

# JUMP POINT

ISSUE: 09 10



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## FROM THE COCKPIT

### GREETINGS, CITIZENS!

I'll just come right out and say it, that was an impressive CitizenCon presentation! I know a lot of folks worked extremely hard to get the spirit of our annual celebration across without being able to host backers in person and I think they succeeded so well. In honor of the event, we're taking a look back at the history of the event and sharing some memories of CitizenCons long past. I know developers and players alike are looking forward to a future October when we can all be together in person again, so I thought it would be nice to remember some of those happy times, in addition to celebrating what an accomplishment this year's virtual event was. (I mean, does anyone remember our early spit-and-glue livestreams? How far we've come!)

I will always have such fond memories of the very first CitizenCon, which we held back in 2013 in Austin. It was just such a magic night where we all saw the future of the project, from the brilliant Hornet commercial to the giant announcement that Foundry 42 would be joining us and opening a Manchester studio. Looking back, CIG's original basement office has long been replaced, the theater where we gave the presentation has since closed... but *Star Citizen* is so much more than I think anyone had even hoped at the time.

One of the exciting things for me this CitizenCon is that I was able to avoid some spoilers before the show happened. Specifically, I managed to avoid seeing the Origin 400i until it was unveiled to the world, which was a real treat. There's always that temptation to check in with the teams and see what they're working on, but I managed to hold off on this one! So, it was exciting to see what seemed like a smaller 890 Jump... and then I interviewed Paul Jones for our 400 series

feature story and learned that the 890 wasn't even a major reference in putting the ship together! Purely a case of all the work that went into establishing an Origin aesthetic working the way it was intended!

On the lore side of things, we're looking at the history of the Anvil Hurricane in a new Whitley's Guide. I chose the Hurricane this time around simply because it's a ship I don't ever find myself thinking about... but it has such a fascinating heritage, both its design (as a classic turret fighter) and in *Star Citizen's* lore, representing the tactics of the earlier Tevarin War. We've also got an excellent portfolio that covers Cousin Crow's Custom Crafts, giving an intricate history to the company behind a storefront that those of you exploring the Stanton system are already familiar with.

Finally, last month I highlighted some of the folks who help make **Jump Point** a reality and for October I wanted to add to that list by highlighting Marketing Producer Dan Houbrick, who has taken responsibility for making sure everything in the magazine comes together correctly. Whether he's helping me reach out to remote teams or tracking all the assets that need to go into each issue, he has been essential to **Jump Point**. I always threaten that someday we'll do a 'Behind the Screens' issue where we show how we put together an issue... and each time I think about it, it's a little less of a joke. Someday!

With that, have a happy Halloween and an appropriately autumnal November and I'll see you across the next **Jump Point!**

Ben

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# CITIZENCON<sup>®</sup>



## RETROSPECTIVE

2943 - PRESENT

*Star Citizen* was first revealed to the public on October 10, 2012, a date that is burned into the memories of many of the players who have supported the project from the very start. October 10 was quickly recognized as the project's 'birthday' and was celebrated as such just one year later with the very first, comparatively small, CitizenCon in Austin, Texas. Today, CitizenCons are full-day events attended by thousands of backers

full of keynotes, panels, booths, floor activities, and more. We couldn't celebrate CitizenCon in 2020 because of the global pandemic but we're thrilled to have been able to hold a virtual version this past month and are looking forward to seeing everyone in person in the future. In honor of CitizenCon 2951, we thought it would be interesting to go back through the event's history and see how far *Star Citizen* has come!

## CITIZENCON 2943

DATELINE: AUSTIN, TEXAS, USA  
OCTOBER 10, 2013

From the very start of the project, CIG co-founder Sandi Gardiner was particularly interested in in-person events that would help celebrate both the game and the backers who had made the crowdfunding campaign such a historic success. The result of her effort was the very first CitizenCon, a much smaller event than those put on today but one that perfectly captured the project's never-say-impossible spirit. CitizenCon 2943 was held at the now defunct Alamo Drafthouse Ritz on 6th Street in Austin. Most of the seats in the theater went to the project's developers, but a limited number were made available to backers who made the event all the more exciting. The evening's excitement began with a keynote presentation by Chris Roberts that reviewed everything the team had done to date and looked forward to the upcoming Dogfighting Module that would launch *Star Citizen's* first space combat. The Anvil Hornet commercial thrilled the crowd like little else could, again offering a new standard for the game world's fidelity. Then came the big announcement: Erin Roberts and a number of other developers would be joining the project to form Foundry 42. With veterans from the Privateer 2 and StarLancer days joining the adventure, anything seemed possible! The presentation was followed by a screening of Wing Commander and an after-party at a nearby flight-themed nightclub.



## CITIZENCON 2945

DATELINE: MANCHESTER, ENGLAND UK  
OCTOBER 10, 2015

CitizenCon goes international! At the very outset, Chris Roberts wanted to make sure that CitizenCons would float between the different home cities of CIG. This would allow better opportunities for more backers from around the world to take part and let the different development teams experience the excitement of the community and the event. The first European CitizenCon was held at a very unusual venue: the Runway Visitor Park at Manchester Airport. Why? Because it was a cool event space that would allow hundreds of *Star Citizen* supporters to gather right beneath actual aircraft. (Aircraft which some in the press even confused for purpose-built *Star Citizen* models. If only they knew what was to come!) The 2015 presentation included a wide array of reveals and updates, including the first look at the ARK Starmap and Admiral Bishop's (Gary Oldman) speech from *Squadron 42*. *Star Citizen* Alpha 2.0 was presented live for the first time and a variety of interviews covered everything from the *Squadron 42* cast to the team building the game's facial animation technology. The event featured more in-person attendees than ever before and was streamed live to those who couldn't make the trip.



## CITIZENCON 2944

DATELINE: LOS ANGELES, CALIFORNIA, USA  
OCTOBER 10, 2014

For *Star Citizen's* second birthday, the event came home to the studio in Los Angeles. Both the keynote presentation and celebration afterward with the development team were held at the AVALON Hollywood nightclub, a historic venue capable of supporting hundreds more attendees than the original CitizenCon. The 2014 presentation included a recap of the story so far, followed by comprehensive reports from each of the game's studios. Chris Roberts ended the show with the very first live Persistent Universe demo, a tantalizing hint at what would be coming to *Star Citizen* over the next several years, and an early long-term roadmap that would later be expanded to the system available to everyone today. The first Drake Cutlass variants, Red and Blue, were the major ship reveal, accompanied by the long-awaited Cutlass commercial. The 890 Jump was revealed to the world as a concept, complete with a booklet that included everything from luxury lifestyle photos to detailed deck plans. Developers stayed for hours after the presentation, taking photographs and signing programs with the best fans in the universe.



