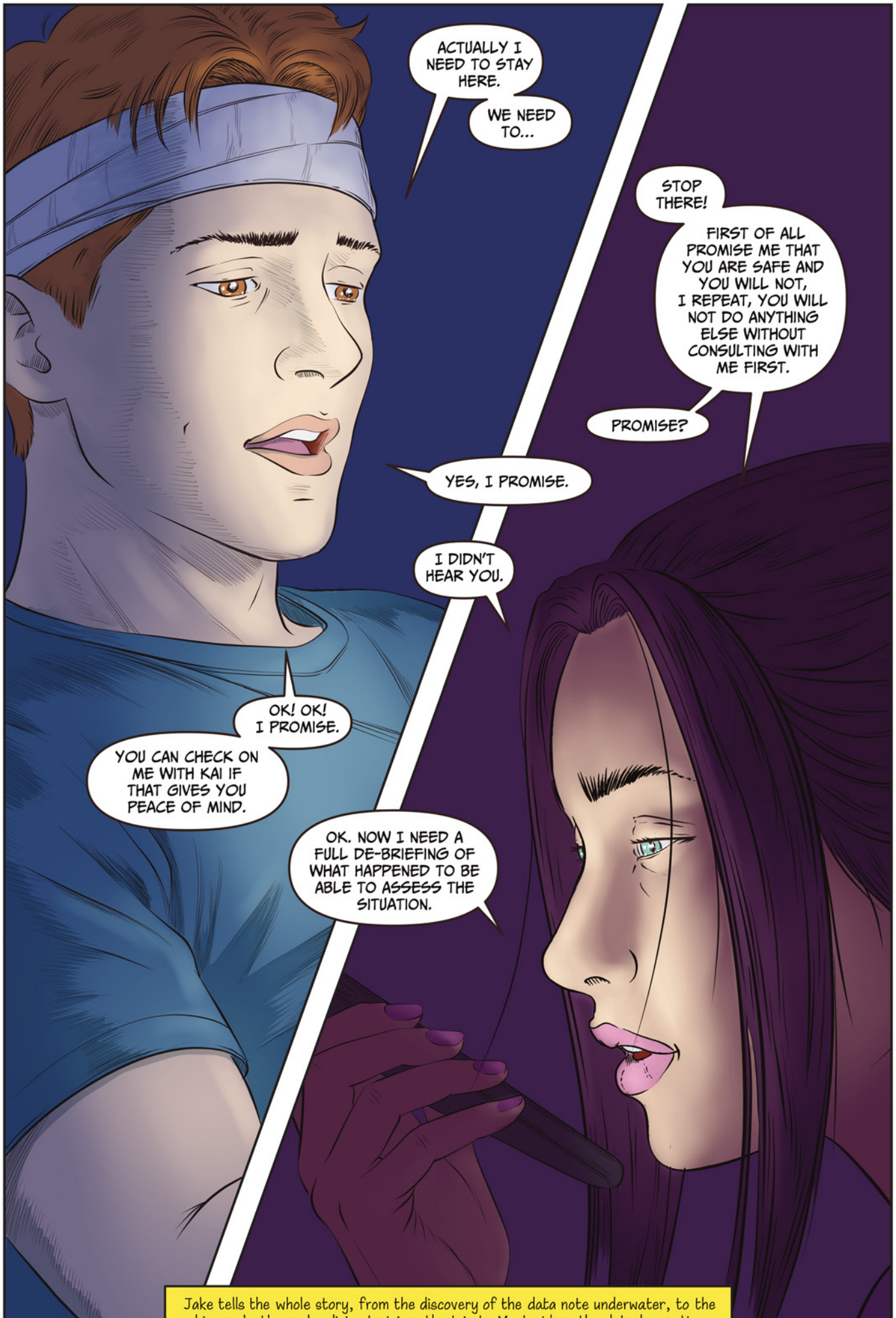

An inaudible pulse of sound above 20KHz is discharged in Jake's direction.
AAAAAAAAA
VWOOOOOW...
VWOOOOOW...
VWOOOOOW...
AAAAAAA
AAAAAAAAA
THE INNER EAR IS SUCH A FRAGILE PIECE OF HARDWARE.
GIVE ELISA MY BEST REGARDS.
I HOPE TO MEET HER SOON IF SHE CAN SUMMON ENOUGH COURAGE TO FACE ME.


