

JUMP POINT

ISSUE: 06 08



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What's your favorite science fiction alien race?

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FROM THE COCKPIT

GREETINGS, CITIZENS!

You may have noticed that we sometimes try to 'theme' issues of **Jump Point**. For instance, we might talk to developers about the design of mining mechanics, profile the development of a mining station, and then have a lore article about the history of a mining ship. Sometimes, though, there are too many exciting things in too many directions to force a special theme. And August 2018 is one of those months!

First, the racing team at Foundry 42 was kind enough to sit down with us to talk about building an all-new racing system for the Persistent Universe. Racing has been on everyone's minds since the Origin M50 was a distant concept, while the competitive mode in *Arena Commander* made us eager for it to become bigger and bigger... so we're all very excited to see it make the move into the 'real' world of the 'verse. Check in to find out why Scramble Racing is going to be the next big thing.

Meanwhile, the ship team has put together another outstanding concept that again shows why *Star Citizen* has more depth than any other space combat game in history: the Roberts Space Industries Apollo medical ship. We've come a long way since the early discussions about an ambulance model of the Drake Cutlass and the Apollo marks another leap forward for the medical career. It's a ship that's pushing forward the gameplay that's needed for both small rescue ships and

larger facilities like the Endeavor. We'll show you the trial, error, and high degree of artistic talent that went into making RSI's latest non-combat ship a reality.

Finally, we have a Whitley's Guide that takes us planetside for the first time as we share the development history of the Tumbril Cyclone buggy. As a result, this is an excerpt from a different Whitley's book instead of the 2947 Guide to Spacecraft visited in previous issues. You may recall from the original presentation that the Cyclone was a design brought back from an earlier era in UEE history... now you can read the whole story! Plus, we ask developers One Question about how they became interested in science fiction and we try to stump you all again with another Where in the Verse.

I hope you agree that high-speed racing, high-tech medical science, and ground-pounding vehicles make for a pretty exciting issue. I will end this month's note with another plea for your feedback. I want to know what you want to see in these pages. My inbox is always open and I'm eager to hear what you think of **Jump Point** and what you'd like to see in future editions. Whether you have a ship you want to see examined or a regular feature you think we should run, I'm happy to hear about it.

Until next month, I'll see you in the 'Verse.

Ben

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RACING

Star Citizen has a storied history with racing. The Origin M50 was one of the very first add-on ships developed in 2012 and it introduced the dream of a racing career to the game. Racing became a reality with Arena Commander... and now, racing is coming to the Persistent Universe with a brand-new system in the works for an upcoming patch. To learn more about these plans, we spoke to some of the talented programmers and designers hard at work making things go fast...

[BEGIN TRANSMISSION →](#)

JUMP POINT (JP): Let's start by going around and introducing everyone. Let me know who you are and what you're working on for racing.

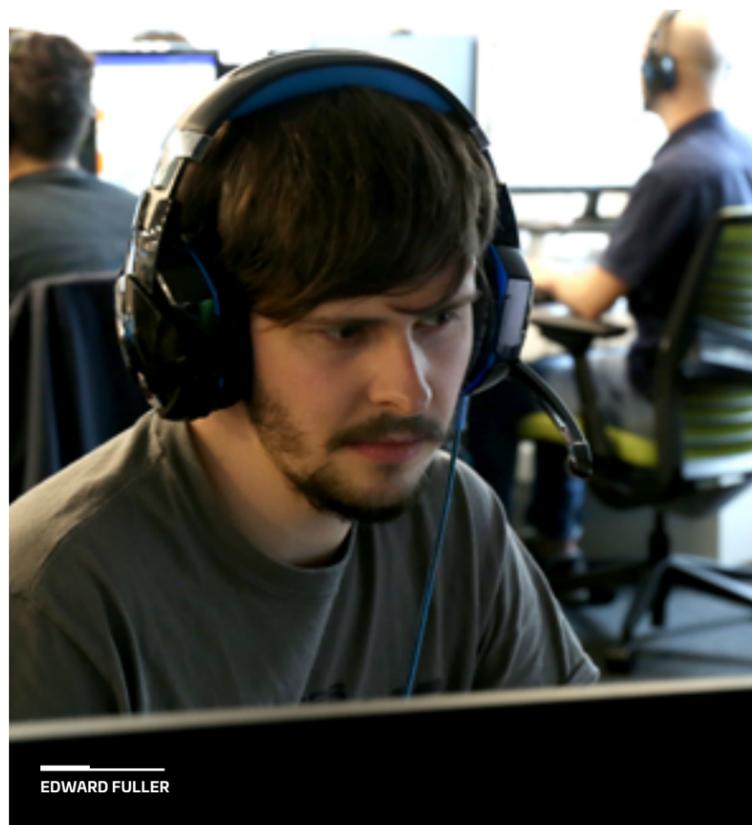
EDWARD FULLER: My name is Edward Fuller and I'm the Principal Live Designer working on the Live Team. My focus is on designing and building missions using Subsumption and I'm currently responsible for designing and building the Scramble races.

DAVE POLLARD: Hi, I'm Dave Pollard and I'm the Senior Gameplay Programmer providing code support for the Mission Team and giving them the tools they need to create missions.

LUKE PRESSLEY: I'm Luke Pressley, Lead Live Designer. My responsibilities are designing missions which take advantage of the game's mechanics and, when necessary, working with other teams to ensure that their mechanics are intuitive and lead to fun experiences.

JP: Can you give me the high-level description of the new Scramble Races, what they are, and how much has changed since the early days of Arena Commander racing?

LUKE: Scramble Races originally came from the desire to build races that didn't rely on circuits due to our ever-improving planet tech changing the ground beneath our tracks. For instance, a set of canyons we have woven a circuit through could become a flat desert the next time the tech was updated. We now have tech which means we can place permanent tracks on planets, but modeling a track and embedding it into the planet is still no small amount of work. However, the decision wasn't just a practical one as we wanted to create a race that would truly allow for slower, combat-focused vehicles to compete. This meant not having a traditionally linear or looped track in which those with faster vehicles would never be caught. The way the checkpoints are arranged and chosen in the



EDWARD FULLER



LUKE PRESSLEY



Scramble Races mean racers will be forever crossing paths. We even encourage combat by highlighting the leaders and allowing their killers to steal their points.

EDWARD: Scramble Races are quite different to Arena Commander racing in a few keys ways. First of all, they take place in the PU, so operate amongst everything else that could be going on there at that moment in time. The second is that they are not exactly a traditional point-to-point or lap race; Scramble Races pit players against each other to win checkpoints which nets them points - the first to the target number of points wins.

JP: Where do the Scramble Races happen? Are they static points being added to the PU?

EDWARD: The logic runs that a Scramble Race is built so it can operate in space and on planet surfaces. We do have specific locations for them right now, but we've built them in a such a way that they can be easily placed anywhere we want. We quickly realized, however, that there is a bit of a difference between a space-based and surface-based race - namely, we had to be more considerate to planet racers because they need to get a ground vehicle first. This dictated that Scramble Race locations on planets had to be near enough to ASOP terminal locations, so

outposts with Platinum Bays. The same is true of space too, but the difference is most people in space are already in a ship when they turn up.

JP: One clarification - when you say ground races, do you mean any vehicle in the atmosphere, or is there a provision for specific wheeled/tracked vehicle racing?

EDWARD: Ground races refer to wheeled and grav-lev vehicles.

LUKE: There are three types of races: wheeled on the ground, grav-lev on the ground, and any ship (up to a Cutlass in size) in space.

JP: Have you built it as a system to scale with the universe?

DAVE: One of the things we've been focusing on recently in the mission system, especially with Object Container streaming on the horizon, is scalability and the way missions pick locations to use. Clearly, as we expand the universe we're going to be adding a lot of new locations, so we created a tag-based location database which is extremely quick for designers to add to and configure. So, for example, when a new race mission is generated by the mission broker, it can query the database for any available location with the 'Race' tag and can then reserve that location until the race is over.



JP: Was there any new art involved in the mode?

LUKE: The race was pretty low on art asset requirements, but we wanted to make the checkpoints as cool as possible. The ground race's checkpoints are these industrial flares that send thick green smoke a hundred meters into the air and can be seen from many kilometers away. And when you collect them they explode like fireworks! The space race's checkpoints are the old Skimmer probes that were discovered monitoring Grim HEX and have been repurposed as targets.

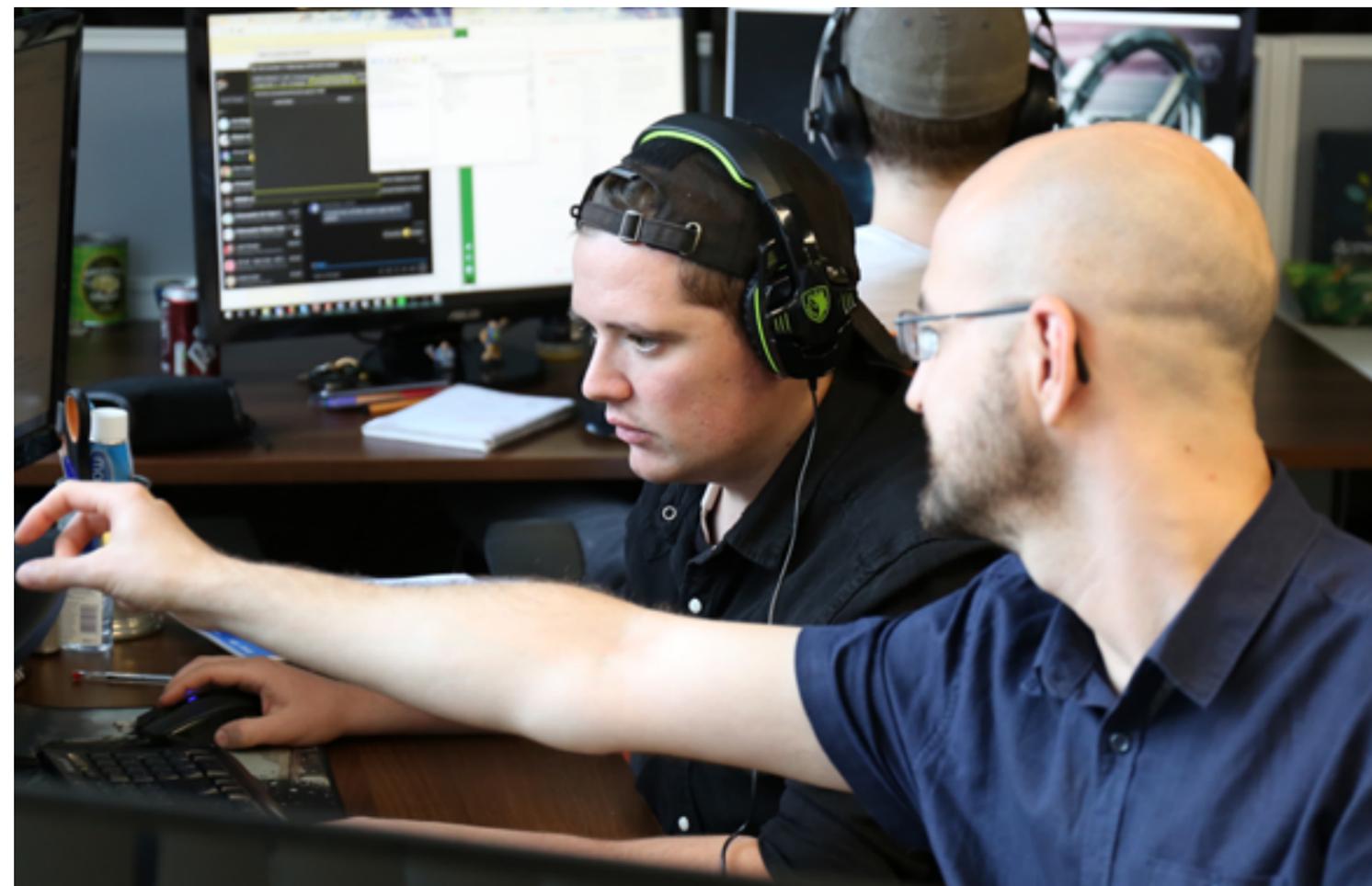
JP: Did you carry over any of the work from Arena Commander, or was this more from the ground up?

LUKE: Sadly, the differences between a self-contained game mode and a race built into the

mission system in the PU have meant that no work could be reused.

JP: What was the biggest 'under the hood' challenge in creating the new racing mode?

EDWARD: Edge cases and UI. Luke will be able to answer for UI, but edge cases I can talk about. We want to encourage racers bringing friends to the race to take up the turrets of their vehicle or simply shoot from the open rear doors. Naturally we want the killing of a race leader to work in this scenario too, so a player aiding a pilot gets the kill and the pilot gets the score. Since Scramble Races are arriving before we have the functionality to play missions in groups, we have to do some legwork when it comes to figuring out how the pilot gets the score and not the helpful turret gunner. It sounds straightforward, but



there is a lot of depth to the systems in this game, so finding a solution required a lot of creative thinking.

JP: *What kind of UI work was involved in the new racing system?*

LUKE: When we began thinking about the UI needed for the Scramble Races, we agreed that the mission UI was severely lacking. So, we came up with a set of UI elements that could be used for races - timers, progress bars, and other things. Scramble Races were the catalyst for work which will benefit all types of missions.

JP: *Will the work your team has done impact any other systems? Racing seems to be its own thing, but I know every time a career gets added (mining, salvage, etc.) things are shifted around to support it.*

LUKE: As well as the UI improvements I mentioned, the Scramble Race has been the driving force behind improvements to the wheeled driving experience. Prior to work on the races, Cyclones would lose their wheels constantly, the Ursa wasn't using six-wheel drive, the headlights on both vehicles were underpowered or incorrectly positioned, amongst many other issues. These will all improve the wheeled driving experience generally across the game and help bring focus to any remaining issues.

EDWARD: The biggest implications may well be to the economy and figuring out how much someone's time is worth when racing compared to if they were spending that time doing another activity. Ultimately, everything you do is a balance between time/effort invested and risk/reward but racing, let alone scramble racing in the PU, is about putting your life and ship/vehicle on the line for extended periods of time. The reward has to be worth it so that players don't just want to take part because its enjoyable, but because the rewards are worth that extra risk.

JP: *What do you get when you win a race, anyway? Credits or just bragging rights?*

LUKE: Both, hopefully. Given the amount of time the player must invest in preparation, not to mention the fact that they will be putting their vehicle and life on the line, the reward will be big and will likely grow depending on the numbers of racers. Hopefully, in the future we'll be able to have a registration fee to join the race and this way we can reward the winners without letting players game the system.

EDWARD: For now, we are focusing on a monetary reward, but it's probable that long-term we'll reward you with reputation as well, so that participation in races leads to better racing opportunities. These are only the first tentative steps into what the racing career will





become, so right now it's just Credits and we're still working out how those rewards are split between the winners.