## CITIZENCON 2946

DATELINE: LOS ANGELES, CALIFORNIA, USA  
OCTOBER 9, 2016

CIG returned to Los Angeles in 2016 for the city's second CitizenCon, which was again held at the AVALON Hollywood. The keynote was based around two big reveals: the "Homestead Demo" and a new reveal of *Star Citizen's* procedural planetary technology. The Homestead Demo was a live presentation that gave players their first look at *Star Citizen's* endless worlds. During the course of the demo, a player travels from space into the atmosphere of a planet (a first at the time!) on a mission to track down a distress signal. From there, they board a newly implemented Dragonfly space bike and battle everything from nomadic raiders to an enormous sandworm before finally exiting the planet's atmosphere. The major ship reveal was the brand-new RSI Polaris corvette, a long-promised replacement for the original Idris (which had become a frigate). Attendees were even given a physical Polaris brochure, an in-universe item presenting it as part of a mobilization effort to build militia forces to fight the Vanduul. The presentation was followed by meet-and-greets with the development team and plenty of fun with the community well into the evening!



# CITIZENCON 2947

DATELINE: FRANKFURT, GERMANY  
OCTOBER 27, 2017

Subtitled 'Exploring New Worlds,' CitizenCon 2947 represented a seismic shift in both the size and flow of the convention. Where previous events had been focused largely on a keynote intended to update the world on the status of the game, 2017 brought about the first iteration of a much broader experience, with additional activities and much more focused panels tailored to the most dedicated players. 600-plus citizens attended the event, held at the Capitol Theater in Frankfurt (the very first German CitizenCon). Chris Roberts' opening address began with a new look at Alpha 3.0 and the start of what has become the game we play today. Following panels examined how motion-capture and procedural systems work together, the history of the Xi'an, the development of the new Stanton environment, and overall tech development. The Ship team presented the new Consolidated Outland Pioneer concept, the second ship from Silas Koerner and something that represented a major new addition to *Star Citizen's* future gameplay. Another first: the event was sponsored by Intel, who introduced the Sabre Raven variant that was included with one of its new solid-state drives. The very first CitizenCon convention floor included an impressive Sabre Raven model, playable Alpha 3.0 demo stations, and even a station for taking scans of attendees' faces for potential use in the game.



# CITIZENCON 2948

DATELINE: AUSTIN, TEXAS, USA  
OCTOBER 10, 2018

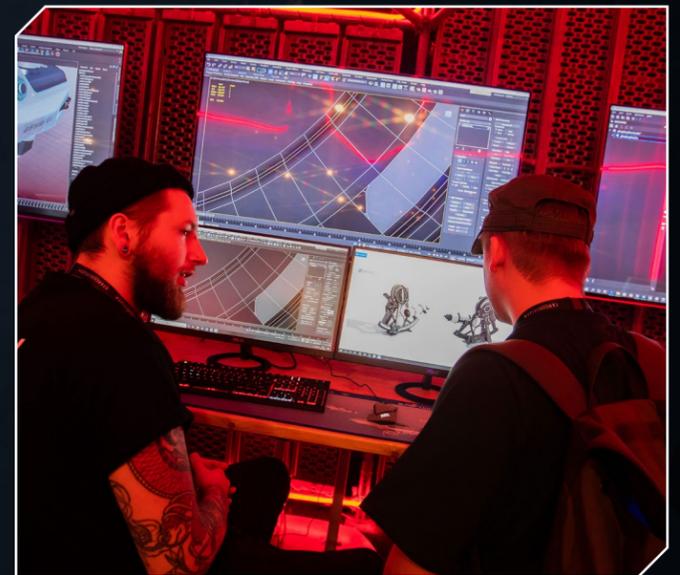
For 2018, CitizenCon finally returned to the place everything began: Austin, Texas. But this time around, *Star Citizen's* annual meeting had outgrown the small downtown theater and then some! This time, the big event would be a day-long convention with plenty of additional activities for everyone in attendance (notably including a real-life Big Benny's noodle stand). It would be held at one of Austin's largest dedicated conference spaces, the Long Center. The live show, broadcast to the world via streaming, began with Chris Roberts' keynote. After the opening, the show was split across two stages, with the largest presentations on the mainstage and more detailed technical updates in a smaller adjacent space. A record fifteen different panels covered everything from updates of the game's lore to cutting-edge enhancements in facial rendering technology. Chris Roberts closed out the con with a presentation called Road to Release that discussed longer-term work being done for *Star Citizen*. Major announcements included the first presentation of planned updates to *Star Citizen's* core flight mechanics and a look at the brand-new Loreville location. Other development teams shared information on how the game will have its own biomes and how they work to make empty areas of space more interesting.



# CITIZENCON 2949

**DATELINE: MANCHESTER, ENGLAND  
NOVEMBER 23, 2019**

CitizenCon returns to England! Themed around the slogan "The Adventure Begins," the event was held at Manchester's impressive Central Convention Complex, with panels and keynotes being streamed to the rest of the world. The convention floor was the most spectacular yet, featuring a variety of different types of booths, plenty of cosplay, and even a giant Carrack ice sculpture to celebrate the beloved ship's long-awaited introduction. Some 1,300 *Star Citizen* fans were able to attend in person, bringing with them the excitement and passion that has always come from the game's community. A variety of gameplay stations, photo opportunities, and more dotted the show floor, offering more points of interest than ever before. CitizenCon 2949 featured two stages offering sometimes simultaneous content for interested attendees, the Anvil Stage and the Croshaw Auditorium. Panels included a presentation from the Planetary Tech team, a discussion on xenolinguistics, the new armor system, upcoming ships, updates on UI and audio, and much more. Chris Roberts concluded the event with an hour-long look at *Star Citizen's* future titled *The Adventure Continues*. The event lasted an entire day, allowing the game's backers plenty of time to experience the show floor, the presentations, and to get together for various Bar Citizen's and other community-planned events.



# CITIZENCON 2951

DATELINE: WORLDWIDE  
OCTOBER 9, 2021

As the global pandemic entered its second year in early 2021, it sadly became clear that CitizenCon 2951 might not be possible... at least, it might not be possible in person. Instead of a ticketed event at a dedicated venue, it was decided that the 2021 CitizenCon would take place online with an impressive seven-hour livestream made available simultaneously around the world. *Star Citizen's* video production group worked hand-in-hand with the developers to create a seamless, professional event packed with information about the state of the game. The day began with a look at the latest updates to the 'verse, a veritable tour of newly implemented locations and associated features. It was followed by a review of the ship pipeline that included two surprises: the Liberator fleet carrier and the Origin 400i luxury explorer (see feature later in this issue). Programmers offered a detailed look at the Gen12 renderer and Vulkan API for the technically inclined, the Planet team presented the latest updates to their work, and representatives from the Audio and Server teams offered their own impressive reports. The evening ended with a talk by PU Game Director Tony Zurovec on Quantum simulation, one of the next experience-defining updates in the works for the project. The entire event was tied together by hosting that presented everything as smoothly as any of the team's regular edited videos. All players were awarded an in-game goodie bag and trophy for the event, limited in previous years to those who attended in person.



