

Tech System 551

Chapter 551 Where No Human Has Gone Before

Captain Miller and Commander Campbell had remained aboard ISA-EV-343398, waiting for their meeting time to arrive. Everything was proceeding apace, as it would be difficult for any imperial force to run ahead of or behind schedule thanks to the AIs in the background ensuring that “the trains ran on time.”

They didn’t have to wait long before they received a notification with a link to a virtual meeting room. When they logged in, they found themselves in a large amphitheater-style room that would be instantly familiar to anyone who had attended college before: a lecture hall. Seated around them were hundreds of other ship captains and executive officers.

No one was speaking; everyone simply gave each other courtesy nods when they made eye contact with someone else. But the silence didn’t last long before Huang Wei, the head of the imperial space agency, appeared on the stage in the front of the hall. Administrator Huang was a middle-aged Chinese man with salt and pepper hair and a regal bearing, dressed in the utility uniform of the exploration fleet, a pair of black slacks with light blue piping on the sides and a close-fitting, tailored coat with matching blue piping.

Everyone stood and saluted Administrator Huang, who returned the salute with a slight bow and said, “Please be seated. There’s a lot to cover in today’s meeting, and not much time to cover it in.

“To give you the important part first: the ISA is about to undertake a mission that is of the utmost importance to the human species: you, ladies and gentlemen, will be the first group of humans to ever pass the heliopause and engage in extrasolar exploration.

“As a semi-militarized fleet, you’ve all undergone all of the same training as the regulars in the Terran Space Fleet, and have inherited their professionalism and tradition. You only lack the heavy weaponry that the TSF has in spades.

“Sure, you each carry a small contingent of ARES troopers to defend against potential boarders, as well as act as guards for teams of researchers sent to the surface of planets. You even have a spook assigned as a general specialist. But your exploration cruisers are limited mostly to defensive batteries and a single gun that’s only effective against stationary targets or viable in knife fighting range.” Administrator Huang paused, noticing that most of his audience had gone slack-jawed and glassy-eyed.

It was true, though—the exploration fleet was incredibly lightly armed. They had a few Mk. XIX Titan’s Wrath cannons, an updated version of the Mk. XIV Titan’s Wrath, which had proven its effectiveness in Islamabad and Delhi, as well as Faisalabad and Bhopal. The Mk. XIX, however, had been specifically designed for use in the harsh vacuum of space, especially for clearing potential environmental hazards out of their path.

They also had a spinal-mount hybrid gun capable of unleashing streams of charged particles or switching to coilgun mode for large target bombardment. The range of the particle beam was limited, though, and the coilgun was only capable of accelerating projectiles up to 0.29c. And any moving target capable of interstellar travel would also be capable of dodging slow projectiles like those.

The decision had been made for the exploration fleet's primary armament to be energy-based for a few reasons, primarily accuracy. Coilgun rounds were extremely damaging, if they hit, but that was an awfully big "if". In order to be effective, a saturation attack would need to be carried out, and that had implications that Aron didn't want to even think about.

Any coilgun round of sufficient size and speed to take out an enemy vessel would eventually become another planet's Chicxulub, after all, quite effectively ruining someone's day, somewhere, somewhen. Maybe it would be hours later, or maybe it would be ten thousand years later, but the only guarantee when dealing with projectile weapons in space is that those projectiles will always hit something.

Sir Isaac Newton has always been, still is, and will forever be the deadliest son of a bitch in space.

Administrator Huang judged that the attendees of the briefing should have digested his previous statements and continued, "As a result of your ships' lacking combat capability in the face of a potentially hostile galaxy, orders have come down from above that you are to be escorted by the first batch of the Terran Space Navy to graduate from training. And today's briefing is to give you an overview of the regular TSF ships and offensive capabilities.

"First, let's talk about guns. Your fleet is primarily armed with energy weapons, which are considered secondary armaments in the TSF. Even though beam coherence isn't an issue that needs attention in the vacuum of space, the requirement in terms of energy generation and capacitors is simply too high for space combat at distances that could measure up to millions of kilometers. Thus, the primary armament for vessels in the TSF is missiles.

"Missiles have extreme range capability with multi-stage design, they're stealthy, and they're capable of engaging in maneuvers to increase their accuracy. They can also carry different warheads, ranging from electronic countermeasures that blind targets all the way up to multidirectional bomb-pumped X-ray laser warheads and beyond.

"They also carry sophisticated sensor and targeting suits, as well as come equipped with robust electronic counter countermeasures (ECCM). But most importantly, they can be command detonated to avoid collateral damage, unlike dumb rounds fired from coilguns and other kinetic weapons."

Administrator Huang swept his gaze across the captains in the lecture hall seats and paused, as what he had to say next would have to be delivered exactly right. He took a deep breath and closed his eyes, then exhaled, opened his eyes again, and continued, "I have to notify you now that the information I am about to disclose next is classified Top Secret, code word GRO J1655-40. You

have all been preliminarily cleared for the information, should you choose to accept it. If you do not accept your new clearance level, please log out of the briefing now.”

He stood ramrod straight in the middle of the lecture hall stage, waiting with his eyes closed for the five-minute logout procedure, in case any of the captains or commanders chose not to accept the remainder of the briefing.

Chapter 552 Of Fleets and the Vessels That Make Them

After the five minute wait, Administrator Huang opened his eyes and swept his gaze across the crowd receiving their briefing. “I see none of you left,” he said. “Good.

“The empire has recently developed a new warhead as well. Dubbed the ‘black hole bomb’, it’s exactly what it says on the tin: an oversized capacitor and artificial gravity generator strapped to a rocket engine. When detonated, it creates a short-lived, yet highly destructive, black hole in a small area. ‘Small’, by the way, is a relative term.

“And the only reason you’re being informed of its existence now is that we don’t want you asking about it later when you’re in potentially hostile, unsecured environments....” He continued on the topic of weapons for a while, explaining each of them in detail, then finished that portion of his briefing by asking, “Any questions?”

Nobody in the lecture hall had any. At least not about the weapons of the EF and TSF, anyway, but they had already been taught not to ask questions that weren’t relevant to the topic they were being briefed on.

“None? Excellent,” Huang Wei confirmed, then switched to another topic: the ships that would be escorting and backing up the exploration fleet vessels in this momentous step in humanity’s journey among the stars.