JP: *What kind of reference material do you use when creating races in outer space? Do you look at real-world racing stuff, popular movies, other games, etc. at all?*

EDWARD: It's an interesting question. It was much easier for us to imagine how it was going to work and feel on a planet's surface than space, with our most immediate inspiration being to recreate that sense of speed and tension from Star Wars: Episode One's pod racing sequences and Mad Max style desert chases. Additionally, in a

real-world context, Scramble Racing is more akin to a less-formalized underground Dakar Rally, where the course is of a 'wherever you can race without getting caught' kind of nature. So in this first iteration, there is no officializing, course signage, or crowd stands. That isn't to say that in the future we won't look to do all of that, but instead think of this first iteration as your opportunity to enter the first-tier of this type of racing. Then, in the future, you'll work your way up to those more officialized grandstand courses that evoke a 'pod racing level' of event.

JP: *Has testing with the QA team changed racing in any way?*

EDWARD: I think what has been interesting for us during testing

was figuring out what it takes to make Scramble Racing in space as compelling as it is on planet surfaces. On a planet's surface, the topology of the landscape defines the way you have to traverse it. For example, if you're in a valley and a checkpoint is atop a cliff edge, you can't just drive up the cliff edge, you need to go around, and the choices you make on that route make the experience interesting and compelling. To replicate that experience in space requires us to create some 'space-based' topology that forces competitors to make exactly those kinds of choices they would if they were on land. In space, we chose to add huge asteroids to break the linearity up. So, Scramble Races in space still have that impromptu location feel as on the ground, but we made sure to put the effort into those locations to

make racing in space as exciting as possible.

JP: *There are lots of backers out there dreaming about this mode and what it can add to the game. Do you follow player 'pre-feedback' at all?*

EDWARD: I read and listen to as much of it as I can. I lurk on Spectrum and Reddit and I watch lots of *Star Citizen* related YouTube videos and it's really interesting to consider all those different voices, opinions, hopes, and dreams. Right now, we're focusing on what we are making, but it's humbling to read all that pre-feedback because I think it keeps our work honest, even if it does not always deliver what everyone wants every time.



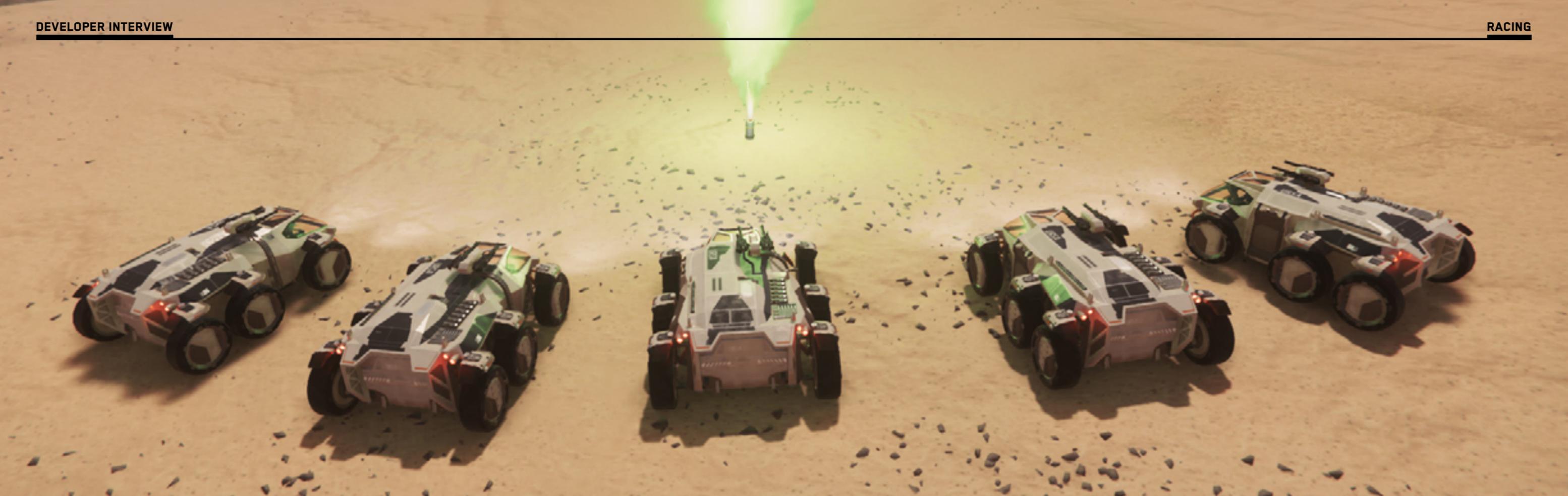
LUKE: I do. I've dropped into a few streams and asked the chat how they are feeling about the race, but understandably, without having participated in the race most are still reserving their judgment. We know races, and perhaps death races more-so, are somewhat niche, but we hope that we will win over players.

JP: *What are you most eager to see players do when racing goes live?*

LUKE: Having their vehicle destroyed, sniping a Cyclone driver out of their seat and stealing the vehicle to finish the race! Generally, I just want to see if the balance between racing and combat is what we aimed for.

EDWARD: Sometimes we try to cross all the T's and dot all the I's, but in reality it can be madness to find and resolve them all before we get something in players hands. What I'm saying is I'm intrigued to see if anyone discovers any outside-the-box methods of winning. Not to say I'll definitely approve, but I'll definitely be watching!

JP: *Who else was involved in making Scramble races a reality?*



LUKE: John Crewe has listened to my constant whining about vehicles and fixed up all the concerns in his power. Big thanks to Marco Corbetta as well, who has been looking into making the collision on some of the smaller rocks more kind to the vehicles.

EDWARD: Our dev testers, Michael Dalston and Matthew Thompson, who arrange our dev playtests and attempt to catch all the bugs I have to figure out how to fix.

JP: *Speaking of planning for the future, is racing something that will continue to expand with future updates? Do you have anything you'd like to add further down the line?*

LUKE: Scramble Racing is the first step towards the big circuit races we plan to do in the future. However, they will take more resources than is sensible to commit at this moment. To do them justice, we need hand-crafted tracks in areas properly protected against griefing. We need leaderboards. We need competitive AI to race against. The list goes on. What Scramble Race gets us is the UI and some of the underlying code changes needed for future development.

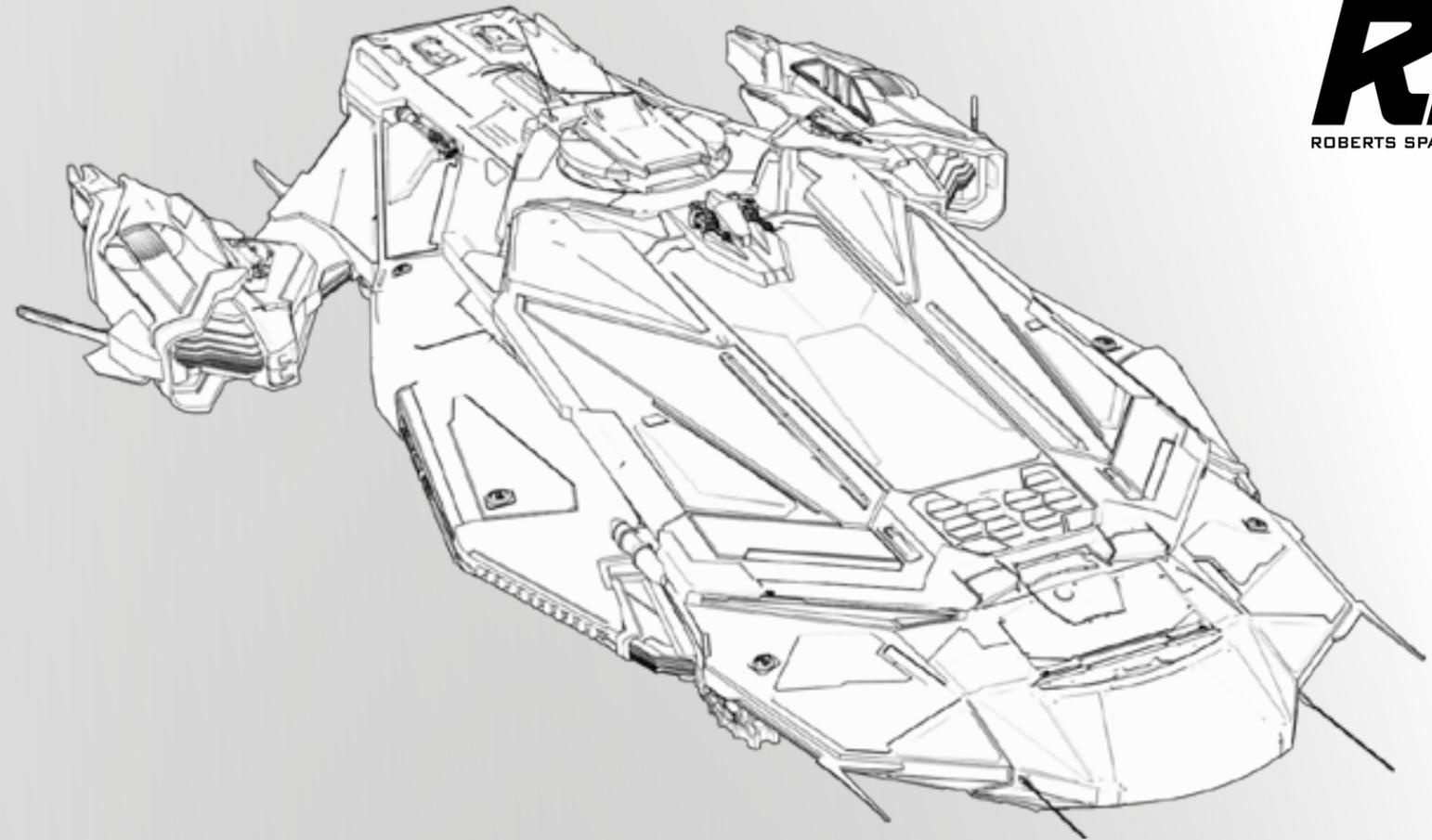
JP: *Finally, any messages for the community as they get ready to start their engines for the first time?*

LUKE: Please don't grief too much? I look forward to your videos because, just in our own playtest, we've had some crazy, spectacular, and hilarious experiences.

EDWARD: This is really our first tentative steps into realizing the racing opportunities in the PU, so there will be things that I'm sure we haven't anticipated players doing and some that may not work out as we imagined. Also, I would be surprised if the community wasn't eager for follow-ups and extensions to racing in the PU going forward, so I look forward to more feedback once Scramble Racing is in their hands.

← END TRANSMISSION

WORK IN PROGRESS... RSI APOLLO



AIMS

- Mid-tier medical ship, akin to a small clinic, between Cutlass Red and Endeavour.

AESTHETIC

- Heavy, industrial, basic and mechanical

Length	43m
Width	30m
Height	10m
Mass	376,500kg
Variants	Apollo Triage Apollo Astromedic
Speed	Apollo Triage: 205m/s Apollo Astromedic: 195m/s
Crew	2
Armour	Apollo Triage: Medium Apollo Astromedic: Large
Shield	2x Medium
Armour	Large
Missiles	Apollo Astromedic: 2x S3 missile racks (4x S2 missiles total)

Hardpoints	Apollo Triage: 1x remote turret with 2x S2 laser cannons Apollo Astromedic: 1x remote turret with 2x S2 ballistic gatlings
Thrusters	12x fixed maneuvering thrusters 2x retro thrusters 2x main thrusters 4x VTOL thrusters
Modular Components	Modular room layout. Two rooms with either: 1x emergency bed/operation room 2x intensive care beds 3x regular care beds
Cargo Capacity	28 SCU

The vehicle depicted herein is undergoing concept and design as of the release of this publication. Specifications and appearance are subject to revision during development.

KEY CONTRIBUTORS :
LEAD DESIGNER - CORENTIN BILLEMONT
CONCEPT ART - ANDRIAN LUCHIAN
ART DIRECTOR - PAUL JONES

INTRODUCTION

A space combat game with lasers, rockets, shields and... medicine?! *Star Citizen* surprised everyone in 2013 with the reveal of the Drake Cutlass Red - a special edition intended for use as a stellar ambulance. For the first time, it became clear that medicine in *Star Citizen* was going to be more than just picking up health kits to fix damage to your character. Instead, it was going to be tied directly into the game experience with players able to take part in medical careers that would involve rescuing and treating both fellow players and NPCs.

Star Citizen introduced its concept of life and death with the 'Death of a Spaceman', a public-facing design post written by Chris Roberts to explain to players his initial vision for *Star Citizen's* take on 'permadeath', then a major point of discussion with the community. In it, Roberts lays out a plan for wear and tear on characters and the idea that while surviving the loss of your ship will be possible, it will have permanent effects on your character that will impact how the wider game is played. The concept pitched a number of long-range medical ideas, from the need to pick up and treat players that are lost in space following combat to plans for medical repairs and upgrades that will impact a character's movement and abilities.

The plan for medical gameplay expanded with the development of *Star Marine* (and *Star Citizen's* overall FPS system) in 2014. With ground-side gameplay, the team needed to develop a system of 'battlefield medicine' and that meant asking a lot of formative questions. Chief among them:

'What is an individual injury and how do you heal them, anyway?'

After several iterations, a system of different injury types for individual limbs was developed. Instead of broadly saying a player was wounded, there were now different tiers of injuries in different places on the simulated body. With this more detailed system, the process of developing mechanisms for treating and ultimately healing wounds could begin. At the time, the need was only to treat injuries received in first person melee combat, but as the system came together, so too did the potential longer-term mechanics that would form the basis for an entire medical career. What if some injuries were more serious and needed specialized facilities?

Players heard the first of these longer-range plans with the launch of the Endeavor-class science ship in 2015. The Endeavor is a modular spacecraft with different pods that allow it to take different configurations. Several of these working together allow the construction of a hospital ship



dubbed the 'Hope-class'. As much as the Orion developed the biggest vision for a mining career path or the Hull E the largest ship needed for mercantile careers, the Hope-class offered an eventual endgame medical facility: boat bays for ambulances, facilities with many beds, labs for developing needed technologies, and other options that would not be explored immediately.

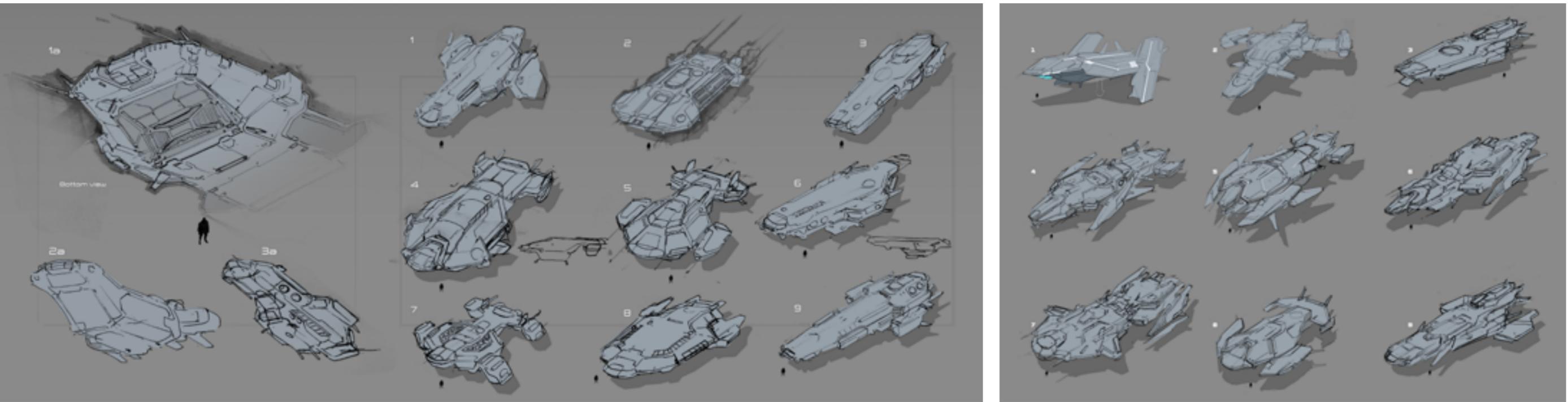
In late 2017, the ship team began developing a number of ships necessary to expand these earlier rough visions of different careers. For medical gameplay, which was still being conceptualized in its specifics, the need seemed clear: a smaller triage ship capable of doing more than transporting a patient like the Cutlass Red, but with fewer abilities and resources required than the massive floating hospital of the Hope-class.