What will the future bring? Past CitizenCons have been just as important to the *Star Citizen* development team as they have been to the community: they've allowed developers to share in the sheer excitement of the community in person, reminding everyone why their work is important. It's extremely common for developers to come away from CitizenCon feeling energized and cognizant of how their work fits into a larger world. It's safe to say that as soon as it's possible, Citizens will gather to celebrate the game once again... here's hoping that's sooner than later!



# MAKING THE ORIGIN 400i

## INTRODUCTION

When *Star Citizen* was first launched, Origin Jumpwork's 300 series was presented as the height of luxury, the interstellar equivalent of a high-end car. The 300 (and its variants) were one of five ships that each explained a microcosm of their distinct designer/builder. Alongside the initial design description was the briefest thought for the future: "Origin ships get numbers instead of names: Origin 300i, Origin 890 Jump, Origin M50 Turbo, etc." As development continued, *Star Citizen's* ship designers began

building out what these additional ships would be and then what the totality of the company's spacecraft lineup in 2951 might be. What was the 100 series, the 300 series, the 400 series, and so on, and how would they all work together to make a believable 30th-century luxury spacecraft manufacturer?

At CitizenCon 2951 on October 9, 2021, *Star Citizen* players got their first look at how the game's designers had answered that question.

Presented as a flight-ready surprise in the Alpha 3.15 patch, the brand-new Origin 400i was a cross between the RSI Constellation and Origin 890 Jump; a beautiful interstellar yacht with the equipment needed for serious exploration missions. Its aesthetic was unmistakably Origin and its promise of a new take on exploration gameplay was more than welcome. Players could immediately imagine landing in luxury on distant planets and then deploying their X1 bikes for further adventures.



**DESIGN**

The design for the Origin 400i began as early as June 2019, a result of increasingly detailed future planning for how each of *Star Citizen's* ship companies would expand over time. John Crewe's Ship team began by broadly imagining the 400 series being naturally between the 300 and 600 series in size, a smaller multi-role ship roughly equivalent to the Constellation. The initial pitch, which would expand to focus on exploration and later the addition of the X1 bike, read: "Versatile multi-role ship designed to challenge the market currently dominated by the RSI Constellation, but with Origin's usual focus on luxury and style."

As the development process continued, the ship's designers developed a list of preliminary design points the 400i would include, which would be passed along to the Concept Art team:

- Crew: Pilot, Co-pilot, Engineer
- Using the Freelancer [animations] for the seats, as that's what the

600i seemed to wind up using. We're looking to have the same seat geo/anim as the 600i

- Cockpit similar to the 600i, with interior space used similarly to the Phoenix (bridge, living quarters, opulent luxury room)
- Appearance: Similar length to the Constellation, but a little broader. More like a grown-up 300i or scaled-down 600i
- B-grade core-engineering components around the ship (must be B grade powerplant and coolers to be able to run the shield generator)
- Turrets come out of the hull similar to the 600i/890 Jump, with crew access in the bridge

Reusing existing animations, such as the seating animations for the 600i, is something that is attempted with every new ship to reduce the amount of additional work needed from the always-busy Animation team. The result was a design pitch with a very specific size but still a broad role - a proposal that would leave a great deal of freedom to the Concept Art team to determine the general shape of the vehicle.

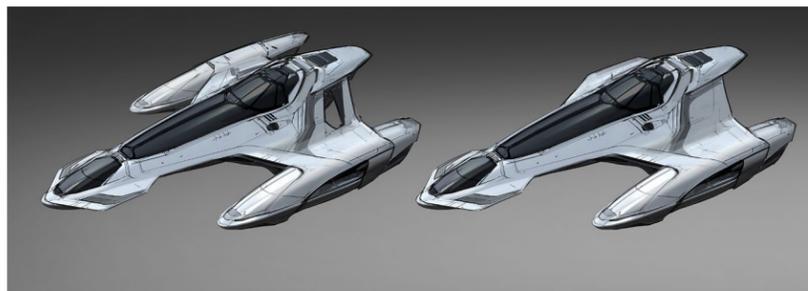
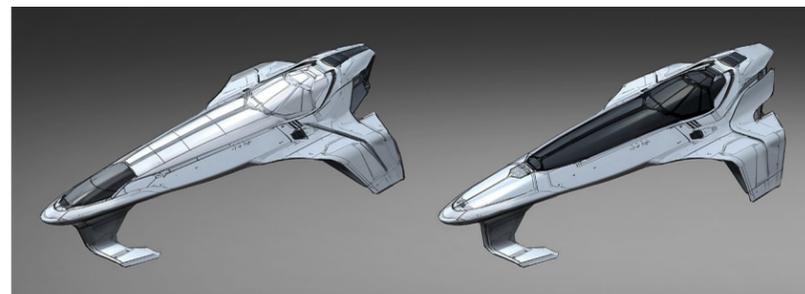
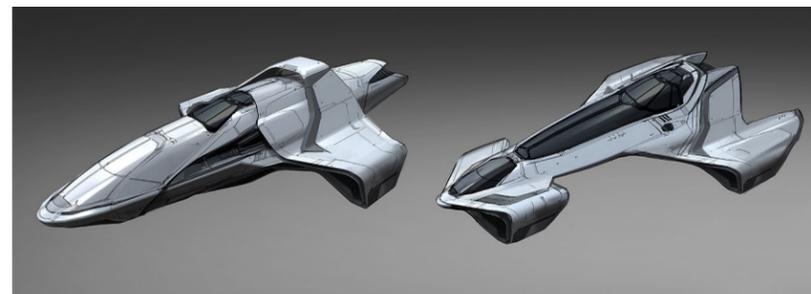
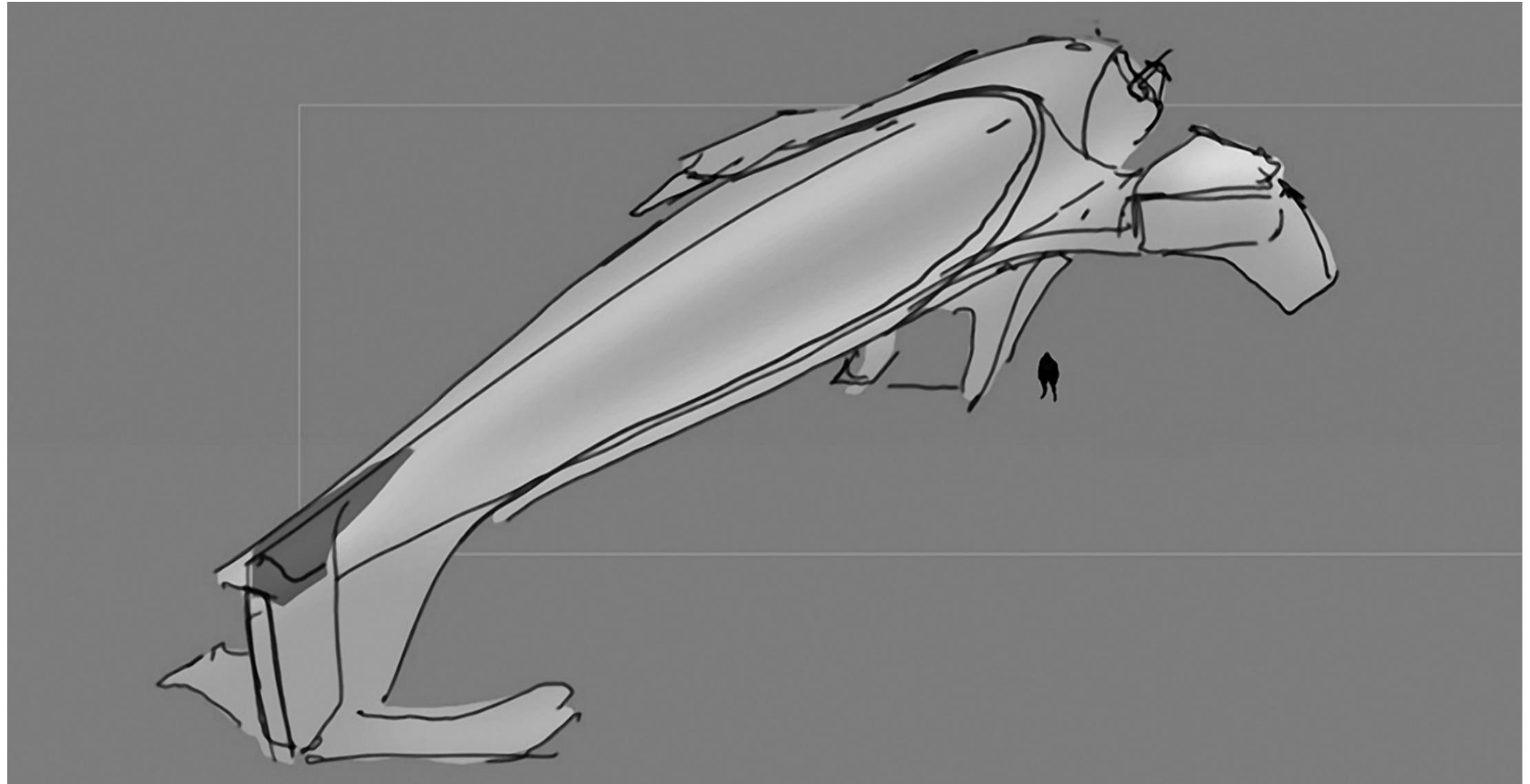