VRRR-WEEEEEE!
WOOOOOOOOSH!
ELISA...
EEE!?
FSSSSSS!
FSSSSSS!
UUGGHH...

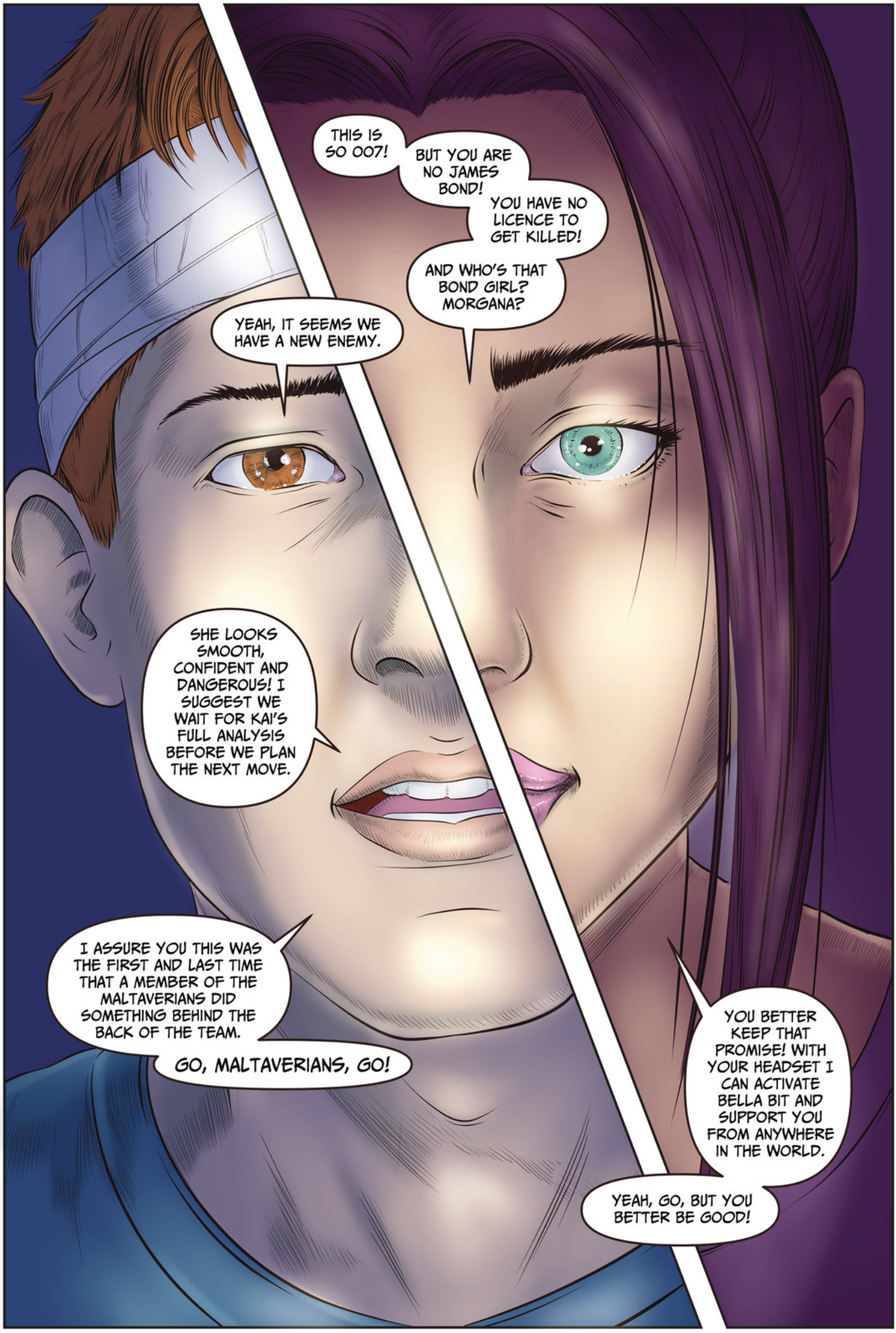

WHAT WAS THAT?
LET'S GET OUT OF HERE !
SPLOOSH
TUTT!
EMP 00:02 Activated
TUTT!
EMP 00:01 Activated
BZZZ!
EMP 00:00 Discharging
RRZZZ!
UNTIL NEXT TIME!


Jake is back at the hotel in Montevideo. KAI was busy analysing the data harvested from the data centre in the shipwreck. Jake does not bother him. His head hurts a lot but this was not the only headache. He had made a wonderful discovery. But how would he explain the ordeal to Elisa?
HI, ELISA, THANK YOU FOR TAKING THIS CALL.
I NEEDED TO TALK TO YOU URGENTLY.
HEY, SPARK!
YOU DON'T LOOK TOO GOOD.
WHAT HAPPENED TO YOUR HEAD?
YOU BUMPED INTO A SERVER RACK OR WHAT?
NO, ITS... OUCH!
OUCH MY HEAD...
TAKE IT EASY. I AM JUST BACK HOME FROM SCHOOL AND I AM IN NO HURRY.
NICOLE IS PASSING BY BUT LATER ON THIS EVENING.
SO TELL ME, WHAT HAPPENED?
YOU ARE NOT AT THE OFFICE OR AT HOME...
NO, I AM IN MONTEVIDEO!


MONTE WHAT?
THE CAPITAL CITY OF URUGUAY IN SOUTH AMERICA.