LAUNCHING PROJECT APOLLO

Designer Corentin Billemont was assigned the task of turning the need for a medical ship into a pitch and set of specifications that would go to the art team. He envisioned a ship midway between the Cutlass Red and the Endeavor. If the former was an ambulance and the latter a fully-featured hospital, the Apollo would be akin to a flying clinic. Capable of rescue operations and treating several patients at once, he saw the Apollo as roughly the size of a Constellation or 600i. To aid the ship's eventual artists, he bullet-pointed several requirements for the ship's interior that would match up with the current thinking on medical gameplay:

- Patient rooms would be ideally separated around a main area. Kitchen area would be the same for everyone (patients and crew).
- Cockpit area separate from the 'clinic' part. Constellation lift entrance for the pilot, large docking collar (including airlock) and ramp for patients.
- Small cargo room for medical supplies.
- Reception/orientation area near the airlock would be interesting.
- Should avoid animated parts for better protection and hull integrity.

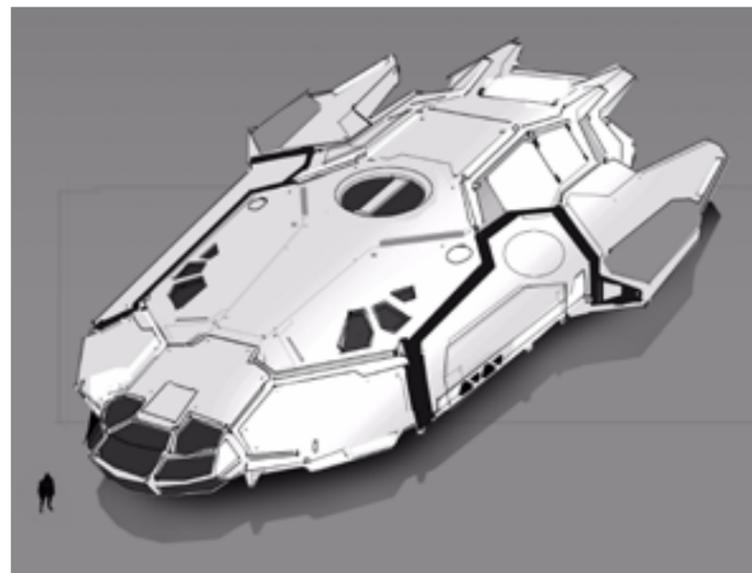
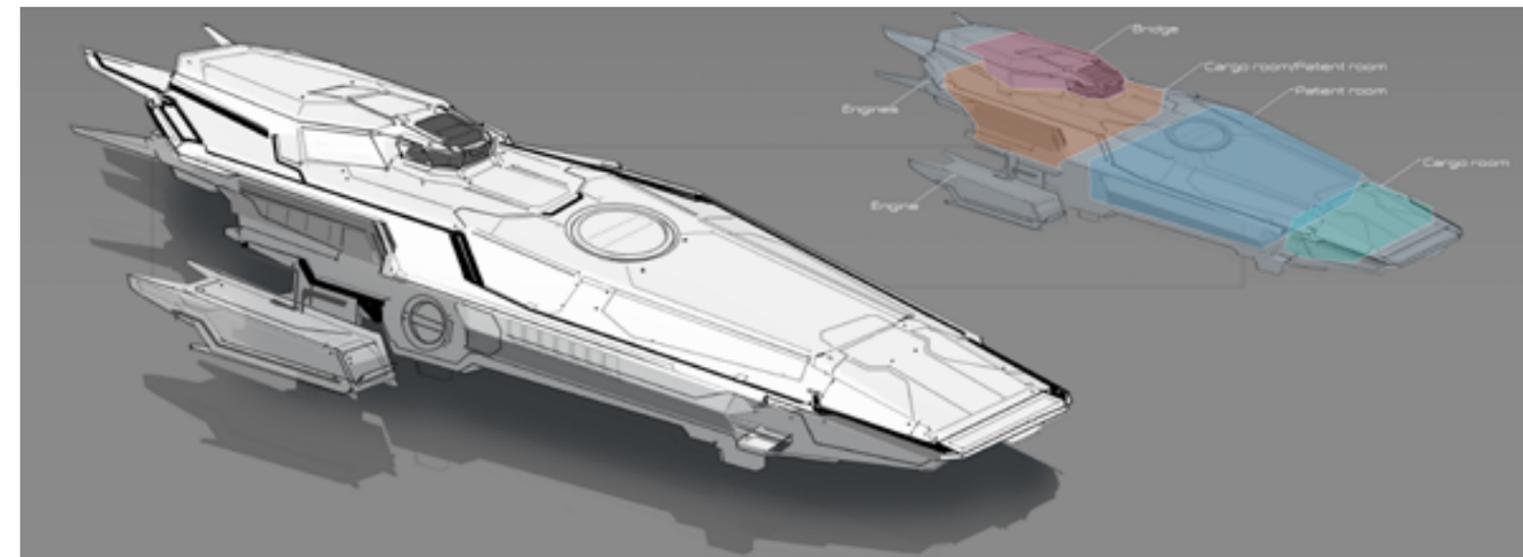
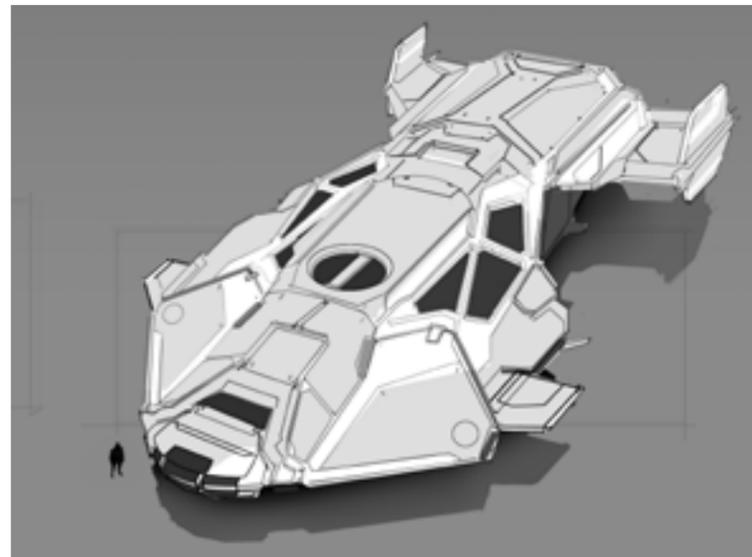
Perhaps most interesting, though, was the choice of the ship's manufacturer. After much deliberation, the Apollo was given to *Star Citizen's* flagship company, Roberts Space Industries. The design was approved by April 2018 and the ship became the responsibility of the Foundry 42 Ships Team.



THE FIRST PASS

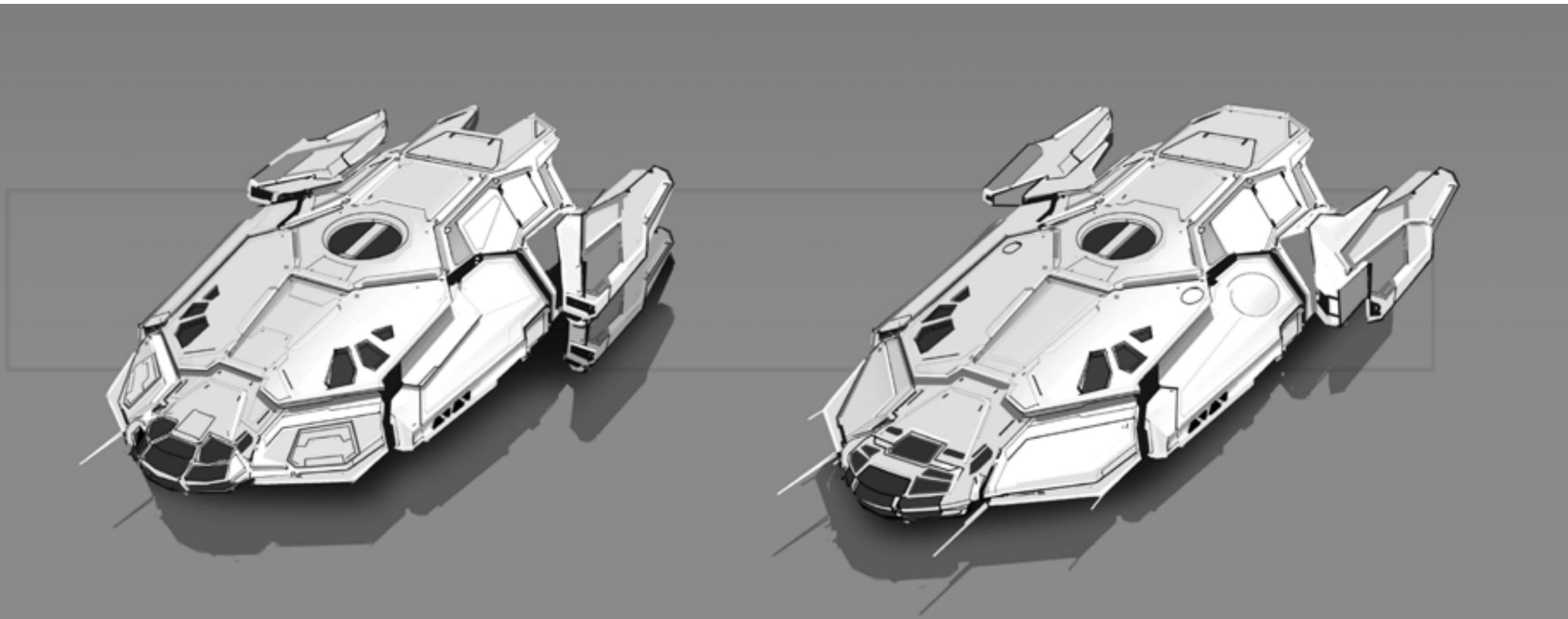
To concept the initial look of the Apollo, Art Director Paul Jones had a challenge ahead of him. The team had not developed an RSI design since the Polaris in 2016, which was a military ship - their last civilian ship was way back in 2014 with the Orion. This would also be Jones' first RSI design, so developing this new ship was going to require careful work to capture the distinct brand.

For the ship's prime contractor, Jones selected artist Andrian Luchian, an external contract artist who specializes in concept work and had previously been responsible for the Origin 100i. The 100i had been a similar challenge on a smaller scale: take what defines the Origin brand and then 'downgrade' it into a ship that fits into Origin's existing design pantheon without being able to make it a clear upgrade on an existing idea. But where the 100i was a single-seat fighter designed around existing mechanics, the Apollo would be a very different beast; a multi-crew ship based around a method of gameplay that was still being developed. Jones considered Luchian a good choice because of his experience and he felt that using him to develop a larger ship from another manufacturer would expand his range for even bigger ships in the future. Additionally, the timetable for the Apollo would be tight and it would be extremely useful to have an artist who had proved themselves capable of understanding very specific design requirements in the past.



The initial round of rough concepting went smoothly. Jones began by collecting a plethora of RSI references for Luchian to work from, ranging from the tiny Aurora to the enormous Bengal carrier. The artists began looking at different configurations and silhouettes, attempting to find something that first looks like an RSI design and second feels like it can fulfill the role of a medical ship. Luchian produced several rounds of sketches in several different directions, some with fatter hulls that implied they could carry patients and some with more aggressive, broken