## CONCEPT ART - PHASE ONE

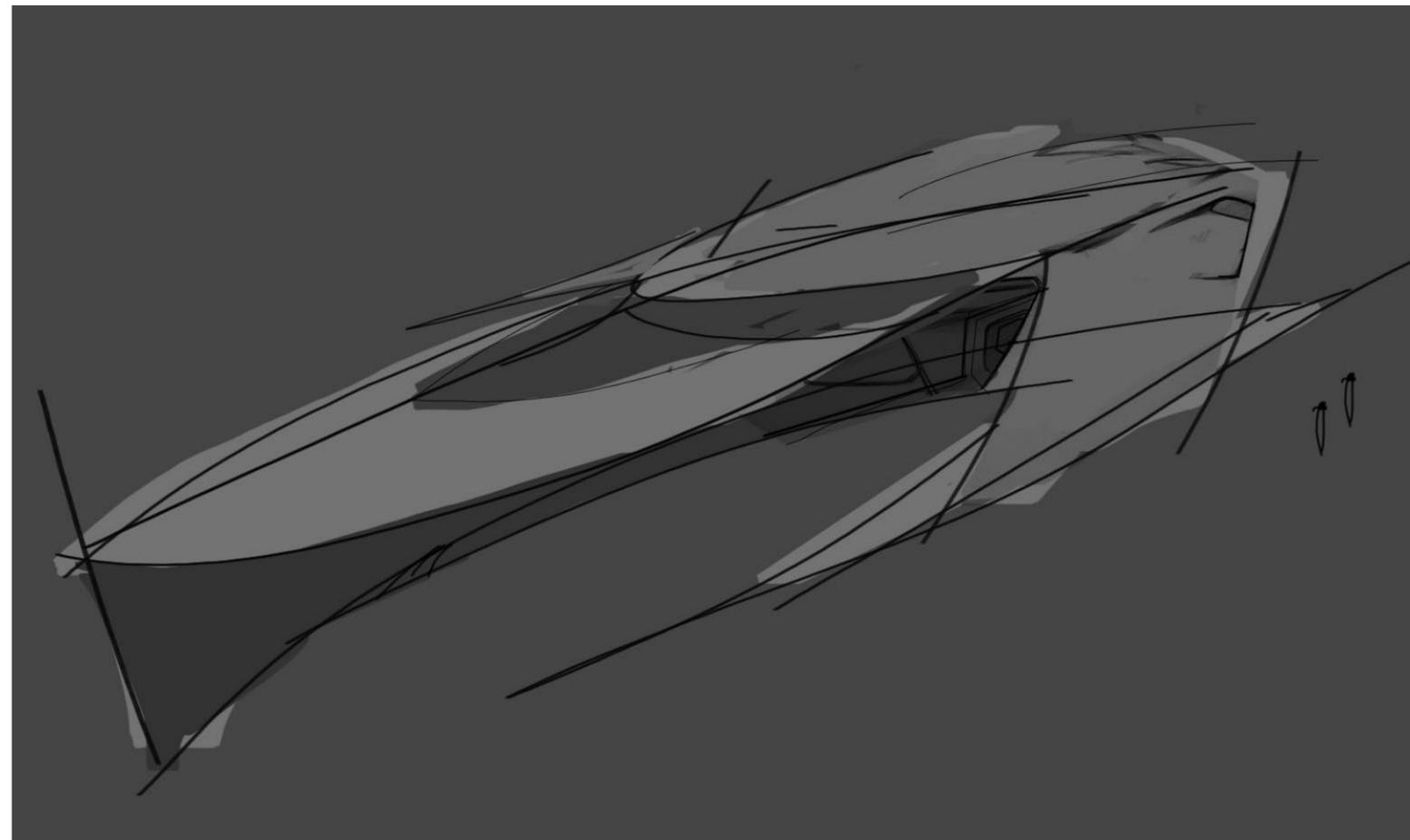
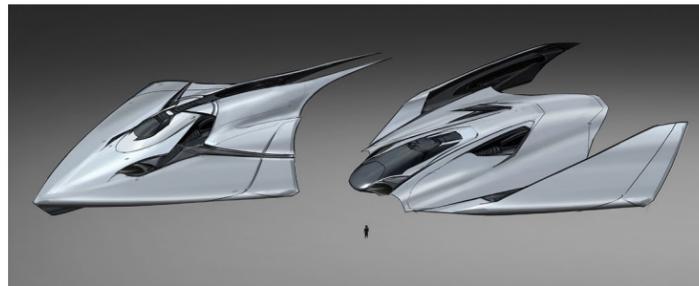
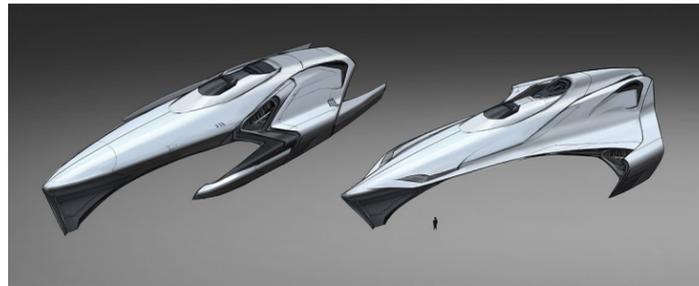
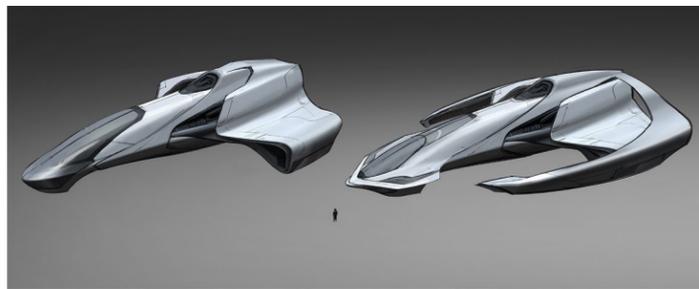
The 400i brief passed to the Concept Art team with a planned mid-September 2019 start. Art Director Paul Jones reviewed the brief and responded with a number of questions focused largely on the interior. How many rooms would be needed? How many crew would sleep in each bedroom? Should the ship be outfitted for four crew, or could there be a guest suite? He also wanted to know more about the turrets: should they be totally concealed or visible on the exterior? He also noted straight off that he would want the concept artist to include cutaway sketches of the interior to make sure the flow was correct (navigation, experience, and decor).