Ships in the TSF, and their semi-militarized siblings, the exploration fleet, were still separated by category and role, much like the Poseidon Navy. From the enormous city-ship down to the humble corvette, each ship class played a necessary role in the Terran Space Fleet.

City-ships were designed to carry entire seed colonies with them, including tens of thousands of civilian passengers, thousands of ARES troopers, and all of the equipment necessary for starting up a colony on any habitable worlds the exploration fleet discovered. In their cavernous holds, they could also carry entire TSF fleets, and in order to save on reaction mass and wear and tear on the TSF ships in routine operations, they acted as the core command and control ships during combat actions and transport vessels to and from battles.

Stretching tens of kilometers in diameter, the disc-shaped vessels would be the flagships that carried the Terran Empire’s flag to distant frontiers.

The next category of vessel in terms of size was the drone tender. Stretching three kilometers from stem to stern and a kilometer and a half in width at their widest point, the elongated arrowhead-shaped vessels carried a complement of dozens of thousands of drones, each armed with plasma cannons. The drones were mostly disposable and were basically just engines with a gun strapped to them, designed to swarm enemy vessels and chew them apart with balls of plasma.

Slightly smaller than drone tenders were the hammerhead battleships. The researchers in Lab City had debated back and forth for decades before settling on the hammerhead design. Eschewing traditional broadside armaments, the behemoth battleships were two kilometers long, a kilometer wide, and their bow was perpendicular to the rest of the ship and densely packed with missile launchers.

Hammerhead battleships were capable of launching up to ten thousand missiles in a single launch wave and carried enough missiles to fire ten waves of missiles before returning to the accompanying city-ship for rearmament.

The workhorse of the TSF was their cruiser. Shaped like extended pyramids, they were a kilometer high, a kilometer wide, and close to two kilometers long, and they were the only multirole ships in the TSF capable of landing on a planet's surface. Modular in design, it could take up any role needed in any given fleet depending on its loadout. Cruisers studded with point defense batteries served as a shield against potential enemies with the same missile-centric military doctrine as the empire, while those fitted with heavy ablative armor layers served as troop transports and would carry eighty thousand troops at full load with all of their assorted equipment.

Cruisers also made up the entirety of the exploration fleet, it had to be noted.

Destroyers, at eight hundred meters long and two hundred across, were lightly armored, lightly armed, highly mobile, and designed to carry small teams of elite troops meant for boarding actions. What they gave up in durability and attack capability, they gained in speed and maneuverability; given enough distance, they were the largest ships in the fleet capable of actually dodging lasers and other light-speed weaponry, given enough distance between them and the vessel firing upon them.

And finally, the humble corvette. At a hundred meters long, they carried a crew of four and ten passengers, and were designed for picket duties. Heavily armed for their size, they were the mainstay of the fleet in case of piracy, and they were also the only vessel design in the fleet that was capable of stealth, invisible to both sensors and the naked eye.

Administrator Huang wrapped up the technical briefing by saying, "Fleet formations in the TSF are ad hoc and dynamic. With the uninterrupted, instantaneous communications made possible through quantum communicators and the assistance of ships' AIs, every vessel in the TSF is capable of fulfilling the role it was designed for in any fleet at any given moment.

"The only difference, ladies and gentlemen, is the color of the paint in the passageways of the city-ships coordinating a fleet."

Administrator Huang moved to the final portion of his briefing, informing the attendees of their specific escort fleets, the standard operating procedure they would be functioning under, their detailed chains of command for the exploration, and so forth....

An hour later, the briefing came to a close. "You are all hereby ordered to go dark. No communication with Earth or outside your own ships will be permitted until after you've left the heliopause and are on your way. I won't lie to you—there's a possibility that this first step into the greater galaxy at large will also be your last.

“Should you choose to do so, you may visit the legal affairs office at whichever outpost you’re currently docked where a special liaison officer will help you write your last will and testament, as well as record a message that will be delivered to people of your choosing once you’ve passed through the Oort Cloud.

“Now, ladies and gentlemen, you have a week of shore leave. Your vessels must be completely vacated of any personnel and personal belongings in the next three hours, Earth time, as they are to undergo a specialized refit over your shore leave.

“Once your leave is complete, you’re hereby ordered to report to ARES Central Command on Mars to link up with your assigned escorts and begin your mission. Good luck and godspeed, explorers.”

Administrator Huang finished the briefing with a formal salute to the crowd, then vanished.

Chapter 553 Of Ships and Those Who Design Them

As the exploration fleet was on its week of shore leave on the outposts and the partially functional Mars base was printing ship after ship, back on Earth, a press release had quietly gone out from the imperial press agency. It didn’t generate much news at first, and it was only a few sentences long, but it gradually gained momentum over the first three days after it was put out.

“The Terran Empire is in search of those willing to aid in exploiting the resources of the solar system. For more information, contact your nearest imperial space agency recruiter.”

As the news crept out and spread, the details were soon announced by the first people to visit the ISA in their virtual office.

@Fluffy_Dog_Hugger: [This is awesome! I’m gonna go to space, man! SPACE!]

@Eternal_Crusader: [@Fluffy_Dog_Hugger details? I read the announcement but haven’t checked it out yet]

@Fluffy_Dog_Hugger: [@Eternal_Crusader they mapped the solar system and need asteroid jockeys to go out and mine]

@Thawk7678: [@Fluffy_Dog_Hugger isn’t that dangerous?]

@Nerdrage001: [@Thawk7678 @Fluffy_Dog_Hugger yeah that defo sounds harsh. Howd they map it???

@Fluffy_Dog_Hugger: [@Nerdrage001 @Thawk7678 @Eternal_Crusader It isn’t as dangerous as you’d think. The @ImperialSpaceAgency mapped the solar system using a combination of automated drones & crewed ships. They labeled all the hazards & asteroids & are gonna build processing factories.... (thread)]

The online conversation grew more boisterous over time and the details were eventually all dug out. When the initial press release had gone out, the eXtra-atmospheric Navigational Aid, Version 0.1 (XNAV 0.1) became available in the Akashic Record for public viewing and downloading.

It was version 0.1 not because it was incomplete, but because version 1.0 would only be released after the entire galaxy was mapped. 0.5 would be the version that included the spiral arm that Earth was a part of: the Orion Spiral Arm of the Milky Way Galaxy.