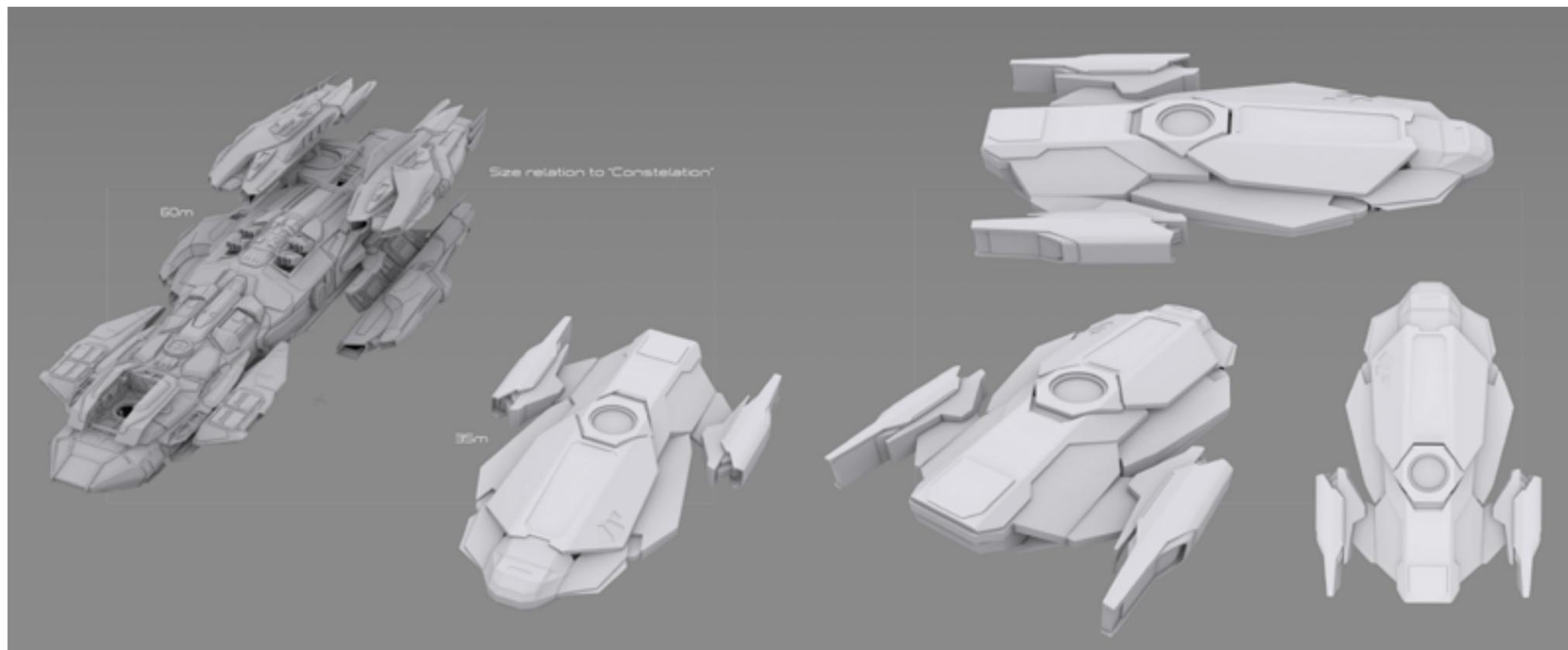
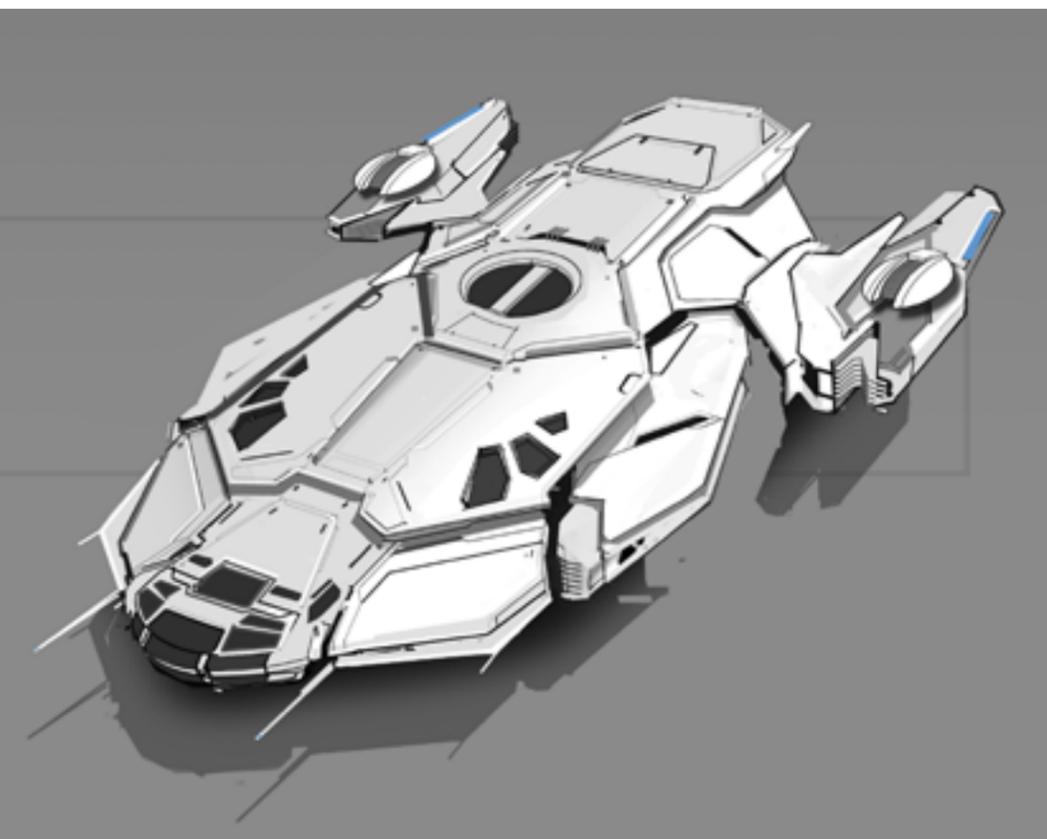
up shapes that matched more closely with other RSI designs. Ultimately, three possible directions were presented to Chris Roberts and the team. Two shared a rough layout with the Constellation, with an RSI-style cockpit at the front; one had a more compact armored look while the other had a more streamlined design with large upper windows. The third design changed things significantly, inspired more by the corvette-class Polaris. This version had much straighter, unbroken lines and kept the cockpit and crew compartment in a capital ship-styled bridge midship.



Unfortunately, the result of the discussion was that more work was needed as none of the options felt quite RSI enough. At this point, Jones stepped in to assist with the initial layout.

"It can be hard for a concept artist to tell what we care about for a company theme; what shapes are important versus which are not."

With no time to burn, Jones worked closely with Luchian to examine profile shapes and to call out areas he thought were important on the original Constellation design. The working design started off thicker without the narrowed waist of the Constellation. The black shapes on the earlier models are windows, with the original plan being for patients to be able to look up and see out of the ship. The size and inclusion of the windows went back and forth as discussion over what does and doesn't work with an RSI design continued. Jones ultimately defined the necessary look as being tiered in shapes: a larger central fuselage with two or more shapes on top of it and an avoidance of parallel lines. The shapes always taper and the surfaces are always angled. By the end of April, the artists had incorporated more RSI elements into the design and Jones had done another paint-over-pass to slim the hull and solidify the RSI lines.

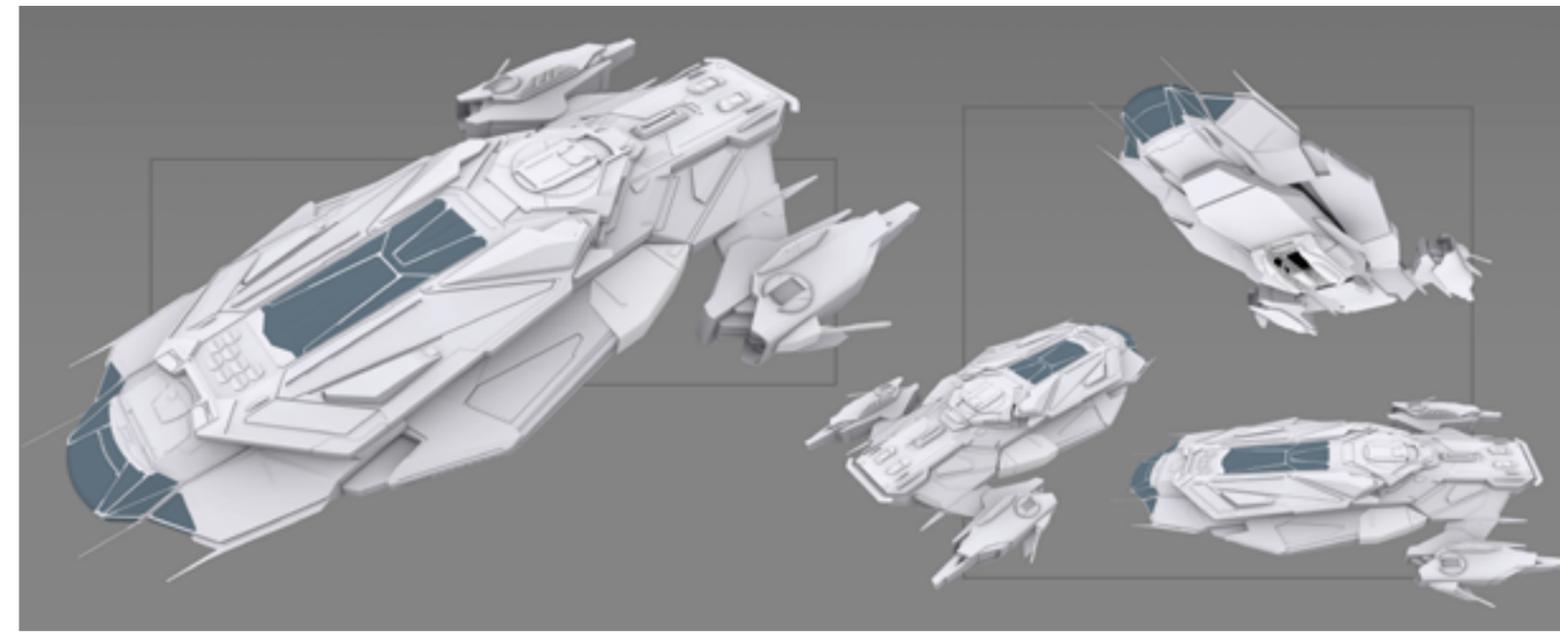
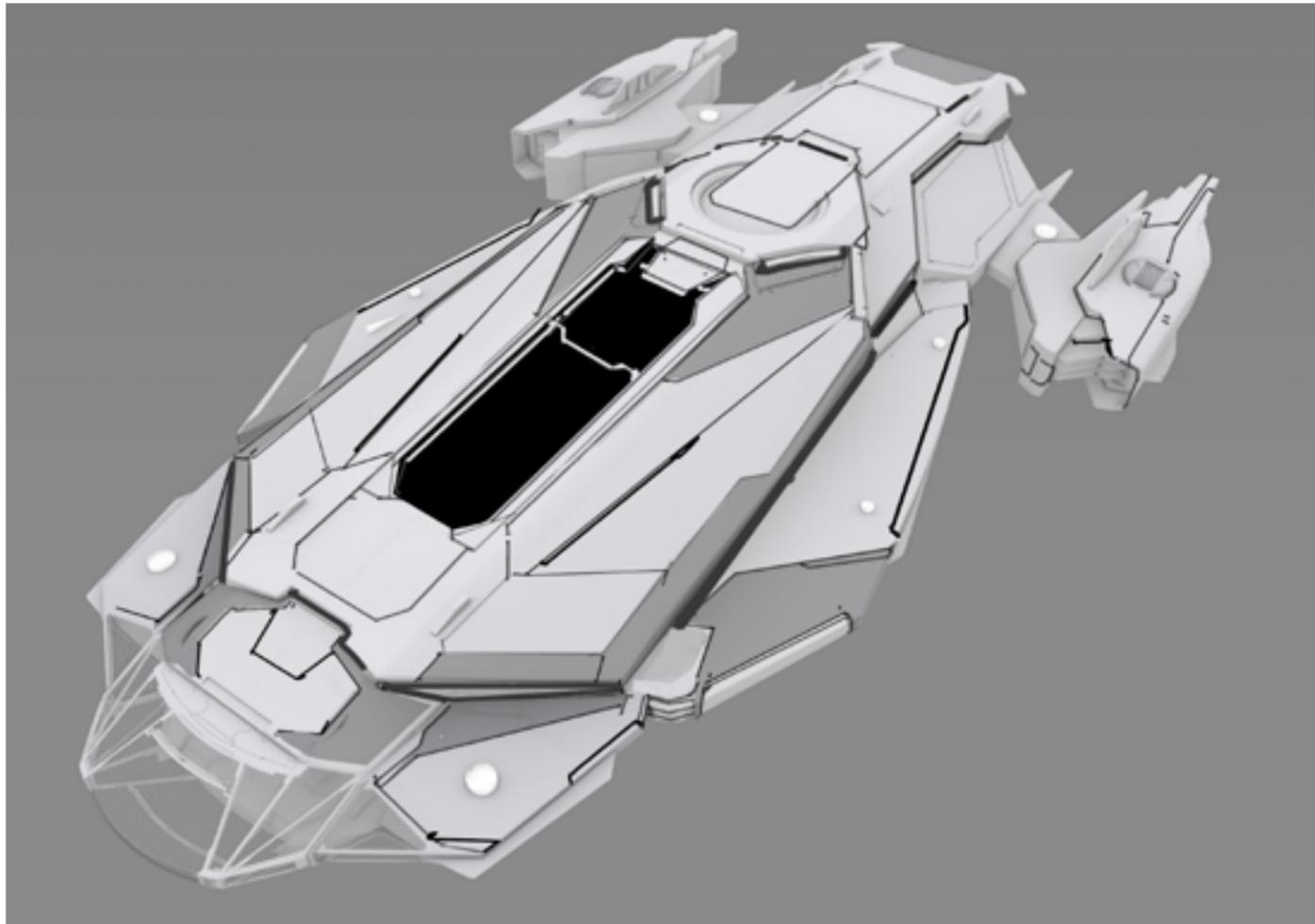
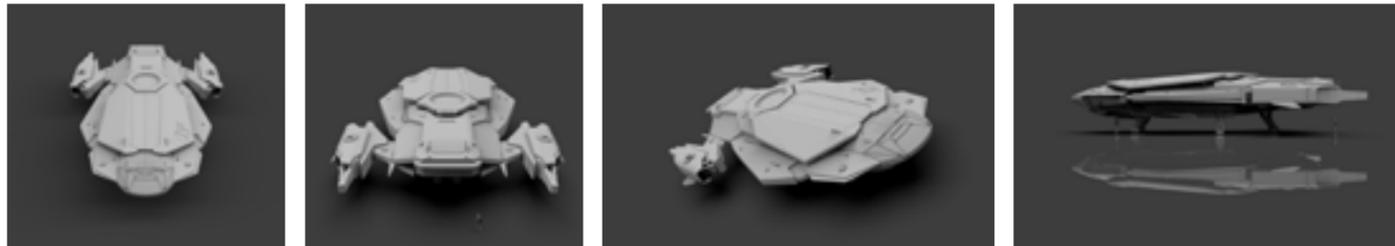