To develop the initial ship, Jones chose Concept Artist Long Ouyang. Ouyang had previously worked on industrial spacecraft but had never assisted on a luxury-focused Origin design; this would be a learning experience! To make that transition as smooth as possible, Jones put together a reference package that included modern luxury cars, aircraft, watercraft, and a variety of existing Origin ships, including the 100, 350, 600, 890, and the X1 bike (though it was not yet to be included aboard the 400i at this point in development). These would get across Origin's specific design language and allow Ouyang to put together the general shape language for the new ship.

That said, Jones also notes that the process of filling out a manufacturer's spacecraft lineup isn't just concept artists following an existing set of rules that are slavishly applied to every new ship. The 400i (and every other new concept ship) needed to take from Origin designs of the past while also pushing forward and expanding the company's future repertoire. For the 400i's interior, Jones suggested early that the concept art focus significantly on building on the 600i, taking inspiration from the bridge and the lounge area with wooden floorboards, adding more luxury and more of the "sense of home" desired by Chris Roberts. Finally, Jones had one more piece of reference: a little space-yacht-style sketch that had been developed early in the design process for the Origin 100i. It was too large to be feasible at the time but now it seemed like it could be just the thing to kickstart the four-person 400i.



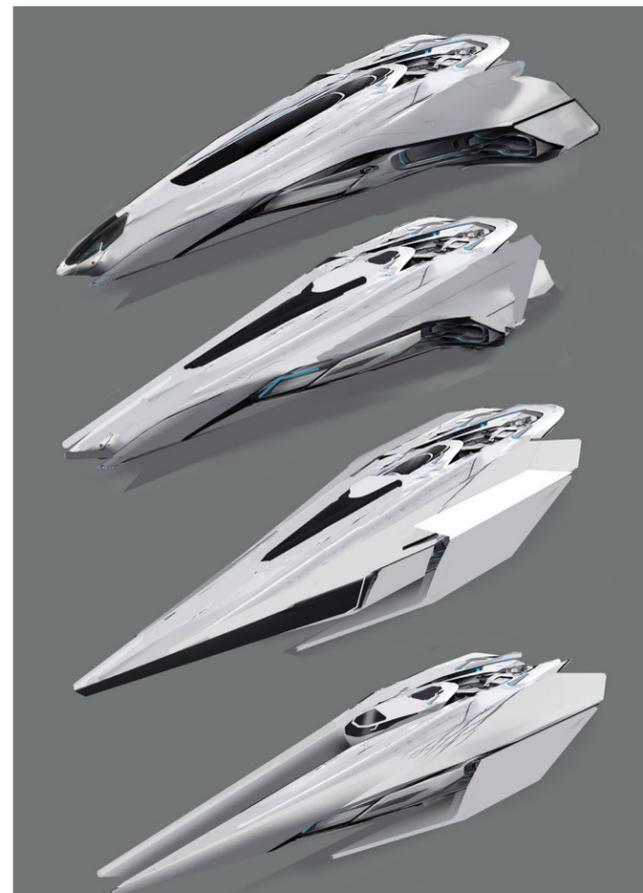
Ouyang began his concept work by developing sketches of six different potential directions for the new ship. The designs varied significantly, from a sort of shuttlecraft to a multi-nacelled starship, to even a wide flying wing reminiscent of the MISC Reliant. Jones felt that these were great ideas but that they didn't quite have Origin's luxury vibe. One thing two of the concepts did have, however, was the forward stabilizer that would eventually become a distinguishing feature of the 400i. Here in its earliest iteration, inspired by the unused Origin 100 design, it featured a pair of 'flippers' to either side which would keep the ship stabilized. The flippers would eventually vanish, though there was great debate internally as to whether or not they should have made it to the final concept.