And in addition to the map being made public, two other pieces of news were released by people who had spoken to the ISA representatives. First, in partnership with the imperial treasury, the ISA would be issuing low-interest no-collateral signature loans for the purposes of setting up a small business as an asteroid mining crew. Those loans would cover the startup costs for the business itself, as well as an asteroid mining ship.

The second piece of news was related. They would allow people to design their own ships in virtual design garages, which the empire would then perform rigorous tests on. If the design passed the quality standard, the empire would allow the design team to list it on a virtual marketplace for others to buy, and the designers could either manufacture it themselves or allow Hephaestus Heavy Industries to manufacture it for a cut of the final sale price.

Thus, anyone could be involved in the new industry that the empire had created. Even if one chose not to go out into the solar system as an asteroid jockey, they could design ships for the asteroid jockeys from the comfort of their own home. It was a monumental achievement for the nascent empire and economists estimated that it would create millions, if not hundreds of millions of new jobs. It could even conceivably create billions; the possibilities were limitless!

But along with the limitless possibilities came limitless risks. The risks of asteroid mining were obvious, but less so was the risk of designers putting everything they had toward creating new ship designs and failing, leaving them penniless after quitting their jobs and living on savings only to fail to design a ship that the empire's testing would accept.

Among the most fervently interested were people in their twenties and early thirties. They were sure that they could create popular designs, and almost overnight, thousands of ship design corporations were registered with the imperial commerce agency.

One of those newly formed design corporations was Imugi-danche Co., which had been formed by a group of five Koreans, all of whom were in their mid-twenties.

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"Park Seo-Yeon, was our design accepted?" Kim Ye-Jin asked, barely able to stand steady with all of his nervous fidgeting.

"We sent the design about twenty minutes ago, so we should have an answer soon. Chill, bro—we've got this," Seo-Yeon calmly answered. He was just as nervous as his friend and partner, Ye-Jin, but as the scion of a moderately wealthy businessman, he was better at hiding his nerves.

"You're right." Kim Ye-Jin sat down on the couch and crossed one leg over the other, but was unable to stop his foot from bouncing. "I'm just nervous. I mean, we all quit our jobs for this, and not everyone was born rich, you know." He playfully glared at his friend seated across the coffee table from him.

“Even if we fail this time, we’ve still got time. We can keep improving the design and resubmitting it. And it isn’t like we don’t have savings to live off of until we strike it rich, so just be patient. We’ll eventually succeed.”

Kim Ye-Jin had stopped paying attention to his friend and taken out his phone, refreshing the company’s email inbox over and over, not wanting to wait for the internal refresh to notify him that an email from the ISA had arrived.

Another young Korean man walked into the room through the open door. “Has Ye-Jin settled down yet?” He raised the case of canned beer he had brought with him. “I come bearing peace offerings,” he laughed.

“Sook-Han!” Park Seo-Yon stood and grabbed the newcomer by the shoulders. “Haha! Is it time to drink already?”

“When isn’t it time to drink, brother?” the newcomer exclaimed, then set the beer down on the coffee table. “Ye-Jin, chill out and have a beer!”

Kim Ye-Jin set his phone down next to the beer and said, “You’re right, worrying won’t make the email come any faster.”

Just then, his phone dinged with a notification.

Chapter 554 Monopoly or Outreach?

“Quick! What’s it say!?” Everyone in the room crowded around Kim Ye-Jin, who had just taken a drink of his beer.

Ye-Jin sprayed the mouthful of beer on his friends and coworkers, none of whom cared. He picked up his phone and, for the first time since he’d had a smartphone, fumbled to unlock it under the expectant gazes of his good brothers.

He finally unlocked the phone and opened the email and his lips mouthed the words as he read it. Then he tossed his phone back to the tabletop in disappointment and chugged his beer before saying, “It wasn’t from the empire. But if you want bigger dicks, boy do they have some pills for you.” He laughed, then leaned back on the couch.

“To be fair, even having a chance like this is the empire’s generosity. It’ll take a lot of time, effort, knowledge, and even luck to succeed. But even if we’re late to the table, we should at least be able to pick up some leftover crumbs, and that’ll be enough to cover us in the beginning.

“So don’t have super high expectations right now, brothers. We just need our passion, drive, ambition, and hope—just like Imugi!” Park Seo-Yon exclaimed, putting his hand palm down over the coffee table. His friends put theirs in as well, and with a cheer of “Imugi-danche!” the people in the room broke apart, laughing.

Similar discussions were taking place in many locations among many different groups. Some were school clubs, others were megacorporations like Walmart, and even agribusinesses like Monsanto

and Tyson were getting involved in what they saw as the ground floor of another industry they could use to further diversify their investment portfolios.

But in a few businesses—like SpaceX, Blue Origin, and Virgin Galactic—the tone of discussion was much different. Unlike the optimism of the school clubs or the ruthless financial discussion of the megacorporations or companies seeking to diversify their investment portfolios beyond their core competencies, the space-focused companies were more businesslike as they spun into action.

While the rest of the groups were meeting in classrooms, conference rooms, or Wall Street offices, the space companies started in the boardroom. The decisions they made were a matter of course, delegating design and testing tasks to various engineers working for them. They even sending out headhunters to recruit more people who specialized in tasks they felt were necessary.

With the privatization of the solar system, at least within limits, the space-focused companies were determined to come out the victor in what they saw would be an epic scramble to divide the pie that was the solar system.

But for now, whether amateur, professional, or anything else, everyone would need a response to their proposal from the imperial space agency. Similarly, they would need to consider whether or not they would contract out their production to Hephaestus Heavy Industries.

After all, whether they were among the first or last companies to facilitate the exploration and exploitation of resources in the solar system would depend on their manufacturing capability. And HHI was currently the only company that had the capability to manufacture spaceships that could pass any safety standards, no matter how stringent. A startup, on the other hand, might be able to manufacture them, eventually, but there would be... accidents.

And not a single insurance company had publicly revealed their stance on whether they would underwrite such a risky profession as asteroid miner or space explorer. Thus, the risks were commensurate with the potential profits and everyone getting involved had an important decision to make.