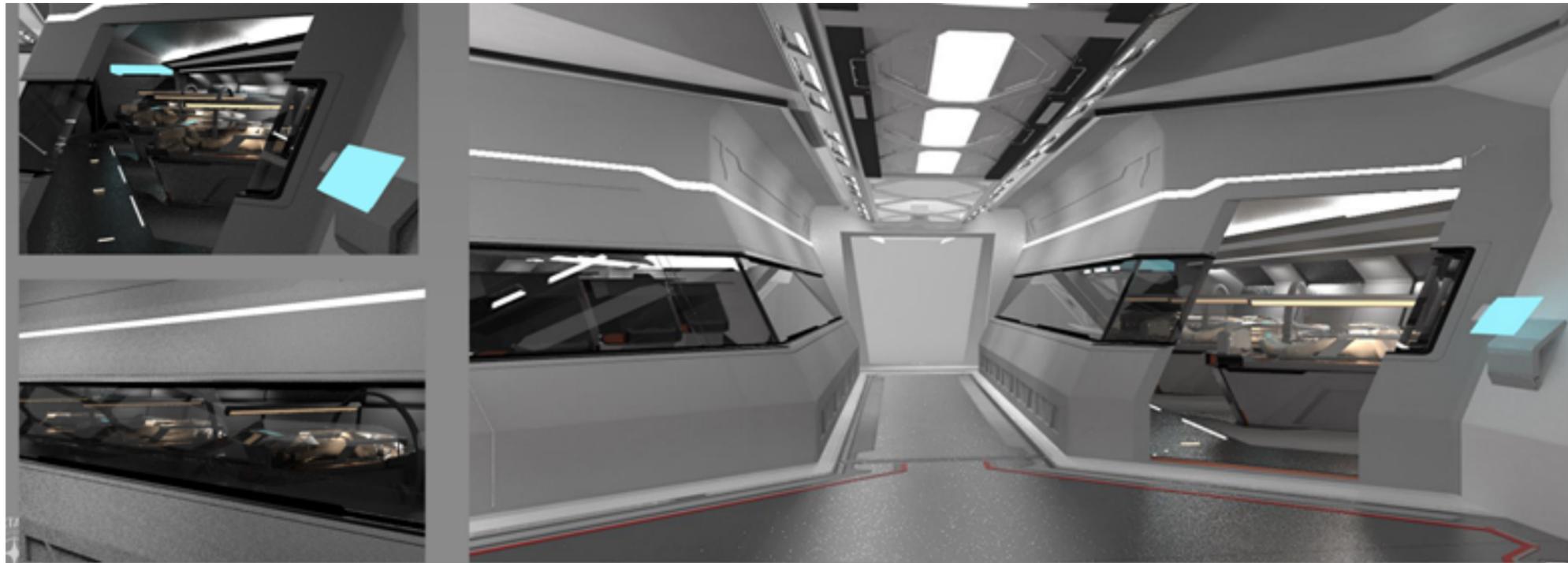
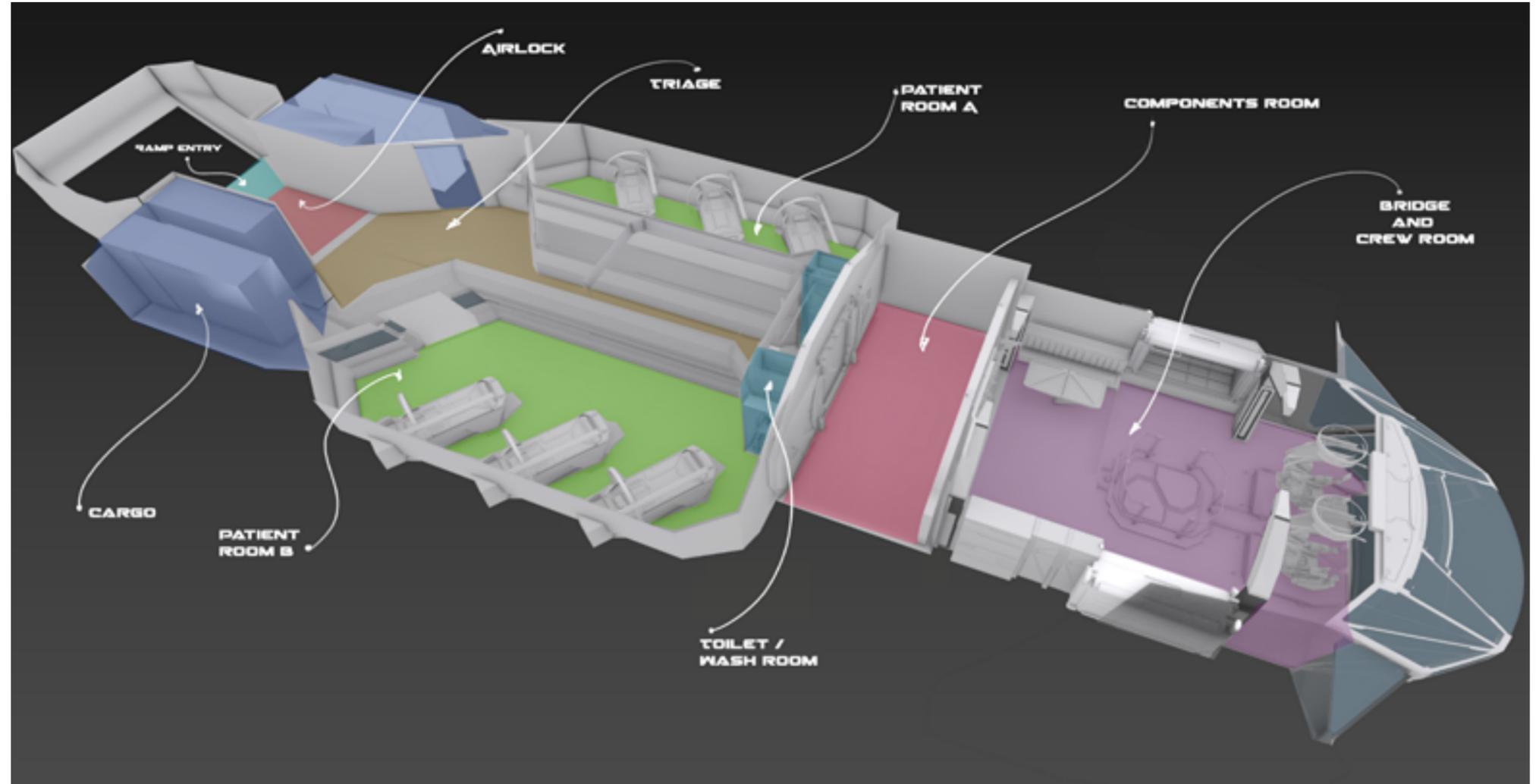
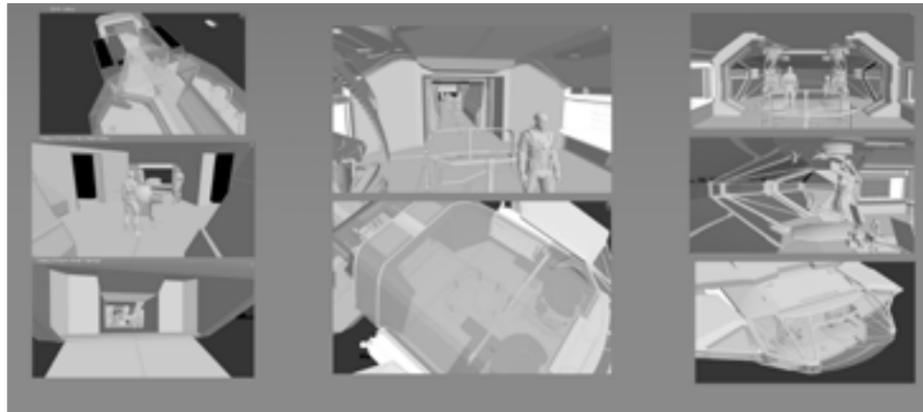
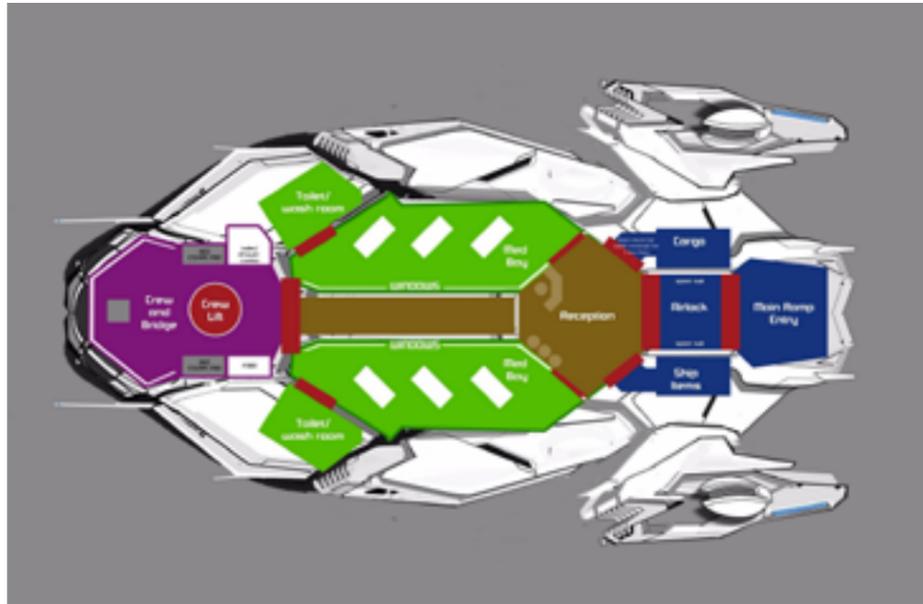
STARSHIP, HEAL THYSELF

With a new candidate, art director Paul Jones and concept artist Andrian Luchian were ready to present the ship's shape for another review. A last-minute pass updated interiors and thickened the Apollo's neck, allowing additional room for internal components that could be accessed during flight. At the first major review, Chris Roberts agreed that the Apollo's overall design was plenty RSI enough. Despite this, the review session revealed a host of smaller changes that were still needed, such as reworking of the overall internal space, updating the placement of the retro thrusters, and visual tweaks to the scanner to stop it from being mistaken as an airlock. The decision was to increase the amount of visible glass and to reduce the struts on the front. Chris specifically requested changes to the landing gear, feeling the initial version was too chunky and did not fit the theme. Focus to date had

been on the top of the ship and the underside still needed another pass. Jones effected a paint over himself, adding detail and nuance to the Apollo's lower elements.

Additional reviews approved the direction of the ship but left plenty to do. Luchian took a first pass at potential color schemes followed by a second from Jones who wanted a less 'gamey' and more 'filmic' look. The pair thought long and hard about how the ship's livery could reference its role. It wasn't as simple as simply making the ship red and white; different countries, Jones reasoned, had completely different ambulances and rescue vehicles. What would sell the idea universally? He presented several options and Roberts liked one above all others, with a second choice saved for a variant.

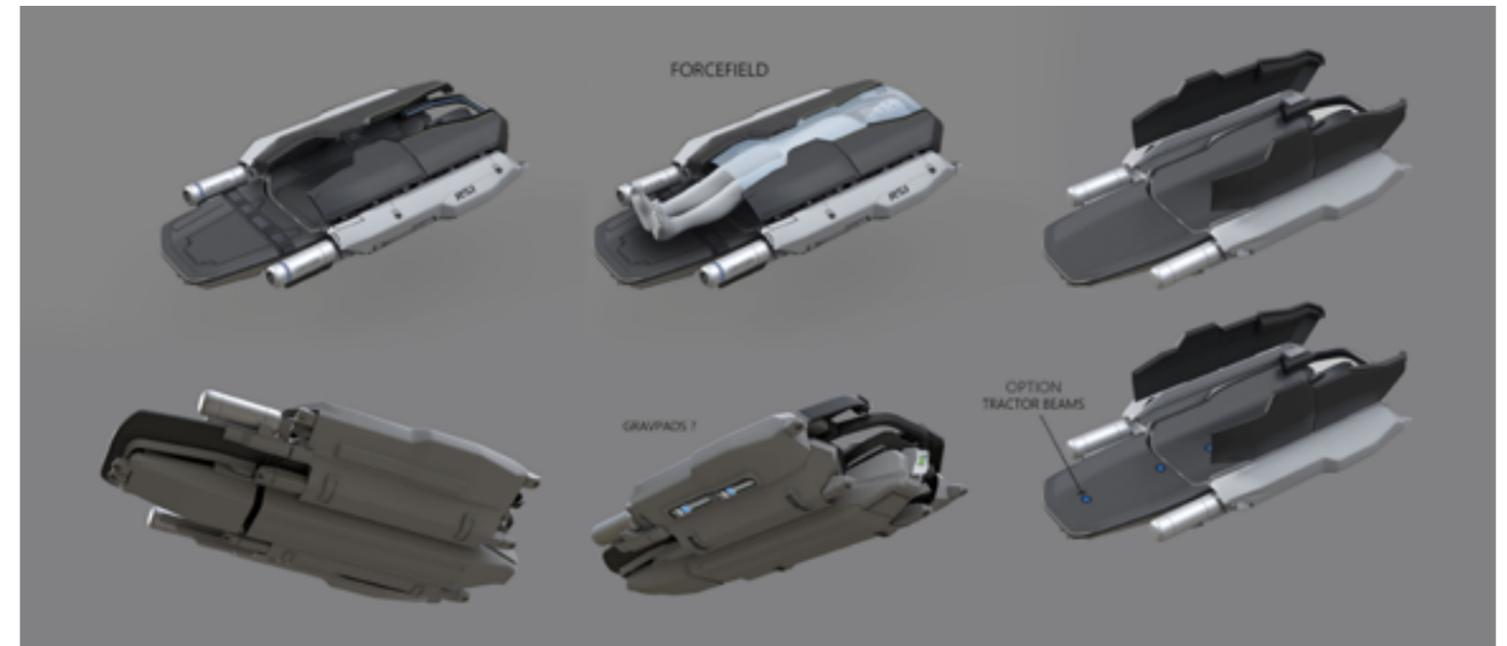
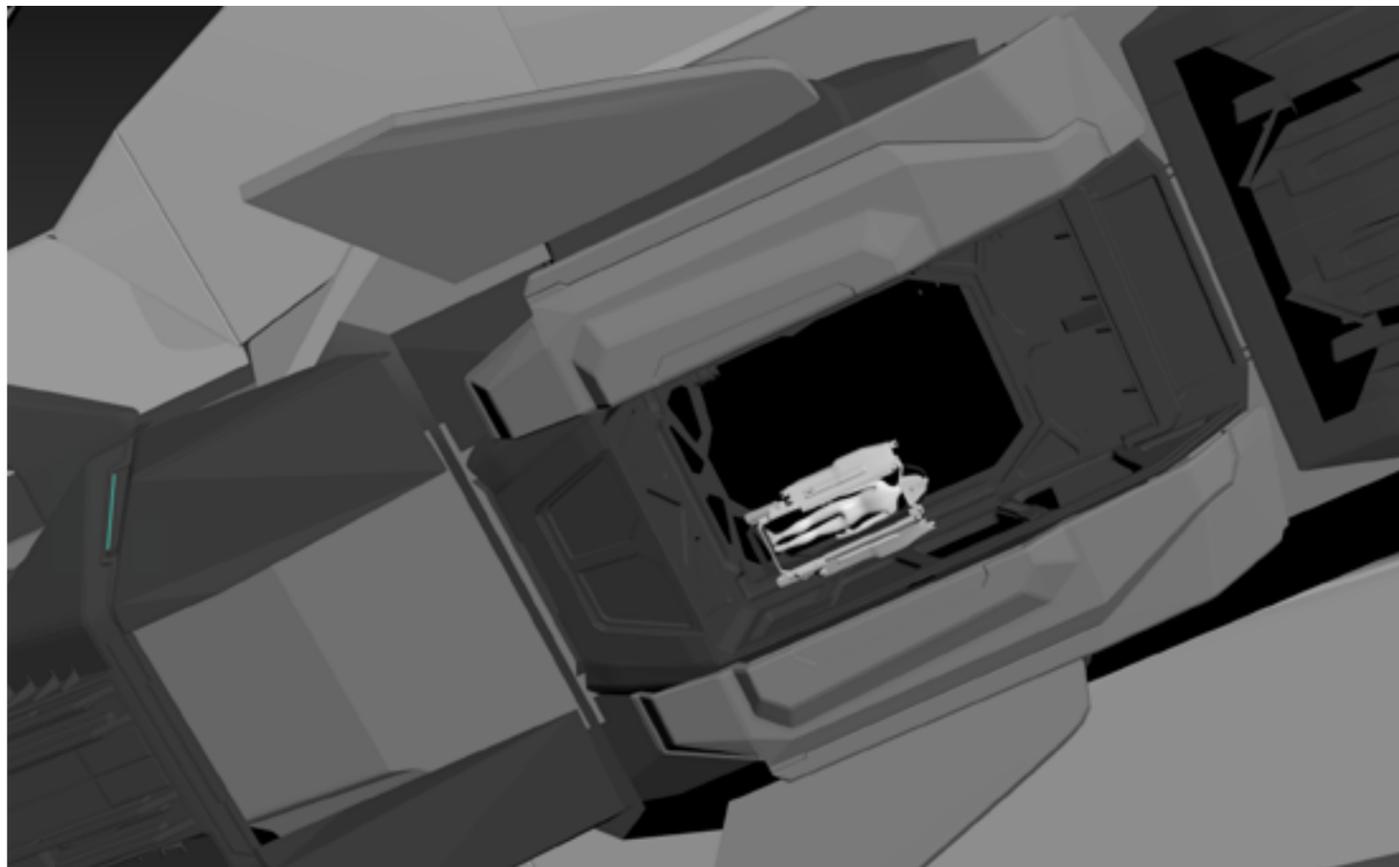




UNDER THE MICROSCOPE

Developing out the interior of the Apollo proved just as much of a challenge as building an exterior that 'felt' like an RSI ship. Art Director Paul Jones noted that the interior of any ship can be a challenge as you can lose a lot of time working on details and you need to be cognizant of how much impact the changes you make are having. To help reinforce the RSI-look of the interior, the team introduced some bulkheads and door shapes from the Constellation and borrowed some others from the Polaris (featuring slightly updated geometry from how they had been seen in the past).