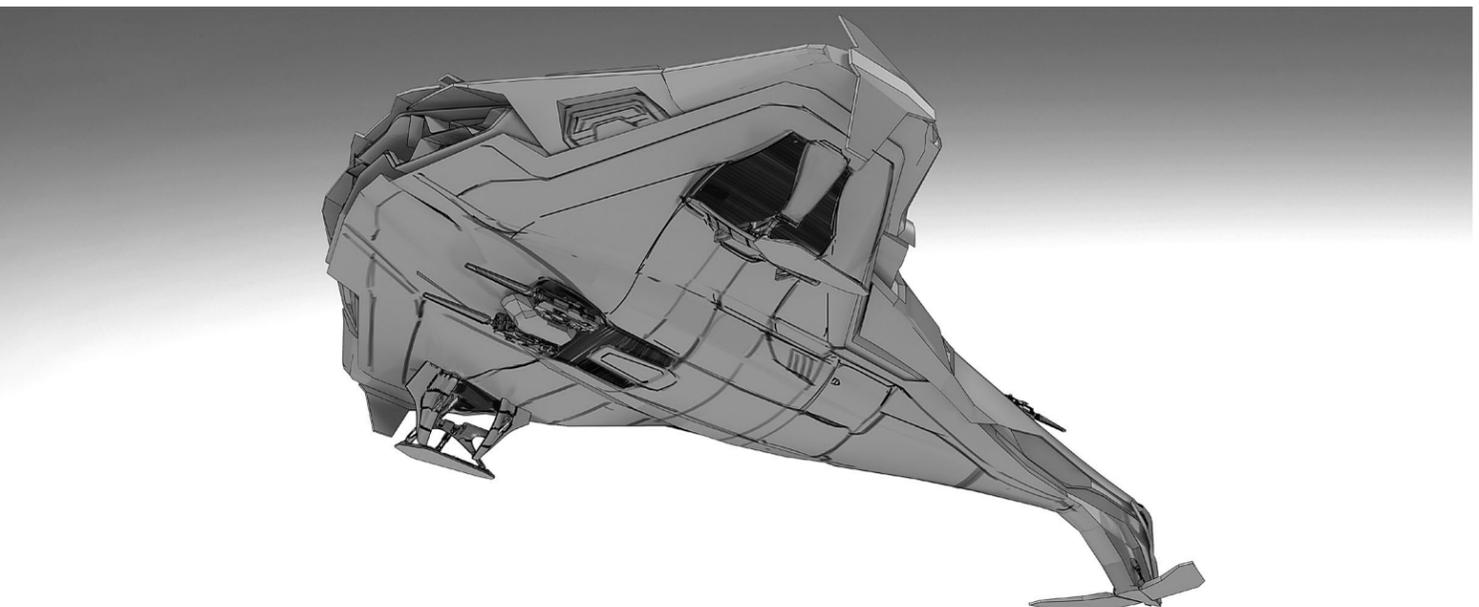
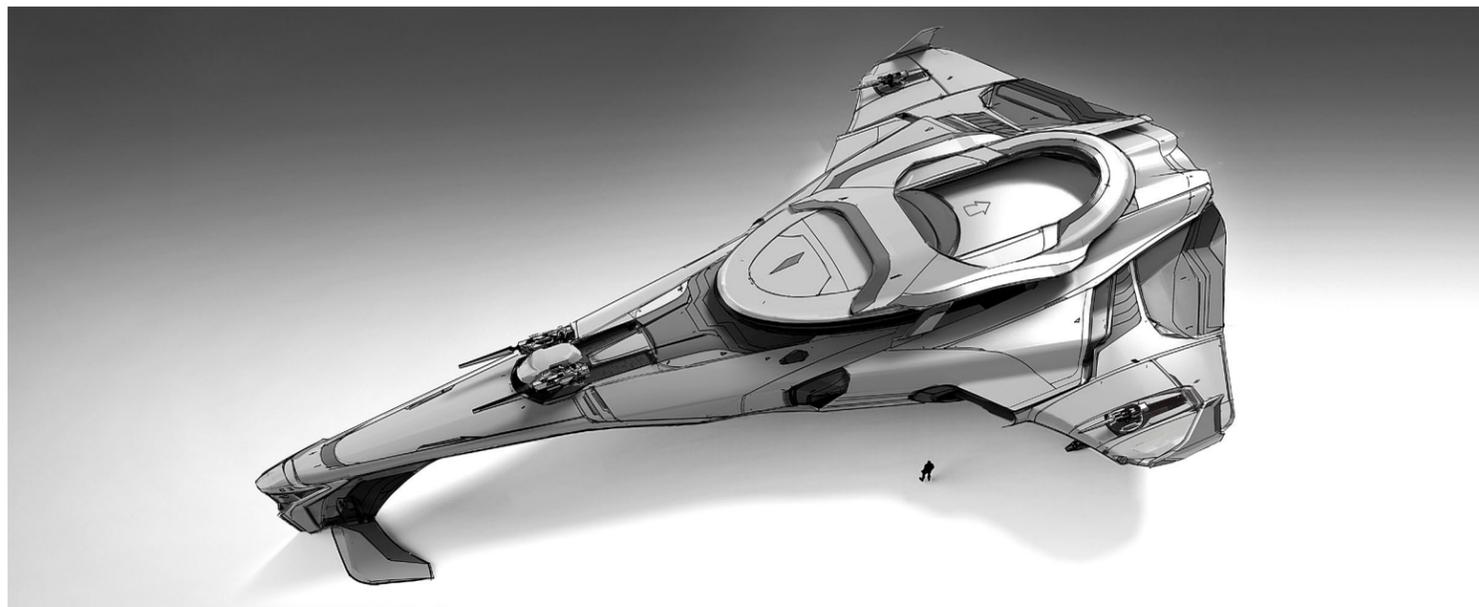
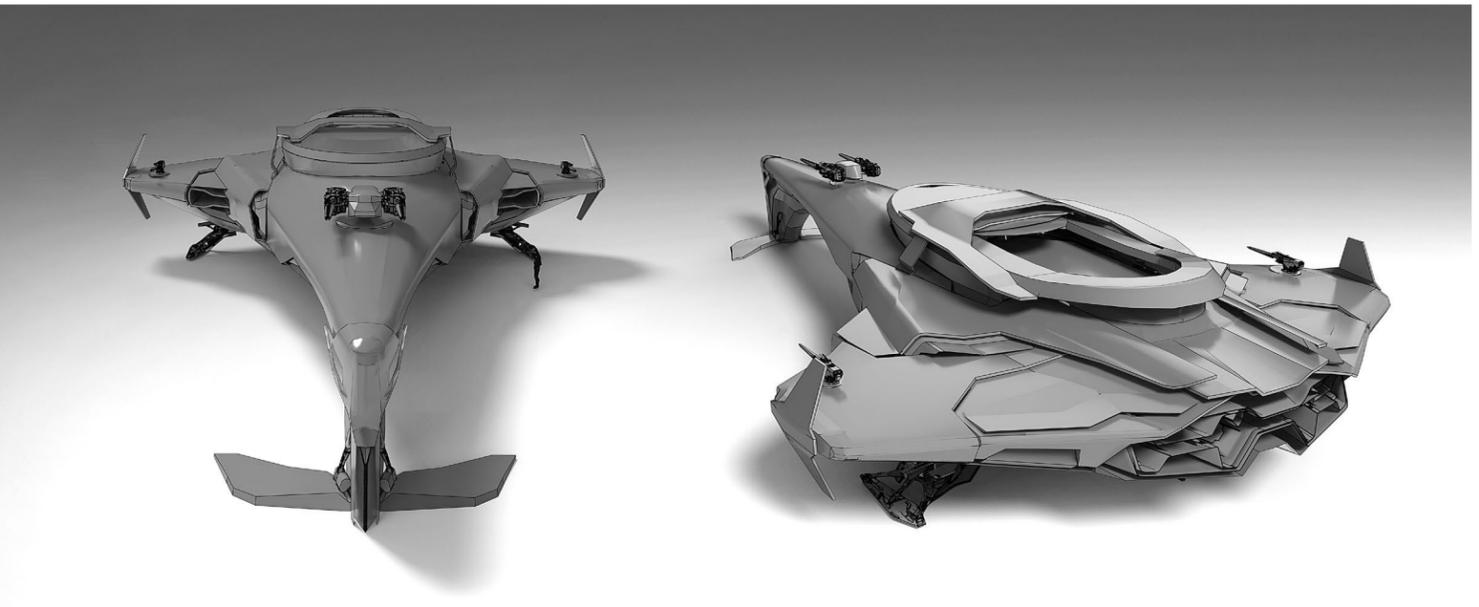
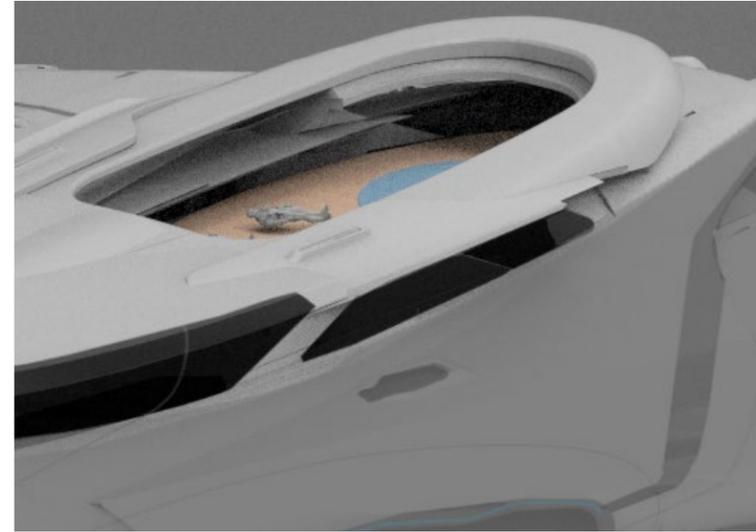
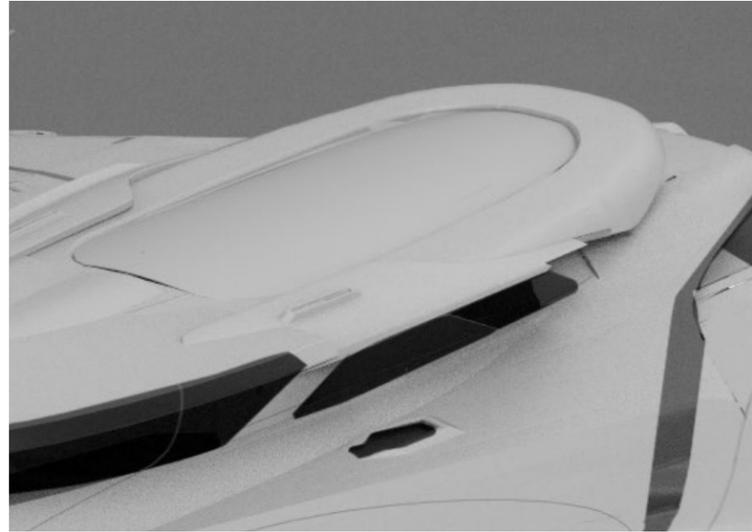
Jones responded to the original concepts with more reference material and a quick sketch of his own to help with the direction. Ouyang developed a second set of ships but Jones again felt that they just weren't right for the 400i, particularly because they seemed to read as somewhat small overall compared to the larger multi-crew sense the design should get across. Jones here notes that this can be the problem with such a large universe to build on: there's so much material already developed for *Star Citizen* that it can be hard for an outside artist to naturally know what to ignore and what to take on when building a concept. With that realization in mind, Jones offered up more specific direction, comparing the ship more to a space-faring luxury yacht than a traditional high-tech vehicle. For his next pass, Ouyang started fresh with 3D sketches focusing much more strongly on the boat aspect of the ship. He offered a wide variety of options