One might wonder why, with the capabilities that Hephaestus Heavy Industries showed, they didn't simply monopolize the manufacturing industry entirely. They certainly had the technology to do so, after all. Most people even expected monopolization would be a foregone conclusion, as what sane person would let others climb their personal mountain of gold?

Thus, people had been busily producing their signs and coming up with their slogans to protest against a monopoly that... simply never appeared.

Indeed, with Felix at the helm, HHI offered outreach instead of miserly stinginess. Instead of buying designs from people for a pittance, they publicly released a list of services they would provide to entrepreneurs.

Sure, they offered to outright buy designs and manufacture themselves, but the company itself recommended against doing that. The offer was simply for those who found themselves overwhelmed and foundering, barely able to tread water in a shark-infested ocean that had just been thoroughly chummed.

But what they recommended was a balance between profit and safety. They would instead allow people to license their production lines for the cost of raw materials plus a scaling percentage of the final sale price of whatever it was they were manufacturing. The percentage ranged from five to twenty percent, and the list of goods was thoroughly comprehensive, to say the least.

The only thing HHI kept strictly to themselves was their own technology, and not even the most rabid anti-fan with an overweening sense of “justice” could argue against that.

What currently held the public’s attention, though, was the capability of HHI in the space-related industry field. Their offerings were... unbelievable, to say the least.

@Maalik91: [Bruh. I just read the list of @HephaestusHeavyIndustries space manufacturing stuff and I don’t believe it. NOBODY can offer 100% guarantee!]

@HephaestusHeavyIndustries: [Oh @Maalik91 but we do offer that. All products manufactured by HHI are guaranteed to meet or exceed 100% of all safety and usability requirements as well as a 100% adherence to the design schematics we receive.]

@ahmed_94: [@Maalik91 lol u just got owned. Sick_burn.gif]

@Maalik91: [@HephaestusHeavyIndustries @ahmed_94 If there really are zero manufacturing defects in any of HHI’s products I’ll livestream myself chopping off a finger!]

@HephaestusHeavyIndustries: [@Maalik91 please don’t cut off your fingers. What’ll become of your love life if you run out of fingers?]

The arguments online were intense, to say the least, and the flame war practically burned the internet to the ground.

Chapter 555 The Innovation Program

Thanks to Hephaestus Heavy Industries opening the floodgates, more than a million new companies were registered in a very brief time. And following that, millions of patents for space-related equipment, ranging from cups and other dishes that were designed to incorporate gravity plating to ensure they didn’t spill during heavy maneuvers all the way to prospective capacitor banks and engines.

It wasn’t that the empire had released their technology to the public domain, but rather that people were allowed to incorporate the tech in their design as a kind of “black box” piece that they could license from the empire. The only requirement was that, if a design incorporated publicly known empire technology, the resulting object could only be manufactured by HHI. That was in the licensing agreement, and no negotiation on that clause would be accepted at all.

The empire, meanwhile, did absolutely nothing to stem the tide of the crowdsourced innovations. Quite a few things, in fact, had surprised both Aron and Felix with the thought processes behind them. Oddly enough, the dishes were what surprised them the most.

“I can’t believe we didn’t think of that,” Aron moaned, leaning back in his chair and covering his face with his palms.

Rina looked at him and snorted a soft giggle, then covered her mouth and looked shocked at the weird noise that had just come out of her mouth.

“We aren’t gods, so of course we’re gonna miss some things here and there,” Felix said, chagrined. “I can only wonder what else we forgot.”

Aron sat up straight and consciously cleared his expression. “We need to heavily reward the people who succeeded. There’s a lot of designs out there that aren’t very feasible, quite a few that barely meet the baseline in terms of performance, and a few that exceed them. But the people who think of things that we should’ve thought of and didn’t...” he sighed.

“How should we reward them?”

Felix looked troubled. “I’d say that I could hire them as designers at HHI, but that’d defeat the purpose of looking for ‘Lamarrs’. Plus, monopolies—even at their loosest—are downright terrible for the economy and we can’t afford that right now.”

“How about an award?” Rina suggested. “Give them money and recognition. The award will give them bragging rights for a long time, if not forever, and the money will be a more tangible thing.”

Aron nodded, then turned to Nova and said, “Notify the press corps. They’re to issue a press release in a week, Earth time. Make it a one-time 10,000 END award and a civilian medal. Call it the Innovation Award, and we’ll hold the award ceremony in...” he looked up at the ceiling and thought for a moment, “two months from now at the beginning of March. Make it a government ‘bank’ holiday called Innovation Day, March first.”

{Yes, sir,} Nova replied, then flickered as she sent the notifications to Gaia, who would distribute the tasks to the proper departments and follow up on them.

“So, when should we send out the offers?” Felix asked.

Aron pondered for a moment, then slowly said, “How about two weeks from now?”

If the empire sent out acceptance notifications too soon, it would instead have an opposite effect. People would think that corners had been cut in the testing process and wouldn’t trust the resulting hardware, no matter who designed it or who manufactured it. After all, everyone was still moving at the speed of humanity and couldn’t think or process information in picoseconds, unlike virtual and artificial intelligences.

The testing procedure used both of those. First, the designs were filtered through VIs, which had a strict set of instructions by which they tested them in the simulation. Any design that passed the VI filtering would then be assigned to Nova, who would simulate the product based on the design itself. She would be the final determiner of which designs would be passed on to the researchers in Lab City, who would refine the designs with practicality and comfort in mind, as well as ease of use.

After all, while idiotproofing things only ensured that better idiots would evolve, they still had to consider the end user. A cockpit design with five hundred unlabeled switches may in fact be the “best” in terms of performance, but a pilot would much rather have five clearly labeled switches when flying the aircraft. They naturally wouldn’t go as far as the US Army did, where the main battle tanks had a clearly labeled button that conspicuously stood out and had a large label that read “PUSH TO START”, but they would definitely make things easier for the end user to operate.

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Two weeks later, in Park Seo-Yeon's living room.

The five partners behind Imugi-Danche were having a planning meeting when their phones all lit up and sounded a unique alert tone, indicating a message had been received from an imperial official. They all pulled out their phones and unlocked them, then a holographic display automatically lit up with a push notification from the imperial space agency.

[Congratulations, Imuge-Danche, on your design, patent 197-0002-813604-XT588V2-TEP pending, for being accepted into the Innovation Program. A representative will contact you within the next 48 hours with further details. Please follow this +link+ for more information on your rights and responsibilities as a company in the Innovation Program.