Jones planned out the cross-section of the ship first, building out a plan for the interior in a single morning. He opted to keep some shapes that were RSI but to move a greater degree of the space to work out how a distinct medical ship's interior flow should work. The first round of fixes were predictable: the windows had too many struts, a lift was added for the crew, and more space was added to the neck for components. This space would increase when designers decided that components could fold back up into the hull as long as they were accessible to players when needed.



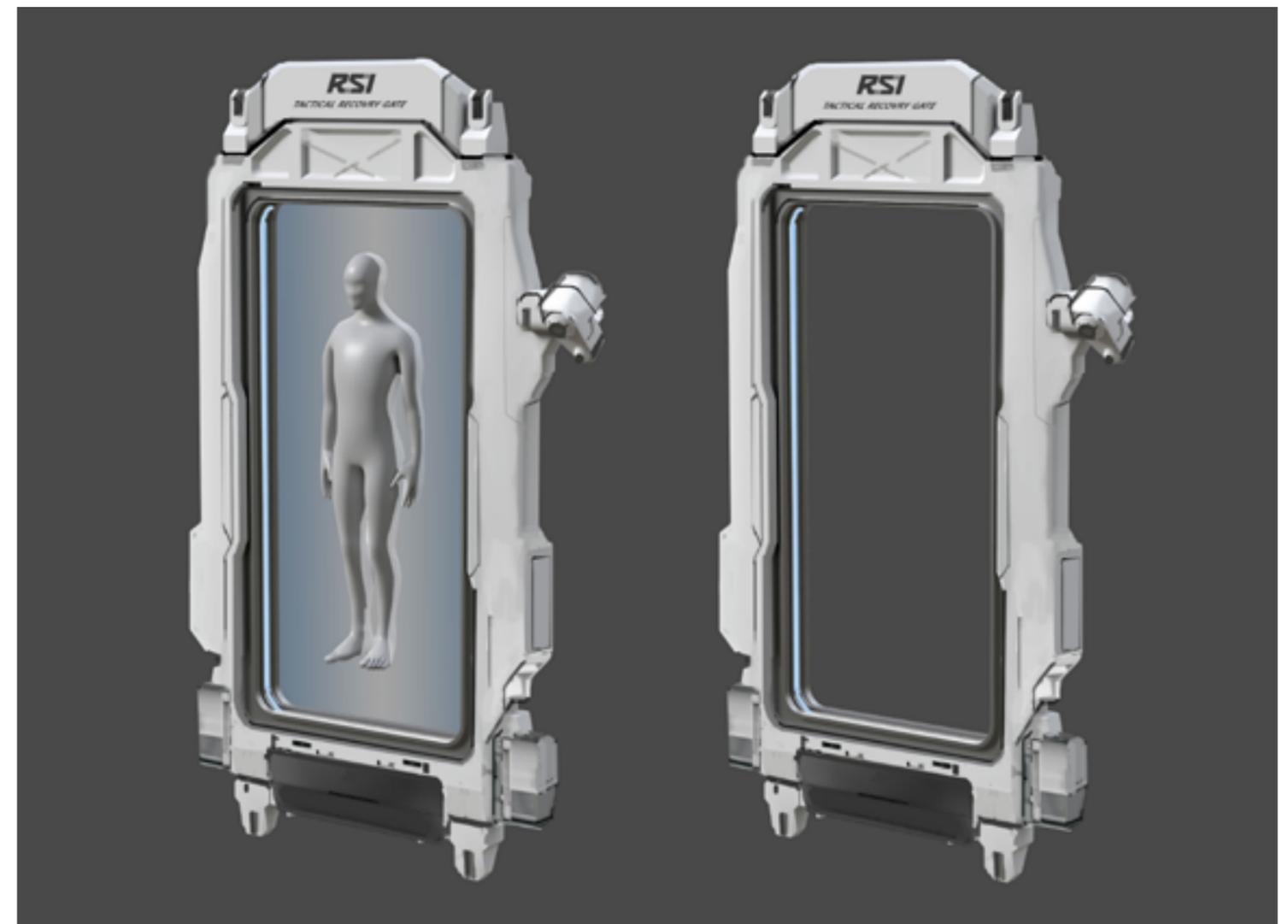
The next problem was more difficult to solve. Medical gameplay was still in the broad design stage, while the Apollo would need to display its interior and most importantly its beds immediately. Art and design made a special focus on these beds and developing ideas for how they should work.

The rough concept was that they should be a sort of 'autodoc', similar to those seen in films like *Elysium* and *Prometheus*. But how would patients go from ground or space to the beds and what would need to be seen or interactable as these beds were used?

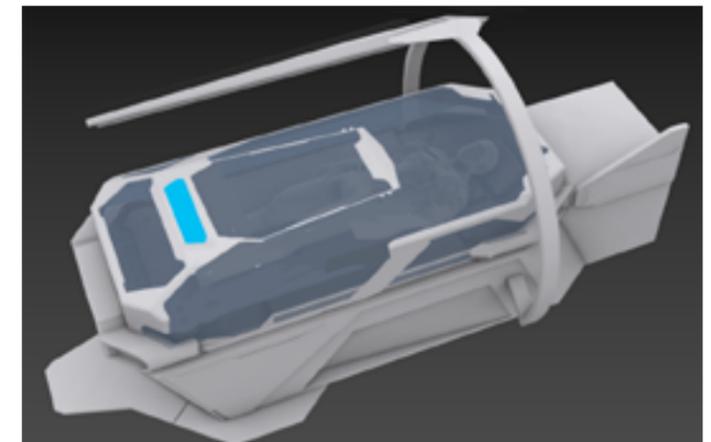
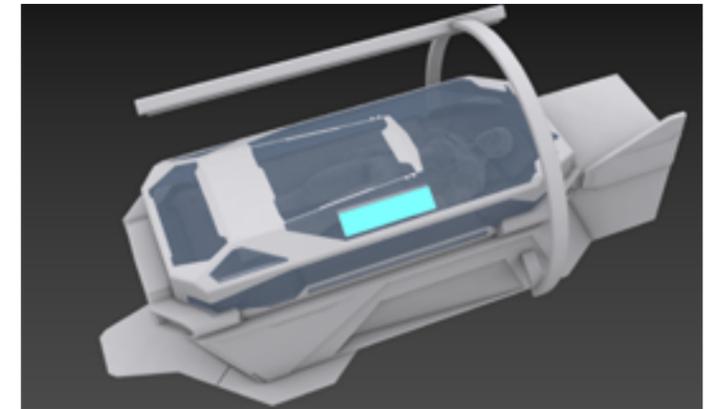
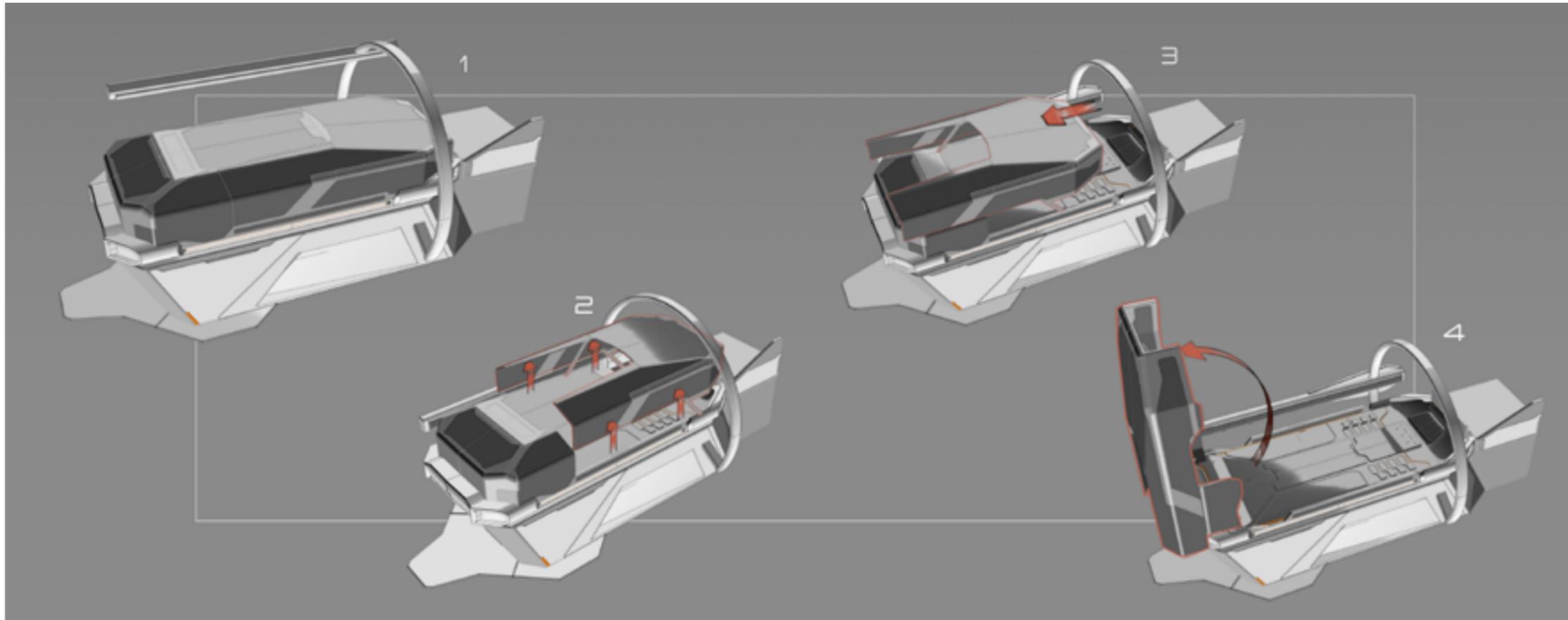
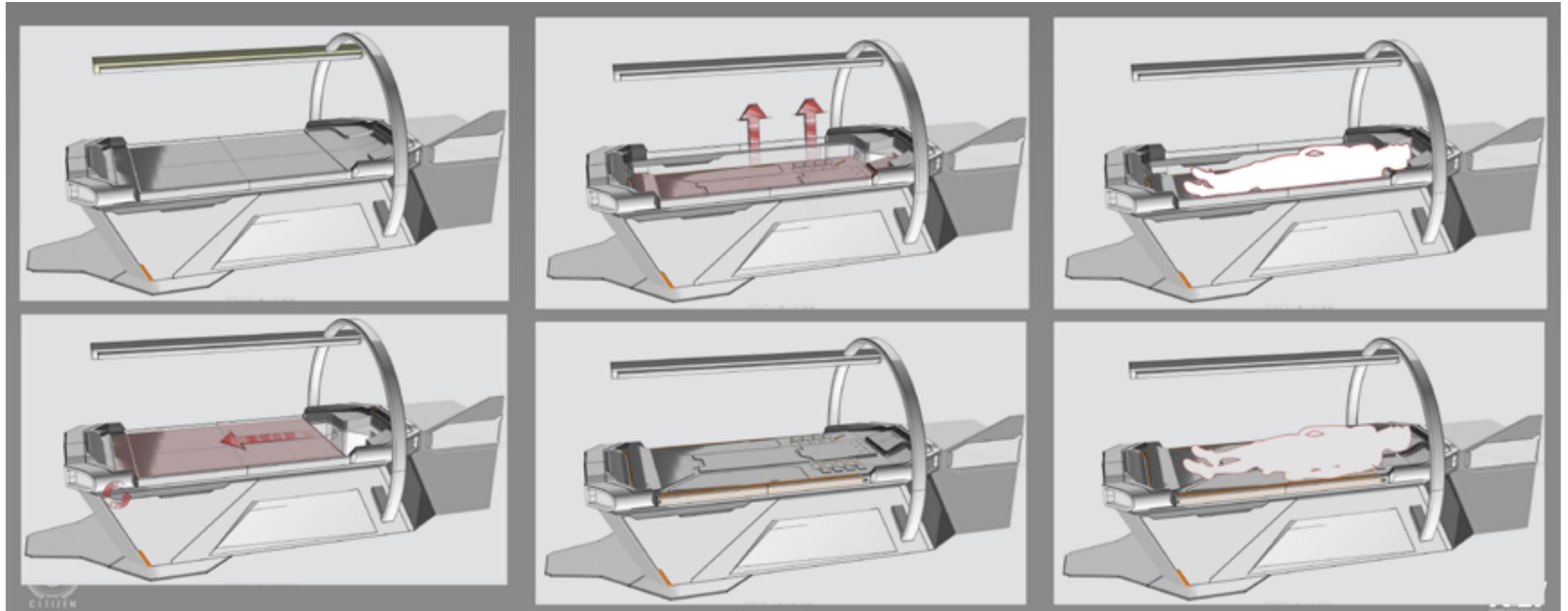
The ship gained a loading ramp and further bulk as various attempts were made to decide how patients could move from place to place. Lead designer Todd Papy stepped in around this time with improvements to the overall medical gameplay loop. The designers had determined they