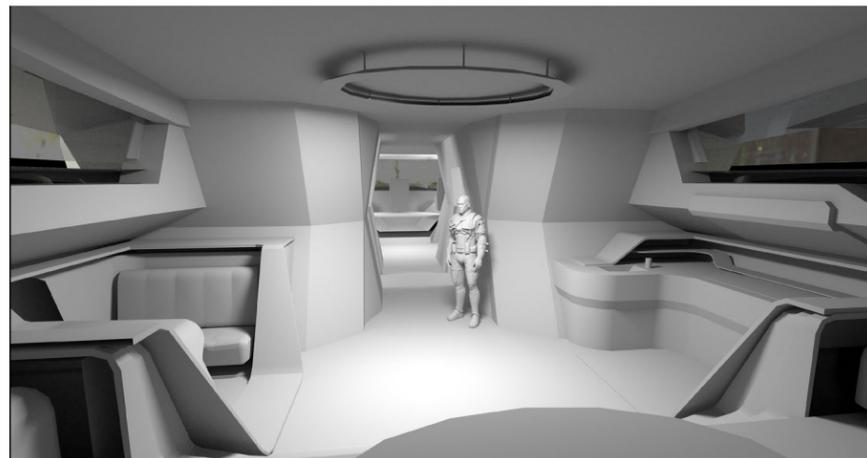
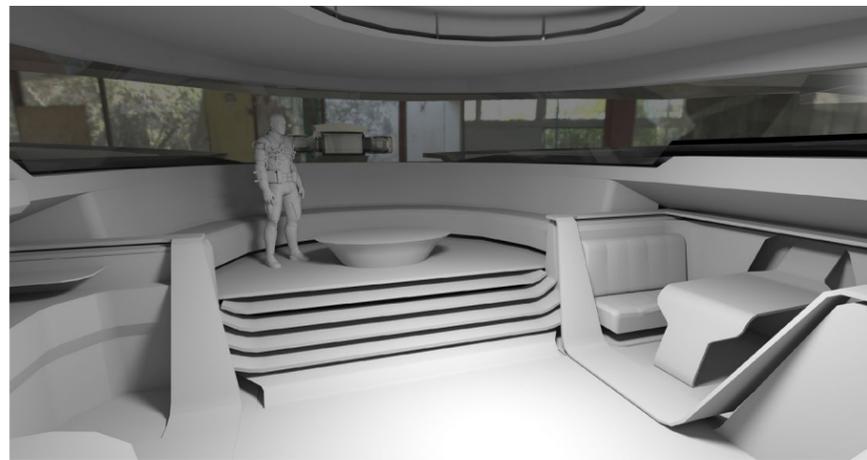
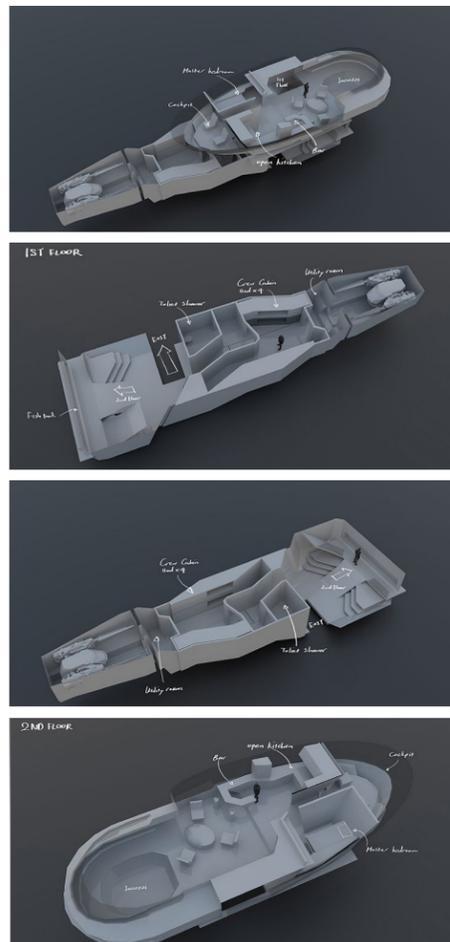
that ranged from very traditional takes on Jones' direction to a variety of rounded wildcard hull shapes that referenced everything from boats to dolphins.