[Welcome to the team, Imugi-Danche!]

All five of the people in the room froze as they read the email on their holographic display screens, their mouths open so wide they could swallow a chicken's egg without breaking the shell.

Then the shouting began a full three minutes later after they all came out of their collective stare state and leapt at each other, jumping up and down in a jubilant group hug. They had done it!

"This calls for a celebration!" Kim Ye-Jin shouted, and went to the kitchen. He soon came back with a bottle of Dom Perignon champagne.

He popped the cork and champagne foam covered the five celebrating friends, who didn't care in the least about the mess and poured each other a glass.

"To the innovation program and the empire!" Park Seo-Yeon shouted as he raised his champagne flute. "And to the emperor, long may he reign!"

Chapter 556 Hope and Enthusiasm

After a few minutes of celebrating, followed by quick showers and changes of clothes all around to wash off the sticky champagne residue, the five men in charge of Imugi-Danche called their families and friends to spread the good news.

"You aren't gonna believe this, but...."

"Mom, we did it!"

"Dad, our design was accepted!"

"Honey, how would you like to visit space?"

"Sis! Guess what?!"

The calls lasted for hours until well into the night, but all of them were too excited to sleep and began a proper Korean drinking party that went all around the city, from bar to karaoke to bar to restaurant, and so on. It wasn't until their sixth stop that they were too inebriated to move and the bartender called for a car to bring them home.

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The next day.

Five men were in Park Seo-Yeon's living room nursing their hangovers and discussing their future plans.

"I think we should let HHI do the manufacturing. They hold quite a few patents on black box imperial tech that we incorporated into the design, so it's the best option. Otherwise we'd have to find a factory that can manufacture most of the parts, then send them to HHI for final assembly anyway. So just letting them handle it from start to finish not only guarantees the quality, but also cuts out a lot of middlemen," Moon Hyeonwoo said.

Though the five men were all fast friends and had no idea of how to set up a corporate structure, Hyeonwoo was their "tech guru" and the others would generally defer to him on all matters technical.

A chorus of agreements followed his suggestion and the matter was considered settled. Moon Hyeonwoo was unanimously appointed as the person who would contact Hephaestus Heavy Industries and work out the licensing and manufacturing deal alongside Kim Ye-Jin, who had the most experience in a corporate environment. Ye-Jin had worked as an intern for a Korean corporation that manufactured office chairs up until he'd been roped in by his friends to shoot for the moon... or rather, the asteroids.

"That's settled then," Park Seo-Yeon announced. "So on to the next topic: where should we go to prospect?"

Everyone in the room exchanged glances and shrugs. None of them had any mining experience whatsoever, especially considering that South Korea wasn't particularly rich in minerals and lacked a robust mining industry. Most of the materials used in South Korean manufacturing were imported from other, richer countries like Australia, China, Japan, and Russia.

"We should probably hire prospectors. Or maybe we can just put our ships on the marketplace and sell them to others," someone finally suggested after a few minutes of silence.

"Now that we've got experience under our belts, why don't we start designing pleasure yachts instead? We could go after the rich people that way," came another suggestion.

"Oh! That gives me an idea! There aren't many super rich people anymore, not after the shuffle, anyway. So how about we build a big solar system cruise ship that'll offer vacation packages for every budget?" Kim Ye-Jin chimed in.

"Why don't we...."

"We could...."

"I think we...."

The conversation shifted to brainstorming, then after an hour or so of that when suggestions had grown too unrealistic to continue, Park Seo-Yeon cut in and said, “Okay, okay, settle down. We can branch out and do multiple things. We can offer leases on asteroid mining ships where people interested in asteroid mining pay for their ships with five percent of their finds for... let’s say, ten years.

“Another avenue would be designing luxury yachts for solar trekkers. I think people with disposable income would be more than happy to buy their own spaceships. Rich peoples’ money is easy to earn if you offer them a way to increase the size of their assets in dick measuring contests. Just look at how Musk sent a car into orbit around Mars for no good reason but to brag. Imagine if we were the ones to steal the luxury market out from under those buja babo!”

The Imugi-Danche meeting continued, the five friends using sheer enthusiasm to make up for the complete lack of experience in actually running a company.

They were far from alone in that, however, as the Innovation Project had accepted a lot of designs from “startups” that had zero experience and were, realistically speaking, doomed to eventual failure. Some might survive, but the shark-infested waters that corporations regularly swam in were definitely not for everyone, a lesson that most of the bright-eyed, bushy-tailed, and optimistic people diving in headfirst was soon to learn.

But if those that failed continued trying and trying again, they would learn the important lessons and, eventually, become one of the giants whose shoulders future generations could stand upon to look further into the foggy, distant futures themselves.

The explosion of space-related companies, whether they focused on selling designs or customizing their own ship in pursuit of the vast mineral wealth present in the solar system, or anything in between, was the beginning of a wealth redistribution within the empire. Aron himself was in favor of the shakeup and injection of fresh blood into the stale economy that had been the playground for the detached and delusional ultra-rich people for far, far too long.

So he would put his money where his mouth was and invest in everyone who dared to dream, ensuring that they all had an equal chance of fulfilling those dreams and kickstarting the age of exploration.

It also proved a rather effective distraction from the events of the recent past, as well. With so many negative things happening since the founding of the empire, it was good to inject a little bit of hope and enthusiasm into the collective subconscious of humanity.

Chapter 557 "That's No Moon"

Ceres station.

Earth’s “second moon” had now become part of the planet’s skyline for everyone on the right side of the planet. All of what used to be Asia, half of Russia, Australia, New Zealand, and all the way to the American Midwest, people could simply look up at any hour of the day and see the enormous dwarf planet hovering in the sky.

It had become quite a tourist attraction as well, as people flocked to those former countries to see the spectacle, or to Eden, where tour groups gathered to go up and personally walk around the parts of the station where construction had been completed.

The only difference was the cost—touring the station itself, at least in reality, was much more expensive than simply flying to a part of the world where one could see it from the ground. Roswell, New Mexico, in particular, had become a tourist mecca, as had Sedona, Arizona, oddly enough. Roswell was understandable, as they had always had a space tourism theme, but Sedona was historically home to hippies and neopagans—both old and new—so nobody quite understood the draw there.