SO YOU WENT FOR A HOLIDAY THERE WITHOUT TELLING ME AND LOOK WHAT HAPPENED TO YOU!
IT'S NO HOLIDAY. I MANAGED TO TRACK BORGON HERE, WELL, A FEW KILOMETRES FROM HERE, IN A SHIPWRECK OUTSIDE THE RIVER'S MOUTH RUNNING NEAR THE CITY.
JAAAAAAAKE! THIS IS UNBELIEVABLE!
I CAN'T BELIEVE YOU WENT DOWN THERE AND CONFRONTED HIM ON YOUR OWN!
WITHOUT ME!
THAT'S OUTRAGEOUS!
SORRY, ELISA, I HAD IT ALL PLANNED.
I WANTED TO GET REVENGE OVER WHAT HE DID TO YOU LAST SUMMER.
I...
OUCH...
STOP THERE!
IT SEEMS YOU MADE A MESS OUT OF IT. YOU KNOW WHAT?
IT SERVES YOU RIGHT IN A WAY, GOING FOR IT ALONE. WHAT HAPPENED TO THE 'MALTAVERIANS' AND 'WE ARE A GREAT TEAM' BLA BLA BLA? ALL LIES?!
I HAD KAI WITH ME. HE IS BUSY NOW ANALYSING TERABYTES OF DATA FROM BORGON'S SERVERS. MY MISSION WASN'T A COMPLETE FAILURE.
OH MY... YOU RISKED YOUR LIFE. YOU COULD HAVE BEEN KILLED!
YES, AND I AM DEEPLY SORRY FOR WHAT I DID. BUT I KNEW YOU WERE NOT YET READY FOR A DANGEROUS MISSION.
YOU'RE TALKING NONSENSE! CUT THE CRAP!...
OK, I'LL GIVE YOU A DRESSING DOWN ONCE YOU COME BACK TO MALTA. HOPEFULLY SOON.