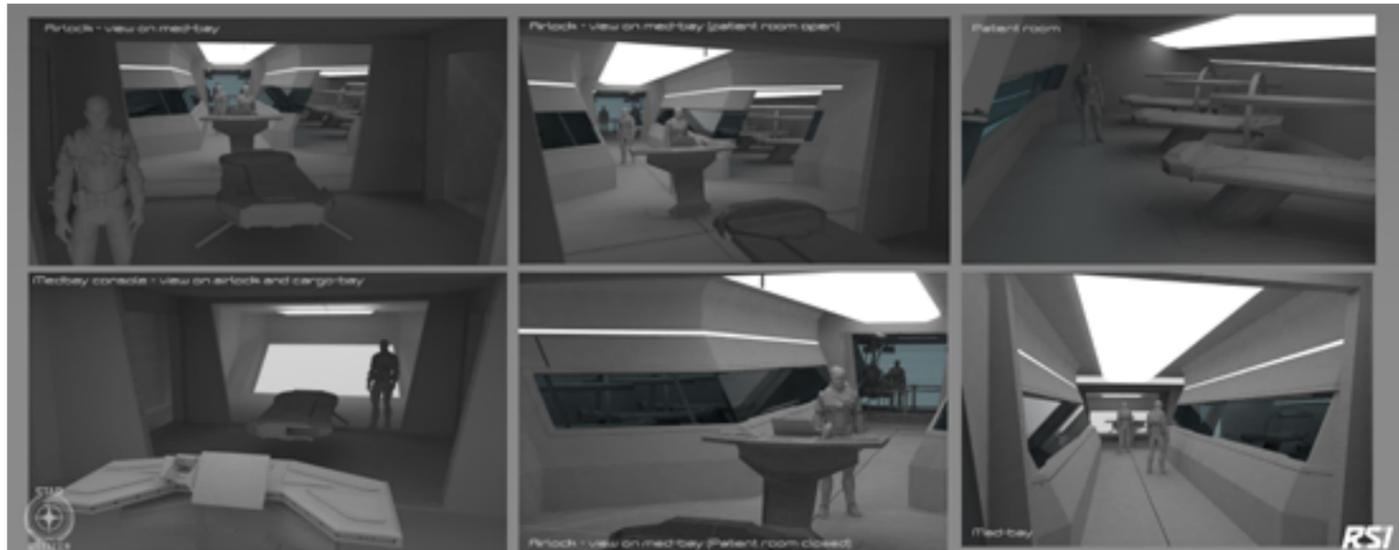
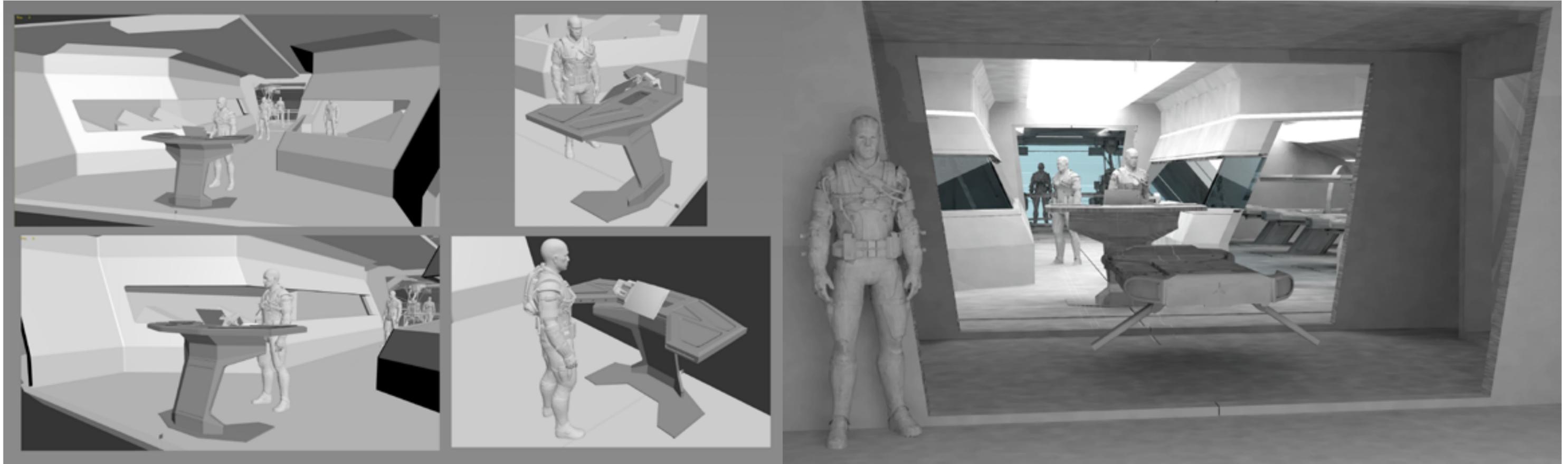
didn't want people just appearing in a bed and so there would need to be a process (with animations) for picking up and recovering patients and moving them into bed. Jones blocked out an additional lower opening for the ship with tractor beams capable of picking up an injured person. But this solution wasn't to be; during review, a mockup of the ship sucking up a patient was deemed a little too unusual, so additional time was blocked off to improve the transfer process.

Instead of a tractor beam bringing bodies directly into the ship, Design hit on the idea of using a drone to collect them. Alex Akstinas, fresh off the *Drake Vulture*, came on to assist with the development of a medical drone to enable the capture flow for patients rescued from space. He developed two different ideas and the review asked him to split the difference, using both elements in the final drone.



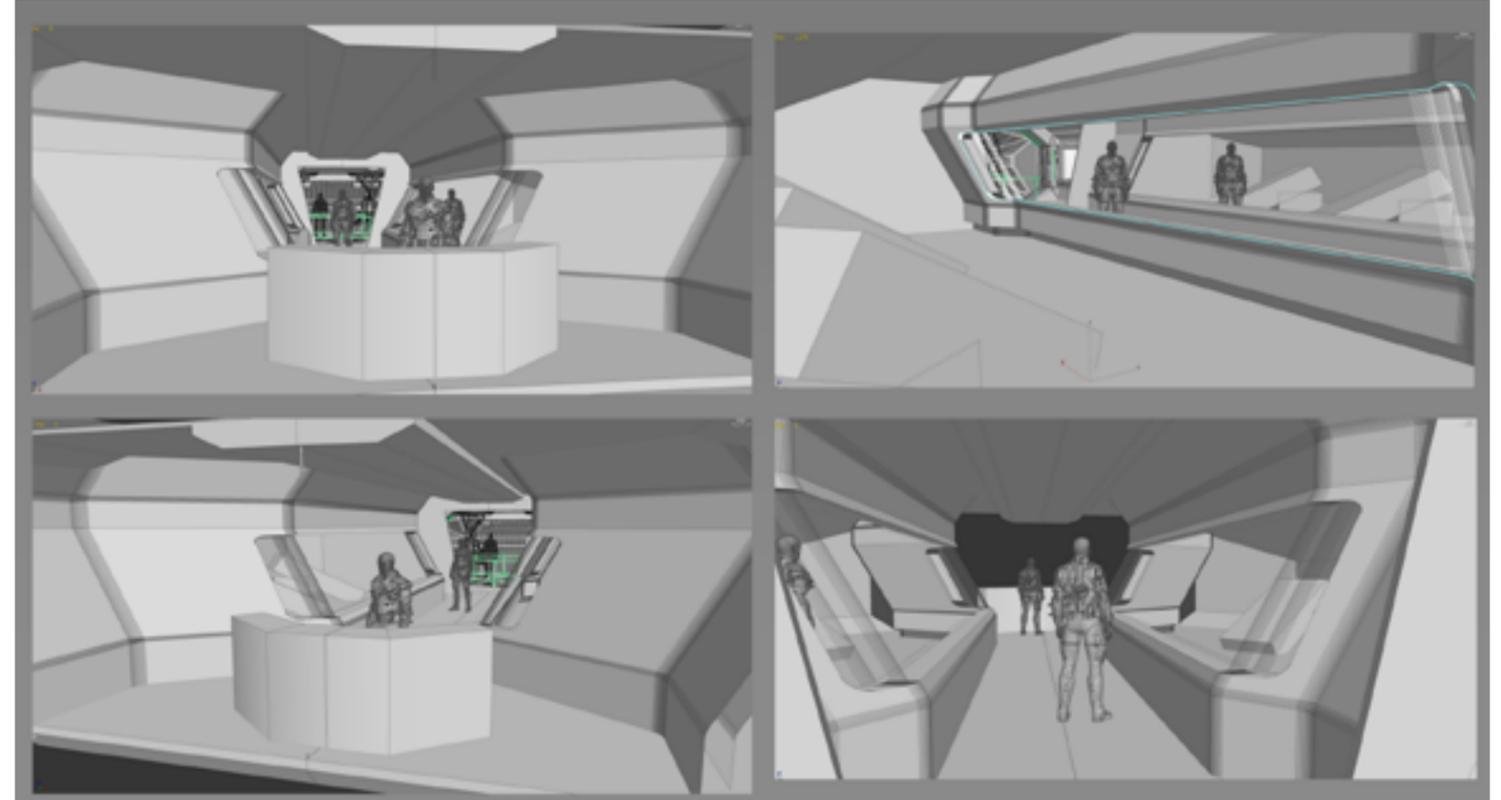
A series of changes were also made to the beds themselves. The first version had a solid base so they could move a patient up and down into the hull. Roberts felt this seemed like a reverse funeral and not the sense he wanted. A second pass added a cover to the bed with changing glass. When it isn't occupied the glass is opaque, covering the need for an animation that would move the player in and out. Shape refinement on the beds continued for some time (including plans for animating how the player gets in and out).





With the bed process finished, the ship grew a medium-sized scanner to the top with the potential to connect back to the medical gameplay. And then finally, a pop out bench seat, food machine, lockers, and relocated components were added to the ship as it prepared for lift off. The greatest debate of the interior process was the reception area. The first pass interior included a reception area as a sort of unknown. Hospitals and clinics have reception desks that serve as nerve centers

and so it seemed reasonable for a slightly larger hospital ship to do the same. But what was the gameplay for someone stationed at reception aboard an Apollo like? The debate raged on and the reception desk came and went with each new variation of the interior. In the end, a compromise was made and a terminal was added to give the same functionality without impeding the flow of gameplay. RIP reception desk, 2948.



WHO MARKETS ADONAIIS?

Part of the reason the schedule for the Apollo was so tight was that it was scheduled to have a real marketing blitz. In addition to the usual round of challenging concept promos from the ships team, the web and marketing teams would be assisting with an immersive set of tie-ins. On the ship side, Paul Jones and Andrian Luchian worked with technical animators to receive a set of carefully posed characters that would help promote the medical action aboard the ship. Jones worked on the previz and helped pose the character and Luchian finished out the shots with the level of detail expected of *Star Citizen*. With a tight schedule, some shuffling needed to happen as the team wasn't able to finish the interior for the holoviewer in time for the public presentation, with the full version scheduled a week after. Some minor physical changes, including a meter added to the cockpit area, weren't able to be reflected, either.

The ship team produced three key promo shots based around a simple outline:

- **FLIGHT:** Ship flying out of trouble, evidence of trouble on station, image is about the ship from the front, not the space station. Could be multiple. Maybe add a Connie in the background?
- **ACTION:** Ship stopped in zero G, drone picking up near lifeless body to take back to the ship. Clean SCIFI [look].
- **LANDED:** At a medical center landed looking out at ship being resupplied with medical equipment.

They settled in for variations and specific artwork of drones, medical equipment, and doctors that would help show off the Apollo lifestyle. On the lore side, the Narrative Team developed a concept built around the idea of *Astromedics*, a film inside the *Star Citizen* universe about medical crews performing daring space rescues. The team at Turbulent built out a web experience that presented the background material and also introduced a referential mini-game designed to help show off medicine in *Star Citizen*. The result was a presentation that shared the ship on all sorts of unexpected levels, better integrating itself into the history of the 'Verse.



RSI APOLLO RESOURCES:

SHIP PAGE:

<https://robertsspaceindustries.com/pledge/ships/rsi-apollo/Apollo-Triage>

CONCEPT PRESENTATION:

<https://robertsspaceindustries.com/comm-link/transmission/16672-Apollo-To-The-Rescue>

Q&A:

<https://robertsspaceindustries.com/comm-link/engineering/16705-Q-A-RSI-Apollo>

SHIP SHAPE:

<https://robertsspaceindustries.com/comm-link/transmission/16683-Ship-Shape>



TUMBRIL CYCLONE - DEVELOPMENT HISTORY

Tumbril Land Systems was incorporated in 2536 on Saisei with the specific goal of producing exploratory ground vehicles to assist with humanity's burgeoning stellar expansion. The company's founders, Kavya Crosby and Aaron Douze, were lifelong homesteaders financed by the University of Saisei who believed that recent attempts to apply hover (HOV) technology to exploratory ground vehicles were the wrong tact. Their project took the slogan 'Tough, Fast, Durable' as the set of watchwords for creating their first wheeled design, the 'DX20.'

The initial version of the DX20 was developed by Crosby and Douze. The specifications for the vehicle were planned in record time with a bespoke prototype following quickly. The DX20 was designed specifically to traverse the extreme environments of Yar's Red Desert and intended to be capable of traversing environments ranging from sub-zero ice worlds to low marshes on aquatic planets. The pair spent years testing prototype after prototype 'in the wild', in order to build a true 'rough and tumble' craft.

The DX20 became available on the open market in 2537, following deliveries to initial investors late in the previous year. Initial sales were unremarkable but the DX20 proved itself popular among outbound colonial concerns, with end users praising the vehicle's ability to traverse extreme environments and its relatively simple maintenance requirements. The design team, it seemed, had delivered exactly what they had promised: a tough, fast, and durable all-terrain vehicle. While sales remained low, Tumbril itself seemed to be earning a reputation as a quality supplier of frontier-capable goods. The DX20 seemed briefly set to be another symbolic vehicle of Humanity's peaceful expansion into the stars.

The DX20 would not, however, go down in history as a revered explorer. Current events quickly caught up with Tumbril, namely the beginning of the First Tevarin War. With the coming of the war, the shape and tenor of the UPE changed overnight, with investment in colonization efforts ceasing immediately and with designers and manufacturers around the known galaxy being recruited to adapt their machines and factories for the war effort. Desperate to outfit their expeditionary forces for the first major interspecies war, the UPE Army turned to Tumbril to convert the DX20 into a tough, fast, and durable weapon of war. The DX20 design team set upon

SERVICE HISTORY



the task immediately and quickly turned out the first military version of the vehicle, formally named the Cyclone by the UPEA.

The vehicle's first moment of glory occurred in early 2543 during fighting that would later be named the First Battle of the Argon Chain. A hastily equipped UPE Army unit operating armed Cyclones found themselves with the high ground to overtake a significantly stronger Tevarin tank division. Colonel A.J. Krate, who would be awarded the Medal of Honor for his actions, devised a strategy that allowed his limited forces to destroy or capture the entire enemy complement. Krate ordered a third of his Cyclones to the left and right flanks alongside the Argon range, making sure that they took care to make their position easily visible to the enemy. Meanwhile, he positioned another contingent of Cyclones armed with rockets along the ridge itself, allowing them to act as makeshift artillery firing into the divided Tevarin forces in the valley below. His third group of Cyclones remained camouflaged directly in the center of the battlefield, springing them and the rocket support only after the Tevarin seemed to believe they were assured victory. With one signal, Krate sprang the trap and engaged the Tevarin tanks in a close range, head-on battle. There, the handling of the Cyclone proved vital. While Tevarin tanks had trouble targeting at such close range, the Cyclones were able to maneuver through and around them during three hours of intense, almost face-to-face fighting. The battle was closely recorded by a group of embedded reporters and the outcome made for a major propaganda victory. Additionally, several Tevarin tanks were captured

whole, allowing essential research into enemy weapons which helped turn the tide during the early days of the war.

For the rest of the war, Cyclones were everywhere. They served in every impacted system and heavily behind the lines. The UPE government bought additional allotments of them by the tens of thousands, with production by the war's end encompassing 27 factories together capable of completing a Cyclone somewhere every 35 seconds.

In the years after the war, Tumbril divided their corporate energies between attempting to recapture the explorer market and to continuing to satisfy lucrative government contracts. The former proved to be something of a victim of the latter, as countless Cyclones produced for the war effort were now available on the open market as surplus equipment, reducing the overall need for newly-built explorer models. As time went on, Tumbril became fully reliant on government contracts and extended a great deal of effort attempting to capture the Cyclone's success with more complex weaponry. While the company went on to create HOV weapon barges, tanks, artillery platforms, and other familiar weaponry for the Messer government, none proved as successful or emblematic as the Cyclone.

In the public sphere, the reputation of the Cyclone flourished. The ready availability of countless surplus vehicles, many never used in combat, meant that even the most cost-conscious homesteaders often had a



Cyclone parked outside their prefab. The secondary market for parts and upgrade components flourished, while Tumbrial Land Systems itself suffered alongside other military contractors of the era. Their one saving grace was that the nimble Cyclone itself never became strongly associated with the Messer regime. By the time it fell, the Cyclone was seen as an heroic veteran of a more noble war rather than a tool of oppression. A famous holograph showing a squad of Cyclones blockading outside Linton Messer XI's palace also reinforced the idea that the design belonged to the people.