But regardless of the high cost, the tour groups all had reservation lists stretching out all the way into next year, though more than ten million people had already visited it. And everyone who had been lucky enough to buy spots in those early tours considered it well worth the cost simply from the thrill of riding the elevator up the swaying anchor cable alone. Seeing the inside of the station with their own eyes was just icing on a very expensive cake.

However, the station had become even more crowded with startup companies that immediately leased space on the dwarf planet, thanks to the imminent opening of space to private exploration. Ship showrooms, asteroid mining company offices, logistics company warehouses, and many other types of companies had rushed to pay the high leases with the expectation that the empire would soon be banning civilian spacecraft from entering Earth's atmosphere.

After all, the entire planet had learned a very painful lesson on 9/11, and that was only further reinforced with the wave of indiscriminate terror attacks carried out only a short while before. Thus, everyone was in favor of that particular piece of expected legislation coming down from the top.

With the increase in companies and individuals leasing space in the new moon, the elevators were in constant motion, carrying freight and people alike from the surface to their new offices in geosynchronous orbit. Not that they could even tell they were in space, that is, as the empire's gravity plating maintained a constant 1G.

That aside, nobody had time to marvel at the advanced technologies at play—at least not after their very first visit—as they were all too busy preparing for their opening day, when space exploration would finally be something that virtually any person on Earth could partake in. And that day was only a few days away.

Thus, the general busyness of the station had become the norm as thousands of people descended upon the newly refurbished offices, warehouses, space docks, and even the tourist facilities like hotels, bars, casinos, and brothels.

The news of space opening to everyone had even diverted peoples' attention from the disintegration of the cultists that had taken place mere days before. It was a happy unintentional consequence of the timing of the press release and information dump into the public sector, and had put a rather anticlimactic end to the issues with the cult of the progenitors.

Only a relative few people were still paying attention to matters on the surface: the families and friends of those who were still being held in stasis pending the discovery of a cure for their condition.

Among the victims were two police officers, whose families were staying in hospital lodging, praying to whoever was listening that the empire would soon find a cure for them.

Aron was in his office, watching footage of the people in stasis and their families as he pondered the problem he had taken to calling “mana drain”. Along with that, he was wondering what exactly the last words from the blob of mana meant. Currently, he was about half convinced that it was simply fucking with him as it retreated like a beaten dog.

The door to his office swooshed open and Nova strode in, piloting her nanite colony body. “Sir, we’ve found a solution to the mana drain issue,” she reported.

“I’m listening,” he replied, resting his chin in his hand and closing the holographic footage he had been watching.

“We need to build medical pods that can deliver a constant stream of unaspected mana to the victims at the same rate they’re losing it, or a little bit faster. Then it’s only a matter of time until their mana bodies heal themselves, and they can be awake in the simulation during the process.”

As she spoke, another virtual screen popped up in front of Aron, showing the results of the testing done in the gold labs of Lab City.

After he finished reading the document, Aron’s gaze grew sharp and he asked, “With that amount of mana, wouldn’t they undergo the same kind of awakening that Rina did?”

“That is a distinct possibility, sir. But I don’t believe that everyone will awaken, even under the same condition as Rina underwent her awakening. The researchers in Lab City believe there’s some aspect of luck to awakening, or perhaps something they simply haven’t discovered yet is interfering with the process.

“But either way, their research and my simulation iterations agree: not everyone will awaken to mana, aspected or not,” Nova explained. “If you turn to page 452 of the research data file, there’s a chart of expected outcomes for the patients undergoing the cure procedure. And ask you can see....”

The conversation between the two lasted for another half hour before Aron asked for silence and sat in thought for quite some time.

Chapter 558 Awakening Pods

A week later.

Aron stood in a cavernous room in the Cube on Avalon Island, looking at the newly printed medical pods laying before him in precise columns and rows. As it turned out, actually using the first-generation atomic printers to print runic engravings into things was a much slower process than printing things without them. The process could be compared to trying to play a modern AAA video game on an old desktop computer from the 1980s.

However, the tradeoff was well worth it, as he was only one person, but he had many atomic printers.

He swept his gaze across the room and nodded in satisfaction as his runic heart spun into action. A slow breeze began flowing through the room as he greedily sucked the mana from his surroundings. The breeze soon grew to a small vortex of about ten feet wide before stabilizing.

With the stomp of a foot, a brilliant golden runic construct appeared beneath Aron's feet and spread throughout the entire cavernous room, slipping beneath row after row of medical pods as it grew. It soon reached the walls and stopped growing, and Aron wiped the nonexistent sweat from his brow; now the difficult part would begin.

He sat cross-legged on the ground and began feeding his intent into the runic construct. Milky white ripples spread from him, lightening the golden glow of the construct as they swept over it. Unlike the construct, when they hit the walls, they rebounded like ripples hitting the side of a swimming pool.

The ripples continued emanating from him in time with his heartbeat, which gradually increased in speed and intensity, staining the runic construct around him white as they swept through it. Soon, the entire construct was glowing with a dim white light that rapidly rose in intensity and brightness until, if someone were to see it, it would blind them and leave a shadow behind their closed eyelids.

The white light climbed up the sides of the medical pods, filling the grooves printed in them by the host of atomic printers that had built the equipment atom by atom.

Nova, observing the activity through the microscale cameras installed in the room, ran billions of simulations as the process continued. {Simulations show a hundred percent success rate in imprinting the new pods, sir. It should be completed in just under three minutes,} she reported through Aron's implant.

He grunted an acknowledgement, unable or unwilling to take his attention off the task he was performing. Though the simulations had all checked out over the past week, and he had rehearsed the imprinting hundreds, if not thousands of times in that time as well, it was the first time anything like this was being carried out in reality and he was determined to take extra care to prevent any mistakes.

Cut corners lead to bad outcomes, after all. These pods were meant to cure the unwilling victims of the unmourned megalomaniac behind so much death and destruction, and it was also the very last thing that would finally put paid to the cult of the progenitors' legacy. The healing represented something far bigger than the act itself; it would be the end of a turbulent chapter in the empire's existence and the beginning of another. Thus, he was determined to do it right.

A few minutes later, a bright flash of light shone, accompanied by a shockwave of mana that spread out and penetrated the walls, reaching a significant portion of the Cube and causing people to wonder what had just happened.