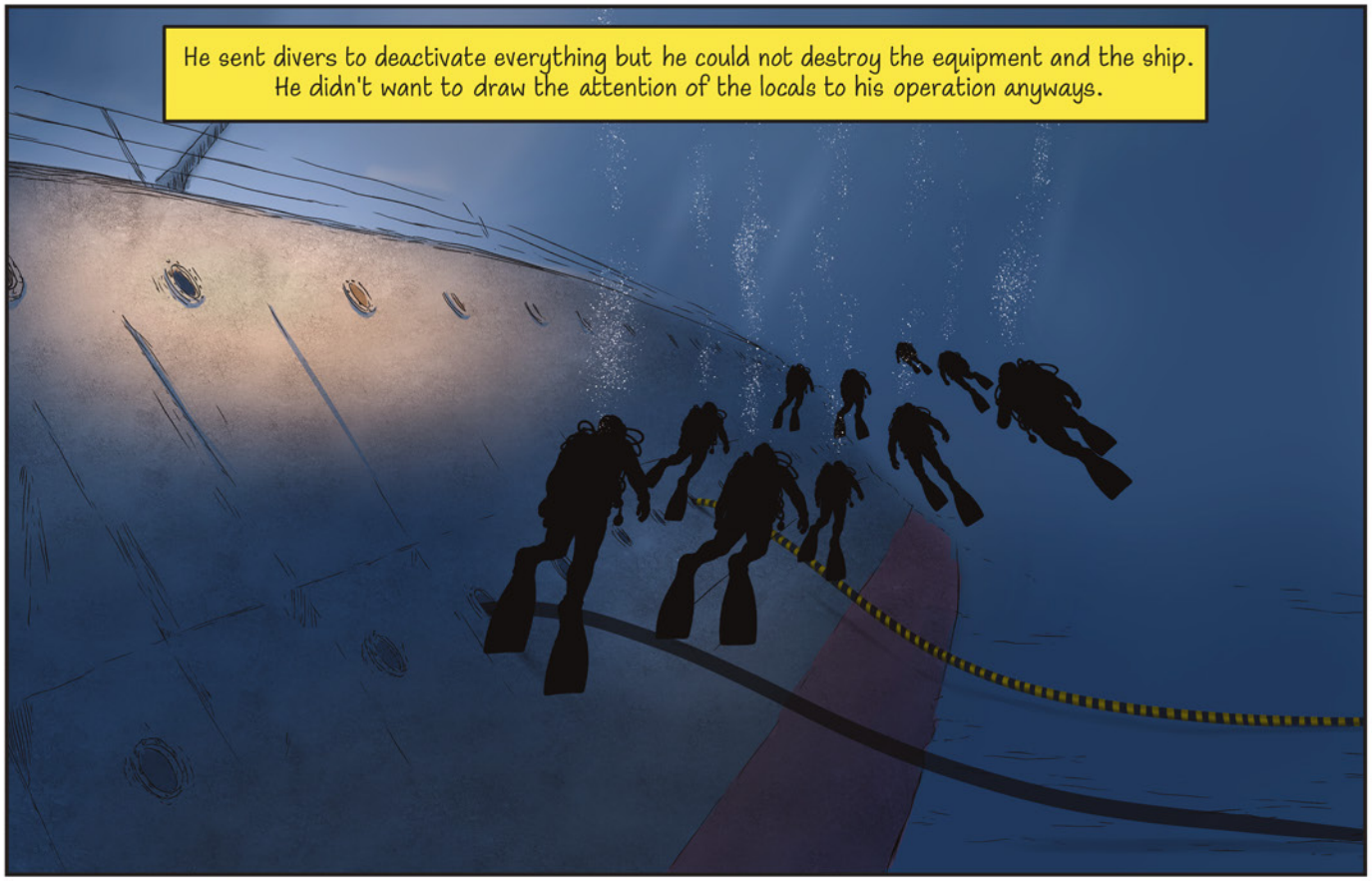


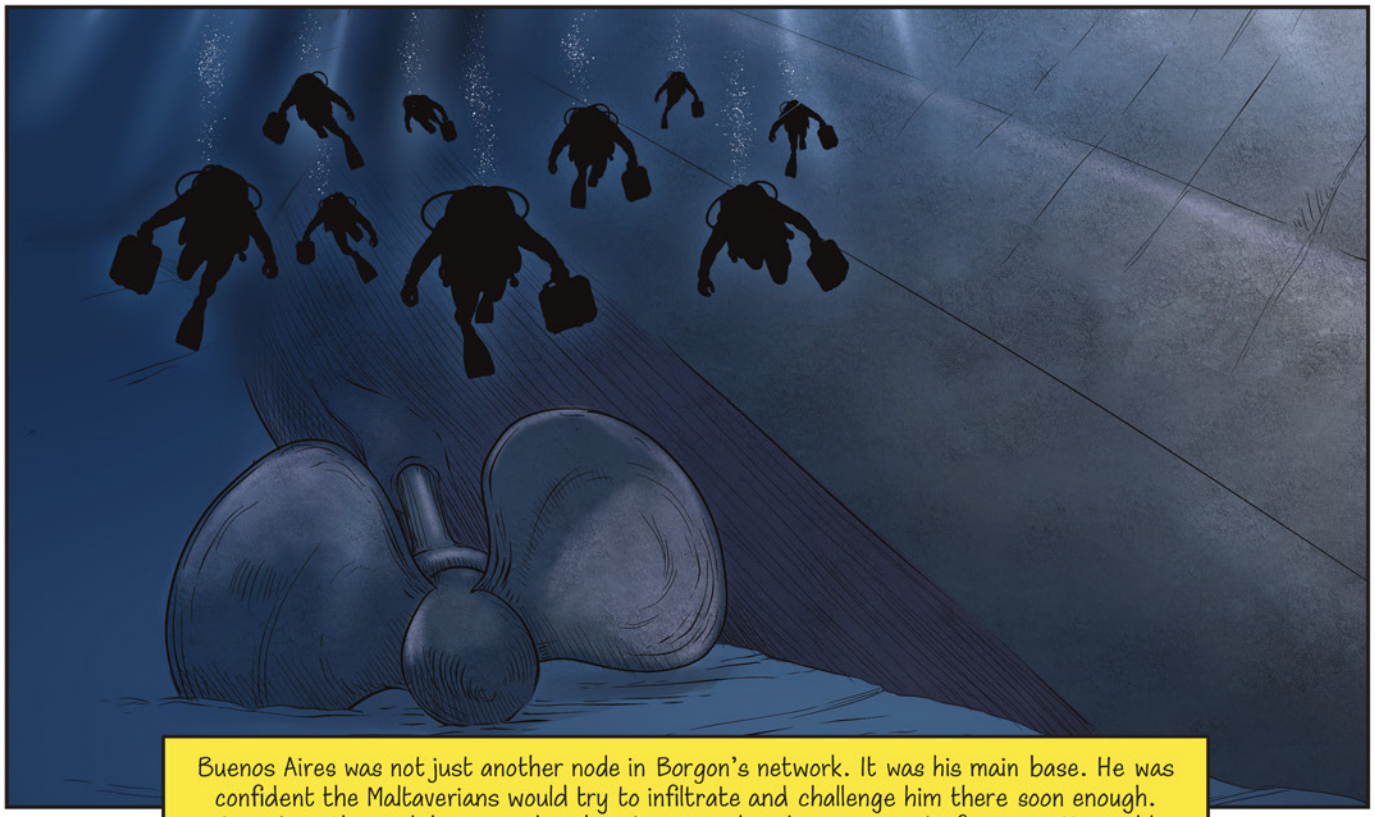
Jake tells the whole story, from the discovery of the data note underwater, to the shipwreck, the scuba diving training, the trip to Montevideo, the data harvesting, Operation Abracadabra, and the confrontation with Morgana Nox inside the ship.