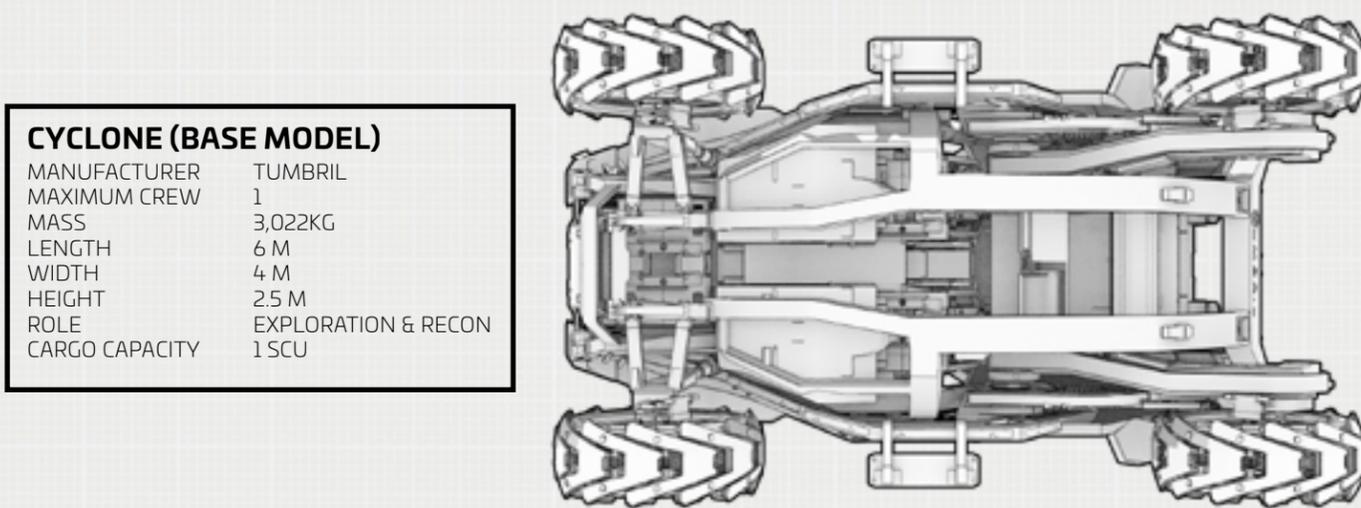
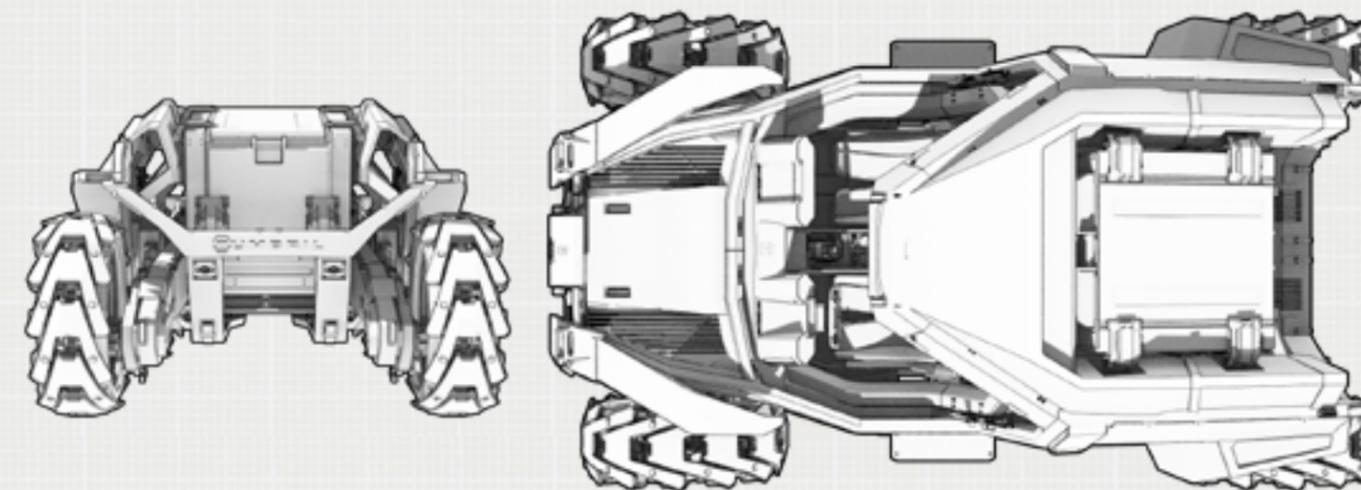
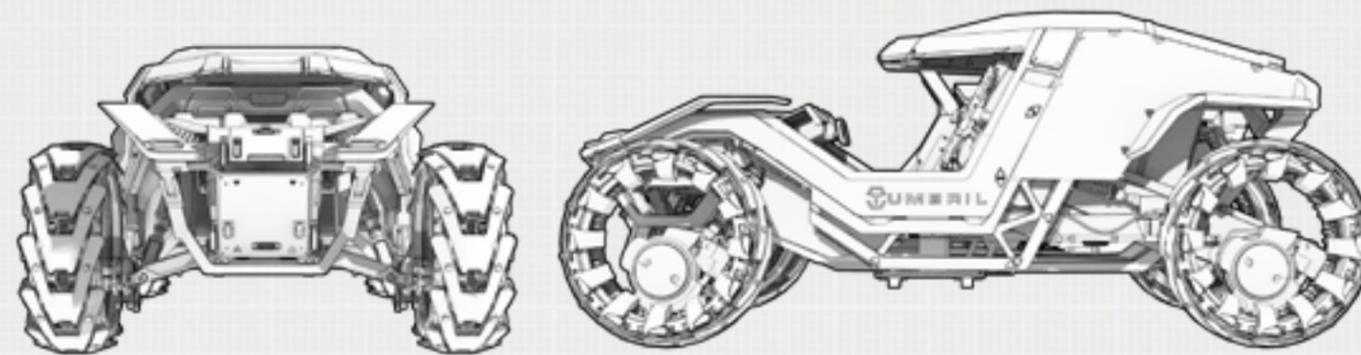
In 2862, Tumbrial Land Systems shut down following a decline in interest in military vehicles. The company's assets were sold off, with factories being converted to build spacecraft for companies like Argo and MISC. Intellectual property, including the overall design and mark of the Cyclone, was sold to a consortium of small-scale buyers as part of the bankruptcy process. The Cyclone story should have ended here... but it didn't. In 2946, a joint venture by DevCo CEO Terrence Naban and a series of smaller investors surprised the Empire by announcing that they were bringing the Cyclone back, once again under the Tumbrial branding. A small design team had spent four years modernizing the original DX20 with 30th century components, once again aiming to equip explorers with a reliable and iconic vehicle. There was also the familiar aim to secure lucrative government contracts to build weaponry for the increasingly large Vanduul conflict. Modern Cyclone factories were opened at Centauri, Terra, and Ellis with other locations already locked down for expected expansion.

Tumbrial currently produces five distinct civilian variants of the Cyclone in addition to a military-only model built for the United Empire of Earth armed forces. The civilian models are based largely on aftermarket upgrades used

by frontiersmen in the 28th century. They are:

- **Cyclone:** the base model. Almost identical to the military model aside from the removal of some armored plating and classified control surfaces.
- **Cyclone-AA:** the anti-aircraft model. The AA is armed with surface to air missiles and a set of countermeasures. It's a nod to the makeshift artillery version used at the Argon Chain, though it is nominally equipped for light air defense rather than ground strikes.
- **Cyclone-RC:** the racing model. The RC is stripped down and has been given a modified intake system to improve speed and handling. It's an attempt to modernize the sport of buggy racing, popular among colonists on distant worlds without access to more organized entertainment.
- **Cyclone-RN:** the light reconnaissance model. It's intended for prospectors and other explorers who need access to fast and detailed in-person scans. It's armed with additional sensors and is configured for beacon deployment.
- **Cyclone-TR:** the 'heavy' of the group. The Cyclone-TR includes upgraded armor and a civilianized human-controlled turret that can mount a small gun. The TR is primarily sold to frontier worlds facing the threat of Vanduul raids.

Today, the Cyclone is the best-selling wheeled vehicle in the galaxy, surpassing even the ubiquitous Greycat. The new Tumbrial Land Systems is clearly ascendant, despite following in the footsteps of their predecessor and aiming for additional military contracts with the revived Nova tank. The company has stated that they intend to produce additional civilian variants of the Cyclone should the need arise, with badged updated versions of the existing range on a yearly basis.



CYCLONE (BASE MODEL)	
MANUFACTURER	TUMBRIL
MAXIMUM CREW	1
MASS	3,022KG
LENGTH	6 M
WIDTH	4 M
HEIGHT	2.5 M
ROLE	EXPLORATION & RECON
CARGO CAPACITY	1 SCU



WHERE IN THE 'VERSE?

Every month, we post a close-up image of something in the universe. All you need to do is tell us where you think it was taken.

Ben@cloudimperiumgames.com

We'll reveal the answer next month, and share some of the best responses we received. This month's image is courtesy of Ray Warner, our Assistant QA Manager in the UK. Where in the 'Verse did he find it?



Ray also gave us last month's image. But Where in the 'Verse did he find it?

Our winner this month is *Lieutenant_Foxx*, who correctly identified the image thanks to this memory:

BEGIN TRANSMISSION →
As soon as I saw this month's 'Where In The Verse', I instantly remembered exploring the Cry Astro stations back in version 2.6.3 with some friends. There was something about this very early idea about being able to visit and explore space stations throughout this massive game universe that was just so cool to see, even on Cry Astro.
END TRANSMISSION ←

Congrats, *Lieutenant_Foxx*!
You get this month's coveted Jump Point no-prize.
Credit also to *Matthew Seurig* who also submitted the correct answer. Thanks for playing!
Please remember to send us a screenshot of what you find, so that I can give partial credit if what you've found is close to the actual image.

ONE QUESTION

We asked the CIG staff to answer one question for us this month. Here's what they had to say.

WHAT'S YOUR FAVORITE SCIENCE FICTION ALIEN RACE?

SIMON BULMER, GAME SUPPORT SPECIALIST

I really like the 'Minds' in the Culture series of books by Iain M Banks. These are the super-intelligent AIs that run the many spaceships in the universe. The larger of these ships have populations in the billions and can be used to relocate entire civilizations. The Minds choose their own name, for instance 'Nervous Energy' or 'All The Same, I Saw It First'. They can alter their internal spaces in many fantastic ways, for instance if a citizen living aboard the ship wishes for an ocean view, the Mind running the ship could decide to create a hologram, or even an actual ocean for them. The Minds have their own personalities and quirks and I believe they make the universe what it is.

DAVID PENG, SR. ANIMATOR

The Thermian alien race.

ADAM PARKER, SYSTEM DESIGNER

My favourite alien race has to be the Orkz from Warhammer 40,000. Think Mad Max in space, but with giant angry green gorillas that are super hard to kill because they're part fungus. They can cobble all sorts of scrap together into weapons, vehicles, even spaceships because they're all slightly psychic; if enough of them believe something to be true, it actually starts to happen. The best example is that Ork vehicles painted red go faster than other vehicles, because all Orkz know that red things go faster! Orkz are great because, in the midst of the 41st millennium where there is only war and it's grim and dark all the time, the Orkz are just messin' around and havin' fun. Waaagh!

JOSH VAN ZUYLEN, SENIOR ENVIRONMENT ARTIST

One of my most favourite alien races is the Forerunners from the Halo universe. Much of my childhood was spent playing the Halo games and reading some of the books later on as well. They always inspired an awesome sense of wonder over the worlds and machines they constructed. I remember sitting down and playing Halo for hours and hours, walking around enemy-less environments, being inspired and lost in amazement as I tried to decrypt the monolithic wonders that lay before me. The incredibly rich lore of the dominant galactic race and their downfall hinted throughout the games and detailed in the books is fascinating. The Halo universe is what convinced me to pursue a life as an artist, to create these incredible worlds and stories. It still heavily influences the way I create my art to this day. I hope I can create in at least some people the feeling I had when playing halo for the first time.

ANDREAS JOHANSSON, LEAD LEVEL DESIGNER

I'd say that I'd have to choose the Moties from the CoDominium series by Larry Niven and Jerry Pournelle. These are a properly 'alien' aliens with an interesting history and backstory. The books are well worth reading just for the chance of getting to know a new alien race through First Contact.

JAMES BALLANTYNE, UK LEAD TESTER

Completely out of left field, I'm sure, but my favourite alien race comes from the sci-fi/horror film, Killer Klowns from Outer Space. I love their designs, the practical effects that went into creating them and all the fun high-tech circus themed

weaponry they employ in capturing humans. Also, the film's climax where Jojo the Klownzilla is unleashed upon our heroes is a real treat.

TOLU WINJOBI, JUNIOR FINANCE ASSISTANT

It's a tossup between the Daleks from Doctor Who as they never die and seem to always come back stronger and better (if I remember correctly), and the weeping angels, again from Doctor Who. Not sure if they count as an alien race though as they are just statues. But after watching that episode, I was a tad bit scared around gargoyles. So, between the Daleks and the Weeping Angels.

STEVEN KAM, JUNIOR COUNSEL

The Spathi and the Ur-Quan from the Ur-Quan Masters (if you associate by content) or Star Control 1 and 2 (if you associate by trademark/branding). Much beloved runners-up from other properties and franchises include the Q from Star Trek (but really, mostly and specifically John de Lancie's Q, as opposed to the entirety of the Continuum), the Hiigarans and the Bentusi from Homeworld, and the Protoss from StarCraft.

CHRISTIAN A.W. SCHMITT, GAME SUPPORT AGENT

Alien Xenomorph.

WILL WEISSBAUM, LEAD WRITER

The Q Continuum! Who doesn't like omnipotent, all-powerful tricksters?

JON HAYTER, SR. UI DESIGNER.

In Peter F Hamilton's Commonwealth Saga, a race known as the Primes is introduced in perhaps one of most chilling chapters I've read in science fiction. Unlike many sci-fi alien species, the Primes feel uniquely alien. Several chapters take place from the perspective of MorningLightMountain, an immotile Prime. Immotile Primes are stationary creatures, that extend their will through servitors called Motiles, via some form of organic wireless communication. Hamilton successfully describes their unique evolutionary path, which brings MorningLightMountain from a progenitor role, up to the position of antagonist in the series. No other writing has made me feel quite as uncomfortable as Hamilton's chapter from the perspective of MorningLightMountain, as it encounters its first Human and proceeds to investigate him thoroughly.

MICHAEL DALSTON, LIVE DESIGN QA TESTER

The Saiyans from Dragonball. Whilst humanoid in appearance, they are a proud warrior race that can transform into giant apes of destruction, very much like myself if I don't get my morning coffee.

SCOTT HOLLAND, ACCOUNTING DIRECTOR

Orkan - Mork from Ork

Do you have one question you want to ask the staff?
Send it to Ben@cloudimperiumgames.com and we might choose your question for next issue.