Aron opened his eyes and looked at his newest creation that he had dubbed "awakening pods". They were designed to feed mana from compressed mana stones into their occupants, allowing him to tailor a person's awakening to a specific element. In a pinch, they could also allow for unexpected awakenings, as Rina had experienced, but the amount of mana required for those was... prohibitive, to say the least.

So instead, he had spent the past week manually carving runes on a series of extractor bots that would head to areas where specific elemental mana densities were high, then gather that mana and

condense it into mana stones, a term he had picked up through reading webnovels in his rare downtime. His stockpile of mana stones had been growing since, and would only continue to grow exponentially.

The decision to do so had two main benefits: first, it would allow for the operation of the awakening pods to heal the final cultist victims, and second, it would slow down the increasing mana density around the world and give him time to settle the current batch of awakeners before another mass awakening began due to the ever-increasing mana density in the planet.

“Bring in the stasis pods, Nova,” Aron ordered.

{Yes, sir,} she replied, and a hidden door slid open in the side of the room.

Stasis pods began drifting through the loading door one after another, almost like a line of ants. Once they passed through the door, they began heading toward an unoccupied awakening pod, where they were met by RES-QR bots that transferred the patients from the stasis pods to the new pods for their treatment cycle.

Seeing that the procedure was well underway, Aron stood, nodded to Nova, who had appeared in his augmented reality view as soon as the imprinting process was successfully completed, then walked out of the room through a smaller door. He was met by two of his emperor’s aegis, who took up positions on either side of him and a step behind, but he paid them no mind.

A week and a half prior, he and Rina had had their first minor spat. He maintained that he needed no protection inside the Cube, or other government buildings for that matter, but Rina had insisted that he go nowhere unescorted. Her argument was well thought out and presented, as befit the scion and heir of a megafamily like the Rothschilds, so he had eventually capitulated and agreed to the escort.

But while he had agreed, he didn’t have to like it. So he had decided to simply ignore his escorts beyond what was necessary for the sake of politeness and to ensure that they felt valued. Other than that, he acted as he thought the emperor of all humanity should.

Passing through the hall, he entered another room which led to a block of apartments where the close families of the people now undergoing the final healing process would stay through the duration of the treatment. The block included an amphitheater that would serve as the perfect venue to gather the people staying in the complex and he triggered an announcement in their rooms that he would be present to explain the treatment process their loved ones were about to undergo.

He sat in a seat at the back of the stage and his escort split up. One of them stood behind him, where he would be out of view for casual glances, and the other headed to the door of the amphitheater, where people would soon be streaming in to meet the emperor in person.

Chapter 559 Lies, Damned Lies, and Statistics

The treatment of the mana drain victims had already begun, even before Aron had called the families of the patients into the amphitheater and explained what had happened, how it would be treated, and the expected outcomes. Basically, the process would require two weeks of Earth time, during which the patients would remain logged in to VR. And each apartment in the complex the families lived in was also equipped with extended stay medical pods, thus ensuring that the families could remain together for the duration of the treatment.

The best thing about it was that the families' equipment would be maintained at the empire's expense, as well as the standard fee that would normally be charged to the patients themselves.

The bigger concern, and one that Aron hadn't mentioned to anyone outside of his inner circle, was that using the awakening pods would light another beacon for the incoming visitors. That said, it wasn't like it mattered anymore. Humanity had already caught their attention, and they were already on their way.

Worrying about whether or not they were paying attention to the cradle of humanity was like locking the barn door to guard against thieves after the horses had already been stolen.

And it wasn't even that big a concern, either. Aron had already enacted countermeasures to prevent other civilizations that could detect mana from finding Earth. The shield he had created had more than simple blocking capabilities; it could prevent energy leakage just as well as it could prevent physical passage, and much, much more. For instance, he could even set it to make Earth completely invisible, like a hole in space.

Sure, that would have some severe downsides, but when given a choice between bad and worse, bad would win every time. Bending light around the planet to provide optical invisibility would essentially blind everyone on the planet, but it would be better than having humanity wiped out by hostile marauders. And that was just one of the countermeasures he had included in the complex shield.

Blocking mana leakage was just one of the more simple functions it was capable of.

Currently, the shield was set to prohibit unauthorized entry and exit, as well as projecting a visual image of the planet that was designed to make it appear unattractive to visual observation. From outside, Earth currently looked like it was choked with smog and radioactive waste, causing the surface to be under a nuclear winter of epic proportions. Pit mines were everywhere, exploiting what few resources the apparently dying planet had to offer, and civilization looked like it was teetering on the brink of extinction.

Nova had built a dedicated quantum supercluster to creating and maintaining the backdrop, and Gaia had dedicated a full forty percent of her processing power to populating it with the most miserable people she could think of. Aron, for his part, was quite satisfied with the outcome, though he was uncertain how well it would perform when met with alien observers.

After all, the appearance of the planet and the "plight of humanity" on it wouldn't match up if the observers were using old light as a reference. And since the change from prosperous industrialized society to basically hell on earth was instant, it could raise some eyebrows. Or whatever the equivalent facial expression on aliens was, anyway.

He couldn't hide the upcoming industrial revolution in the solar system, naturally, but he could at least make the planet itself look far more unattractive to at least some alien species. Hopefully, anyway. Plus, it would at least hide how fast humanity was adopting new technological advances even if a canny observer discovered the discrepancy in the before and after of it all.

With both the visual aspect and the energy leakage under control, all that remained was ensuring that communication discipline would be maintained, both on the surface of the planet and out in the

solar system beyond its atmosphere. Thus, Aron decreed an empire-wide mandate that all communications would be through quantum communications, period.

He couldn't do much about noncitizens, however, but by the simple expedient of setting the planetary defense shield to block every wavelength on the electromagnetic spectrum except for visible light, communications immediately went down. And once that happened, Youssef Al-Mutairi, the Minister of the Exterior, went into action.

In a matter of weeks, the remnant governments on the planet had hammered out treaties with the empire that gave them access to quantum communications, which was a huge win for Operation Boiling Frog.

Aron was definitely not playing around with the security measures he had implemented to protect his empire, and the entire planet by extension. Once he gathered enough resources, he would even implement what he had named "Project Loki" throughout the entire solar system, blocking the accurate view from the heliopause.