THIS IS SO 007!
BUT YOU ARE NO JAMES BOND!
YOU HAVE NO LICENCE TO GET KILLED!
AND WHO'S THAT BOND GIRL? MORGANA?
YEAH, IT SEEMS WE HAVE A NEW ENEMY.
SHE LOOKS SMOOTH, CONFIDENT AND DANGEROUS! I SUGGEST WE WAIT FOR KAI'S FULL ANALYSIS BEFORE WE PLAN THE NEXT MOVE.
I ASSURE YOU THIS WAS THE FIRST AND LAST TIME THAT A MEMBER OF THE MALTAVERIANS DID SOMETHING BEHIND THE BACK OF THE TEAM.
GO, MALTAVERIANS, GO!
YOU BETTER KEEP THAT PROMISE! WITH YOUR HEADSET I CAN ACTIVATE BELLA BIT AND SUPPORT YOU FROM ANYWHERE IN THE WORLD.
YEAH, GO, BUT YOU BETTER BE GOOD!


Iquique
Antofagasta
Salta
San Miguel de Tucuman
PARAGUAY
ASUNCION
Formosa
Gran Chaco
Porto Alegre
Cerro Aconcagua 6959m
Cordoba
Rosario
Mendoza
BUENOS AIRES
La Plata
Durazno
URUGUAY
MONTEVIDEO
pampas
ARGENTINA
Bahia Blanca
KAI made an excellent analysis of the data dump from Borgon's servers. They point to another node, a major one not far away in Buenos Aires. It's definitely the next stop for the Maltaverians, Bella Bit, Jake and KAI, the three of them!


Borgon had to abandon his underwater data centre. It has been compromised. The defensive measures were not enough and not EMP-resistant.


He sent divers to deactivate everything but he could not destroy the equipment and the ship. He didn't want to draw the attention of the locals to his operation anyways.



Buenos Aires was not just another node in Borgon's network. It was his main base. He was confident the Maltaverians would try to infiltrate and challenge him there soon enough. Operation Abracadabra was already returning a handsome amount of money. He could strengthen the physical and digital defences of his base, confident that the Maltaverians are no match for his wit and Morgana Nox will be at his side.

In a mesh network, however, losing one node is not the end of the world...

TO BE CONTINUED...

GLOSSARY OF TECHNICAL TERMS

TERM	DEFINITION
COMMUNICATIONS AND NETWORKING	
Fibre-optic cable	A cable that transmits information as pulses of light through thin strands of glass or plastic. It carries large amounts of data quickly over long distances, including underwater.
Mesh(ed) network	A network in which devices or nodes can forward data through neighbouring nodes, allowing alternative paths if a connection fails.
Network backbone	The high-capacity infrastructure connecting major parts of a network and carrying large volumes of traffic.
Network latency	The delay between sending information across a network and receiving a response. Lower latency generally means more responsive communication.
Relay	A device or system that receives a signal and forwards it to another location, extending the reach of a network.
Satellite communication	The transmission of information between locations using satellites orbiting Earth, including places beyond conventional wired network coverage.
Seabone network	A term describing an underwater communications backbone linking distant networks through subsea cables. It is not a standardised technical name.
Server	A computer or software system that provides data, applications or services to other computers on a network.
Server farm	A collection of interconnected servers working together to process, store or distribute large amounts of information.
TCP/IP (Transmission Control Protocol/ Internet Protocol)	The core communication protocol suite of the internet. IP addresses and routes data; TCP helps deliver it reliably.
Triangulation	A method of estimating a position from multiple reference points. Related radio-positioning methods use signal direction, timing or distance.

CYBERSECURITY AND DATA PROTECTION

Biometric authentication	Verifying someone's identity through a physical or behavioural characteristic, such as a fingerprint or face.
Capacitive sensor	An electronic sensor that detects changes in electrical capacitance, as used in touchscreens and some fingerprint readers.
Data breach	An incident where protected or confidential data is accessed, exposed or stolen without authorisation.
Data dump	A large collection of information copied or exported from a system for transfer, storage or analysis.
Digital footprint	The traces of information left by online activity, such as account use, browsing and transactions.
Encryption	Converting readable information into an encoded form that requires the correct key to recover.
Nmap (Network Mapper)	A network discovery and security auditing tool used to identify hosts, open ports and services on a network. It is widely used by administrators and security professionals.
Override code	A code that enables an authorised person or system to bypass or modify normal access controls.
Proxy server	An intermediary that forwards network requests on another device's behalf, often for privacy, filtering, security or management.
S/MIME (Secure/ Multipurpose Internet Mail Extensions)	A standard for securing email communications using encryption and digital signatures. It provides message confidentiality, sender authentication, and data integrity through digital certificates.
Security protocol	A set of technical rules or procedures for protecting systems, information or communications.
TLS (Transport Layer Security)	A security protocol that protects data moving across networks through encryption and authentication, commonly used by secure websites.
Triple-wrapped encryption	A cryptographic technique in which data is digitally signed, encrypted, and signed again, providing confidentiality, authentication, and integrity. Commonly associated with S/MIME secure messaging.

GLOSSARY OF TECHNICAL TERMS

TERM	DEFINITION
UNDERWATER TECHNOLOGY AND ELECTRONIC SYSTEMS	
Bathymetric mapping	The measurement and mapping of water depths and seabed features, much like topographic mapping on land.
BCD (Buoyancy Control Device)	Inflatable scuba equipment that helps a diver control buoyancy and maintain depth.
Decompression	The controlled reduction of pressure during a dive ascent to limit risks from dissolved gas forming bubbles in the body.
Dive computer	A device that tracks depth, time and other diving information to help manage ascent and decompression risks.
EMP (Electromagnetic Pulse)	A brief burst of electromagnetic energy that can disrupt or damage electronic equipment.
EMP-resistant equipment	Electronics designed with shielding or other protections to reduce disruption or damage from electromagnetic pulses.
Radiological signature	A detectable pattern of ionising radiation that can help identify radioactive materials or sources.
Thermal cloaking	Techniques intended to conceal or reduce the heat signature detectable by thermal imaging equipment.
Thermal signature	The heat pattern emitted by an object or person, detectable using thermal sensors.
Thermal venting	The controlled release or transfer of heat from equipment or enclosed spaces to prevent overheating.
Umbilical cable	A connection to a diver or underwater vehicle that can carry communications, power or breathing gas.
Underwater drone (ROV)	A remotely operated underwater vehicle, typically equipped with cameras and sensors for inspection or exploration.

CRYPTOCURRENCY AND CYBERCRIME

Blockchain	A shared digital ledger whose records are organised into cryptographically linked blocks that are difficult to alter unnoticed.
Cryptocurrency	A digital asset secured using cryptography, often maintained on a decentralised blockchain network.
Cryptocurrency trading	Buying, selling or exchanging cryptocurrencies on online platforms or directly between users.
Cryptocurrency wallet	Software or hardware that manages the cryptographic keys used to access digital assets and authorise transactions.
Cybercrime	Criminal activity involving digital systems or networks, including hacking, fraud, data theft and ransomware attacks.
Darknet market	A marketplace accessible through anonymity-oriented networks, sometimes used for illegal goods or services.
Money laundering	Disguising the criminal origin of funds to make them appear legitimate, sometimes using digital assets.
Ransomware	Malware that locks systems or encrypts files, commonly demanding payment for restoration or to prevent publication of stolen data.

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