Not to mention the spy prevention, just the shield itself would act as a very effective first line of defense against potentially hostile alien invasions. In preparation for the implementation, another quantum supercluster had been dedicated to creating the image of an interplanetary war and the resulting ruined solar system left behind, providing the Sol System with a thick protective barrier as well as camouflage that would make it uninteresting in the first place.

And the protection of the solar system would be thoroughly planned, leaving no loopholes for observers to discover that it was faked, unlike the loophole left in Earth itself's coverage. Or rather, there would only be a single loophole, which was that if someone was already looking and had spotted the discrepancy where Earth went from a thriving planet to a dying one literally overnight, they would be suspicious of a system-wide war.

But the odds of that happening were slim, according to all of Nova's calculations. The planet would have had to already be under observation in order for them to notice the discrepancy caused by Aron enabling the shield's visual projection feature. And that would require the observing party to be in the right place at the right time and paying attention to the right thing moment by moment.

The odds of that happening were low enough, statistically, that Aron had decided it was worth the risk.

Chapter 560 Catch and Release

Kuiper Belt, just outside Pluto's orbit.

'In the vastness of space, everything is a mere microscopic speck against the divine firmament,' Monique de Groot, captain of the NIS-SV-765981-LRV, thought, gazing at the rapidly shrinking Pluto in her augmented reality display.

The Kuiper Belt was home to numerous dwarf planets and had an extremely high density of objects, compared to the inner region of the solar system. The stealth ship had just passed through the "tail" of one of those comets on her journey outward, disturbing the microscopic ice particles as it passed through them, leaving a wake despite the advanced stealth systems in the exploration vessel.

Thanks to the almost unconscionable speed the 5981 was traveling at, the disturbance was minimal and soon dissipated, returning the environment to its normal appearance.

But even if the wake had lasted longer and propagated farther, there was no one to witness the spectacle other than the universe and imperial automated early warning detectors. The detectors remained silent, thanks in large part to quantum IFF (Identification, Friend or Foe) systems being a part of their makeup.

The detectors were a miracle of miniaturization. Based around a fusion reactor the size of a child's fist, the detectors themselves were only the size of a softball and leaked absolutely no energy or signals other than a positively tiny gravitic disturbance as the incorporated gravity propulsion system carried them on their journey to the inner edge of the heliopause near the termination shock layer of the solar system's border.

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A few hours later. {Approaching the mission target,} the ship's AI reported through the speakers embedded in the ship's bulkheads.

"Begin the deceleration and capture maneuver," Captain de Groot ordered. "Let's do this in one pass, ladies."

The bridge crew chorused an acknowledgement of the order and activity at each workstation picked up as people focused on carrying out their assigned tasks.

"Adjusting orientation... adjusted. Beginning deceleration," the helmswoman reported.

"Opening ventral bay," the weapons officer added.

One by one, the stations on the bridge reported their actions as the intricate catch maneuver began. Much like docking with a moving outpost, the 5981 was catching Voyager 2, except reversed; in this case, it was the dock itself that was moving toward the object meant to be landed within.

"Slow and steady wins the day, ladies," captain de Groot reminded the officers on the bridge.

Time slowly passed as the stealth ship crept up on Voyager 2, then the helmswoman finally reported, "Beginning catch maneuver."

The atmosphere on the bridge was tense, everyone intently staring at the displays on their consoles as the Voyager 2 slid into the ship's ventral cargo bay centimeter by centimeter. From start to finish, the catch took close to an hour before the weapons officer reported that it was completed and the bay doors closed.

"Excellent work, ladies. Stand down from general quarters but remain on the bridge—we're only half done," the captain ordered.

"Aye aye, ma'am," the others said in unison, then stood and stretched. One of the ship's complement of steward bots moved from station to station, offering coffee and sandwiches to refresh the stressed bridge crew.

“We just made history,” the ship’s executive officer, Commander Selene Ryfczinski announced. “Not only are we the first ship to enter the interstellar medium, we’re the first to pass through the Oort cloud. Stand proud, ladies.”

A low cheer passed through the bridge, then the soft hum of quiet conversation followed it.

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A month prior to catching the Voyager 2.

Captain de Groot and Commander Ryfczinski were in the emperor’s council chamber with Aron, Youssef Al-Mutairi, and Nyx, having been briefed on their upcoming mission.

“So you understand your role?” Aron asked.

“Yes, Your Imperial Majesty,” the captain and commander shouted in unison.

“No need for the academy yap,” Aron chuckled. “Do you have any questions?”

“Yes, Your Majesty. Why catch and release the Voyager 2 instead of simply destroying it?” the commander asked.

{Because destruction is never an absolute, Commander. Besides, why destroy something that can be used to serve a noble purpose?} Nyx countered.

“What’s the purpose, then?” Commander Ryfczinski asked, still curious as to why an entire stealth crew of the NIS would be tasked with a multiple-month deployment for what she saw as an enormous boondoggle.

“Have you heard of Sergeant Murphy, Commander?” Minister Al-Mutairi interjected.

“Should I have?” she asked.

“Sergeant Murphy is a lawmaker, Miss Rif... Miss Ruff...” Youssef sighed.

“Minister, please just call me ‘Ski’. I’m Polish, we’re all used to it and have been ever since our ancestors decided to use every letter of the alphabet in our family names,” Commander Ryfczinski chuckled.

“Ahem... yes. Miss Ski, even if you’ve never heard of Sergeant Murphy, I’m certain you’ve heard of his law.”

“Ah, right... ‘everything that can go wrong will go wrong, and at the worst possible moment?’” A light flashed in her eyes as she suddenly understood what Nyx meant by ‘destruction is never absolute’.

“Indeed, Commander,” Aron said. “It’s impossible to destroy something so thoroughly that it leaves no evidence behind. So what we want to do is leave a false evidence trail. And for that, we need you and your crew to capture the Voyager 2 and return without being caught at any stage of the operation.”

“Understood, Your Majesty.”

“Very well. Any other questions?” Aron asked.

“No, Your Majesty,” the two nyxians replied with a salute.

“Then be on your way. Good luck and godspeed, ladies.” Aron returned the salute as the emperor’s council chamber disappeared from around the two women, who exchanged glances with each other then logged out of the simulation as well.

They had much to prepare and little time in which to do it.