There was a lot to work from, but no one direction yet... and on this ship, time was something of an enemy. The 400i had a very strict deadline that needed to be kept in order for it to be passed to the development teams to build in-game with as much lead before CitizenCon as possible. More delays trying different directions could mean the ship might only be available as a concept or delayed to a future patch. With the deadline in mind, Jones invited the rest of the team to share their ideas. He notes that he prefers to allow the original artist to make as many iterations as possible whenever possible but that sometimes a strict deadline means an all-hands-on-deck solution.



With a mix of kit-bashing and some original additions, the initial concept quickly started to take the form that would be presented at CitizenCon (plus flippers!). At this stage, Jones was under the impression that the 400i was intended to be what he called a 'luxury explorer' instead of a 'technical explorer,' meaning that, while it would be offered as an explorer, the actual job of the ship was luxury travel. To that end, the concept model at this stage included a sunroof and even a pool! Jones presented this option to Roberts who happily approved of the direction... but, perhaps remembering the Phoenix's hot tub, asked that the pool be cut. Roberts explained that he wanted the 400i to be a technical explorer, just as capable as a similar ship but with a luxury bent. He also asked that the overall ship be made smaller, which ended up not being possible given what would need to be included in the interior. (In order for the 400i's internal capabilities to match the Constellation, it would ultimately need to be slightly larger because of the more elegant hull design.)



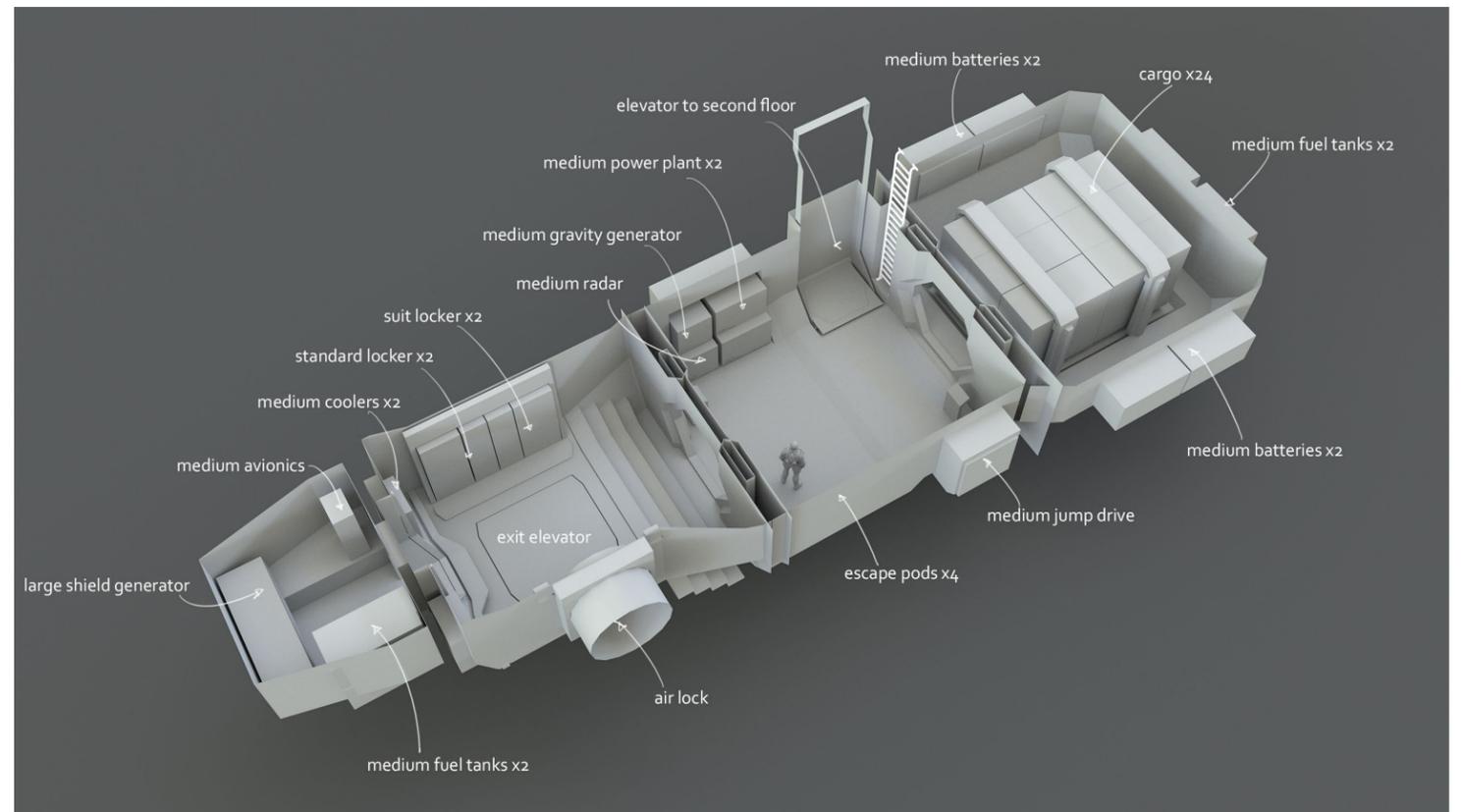
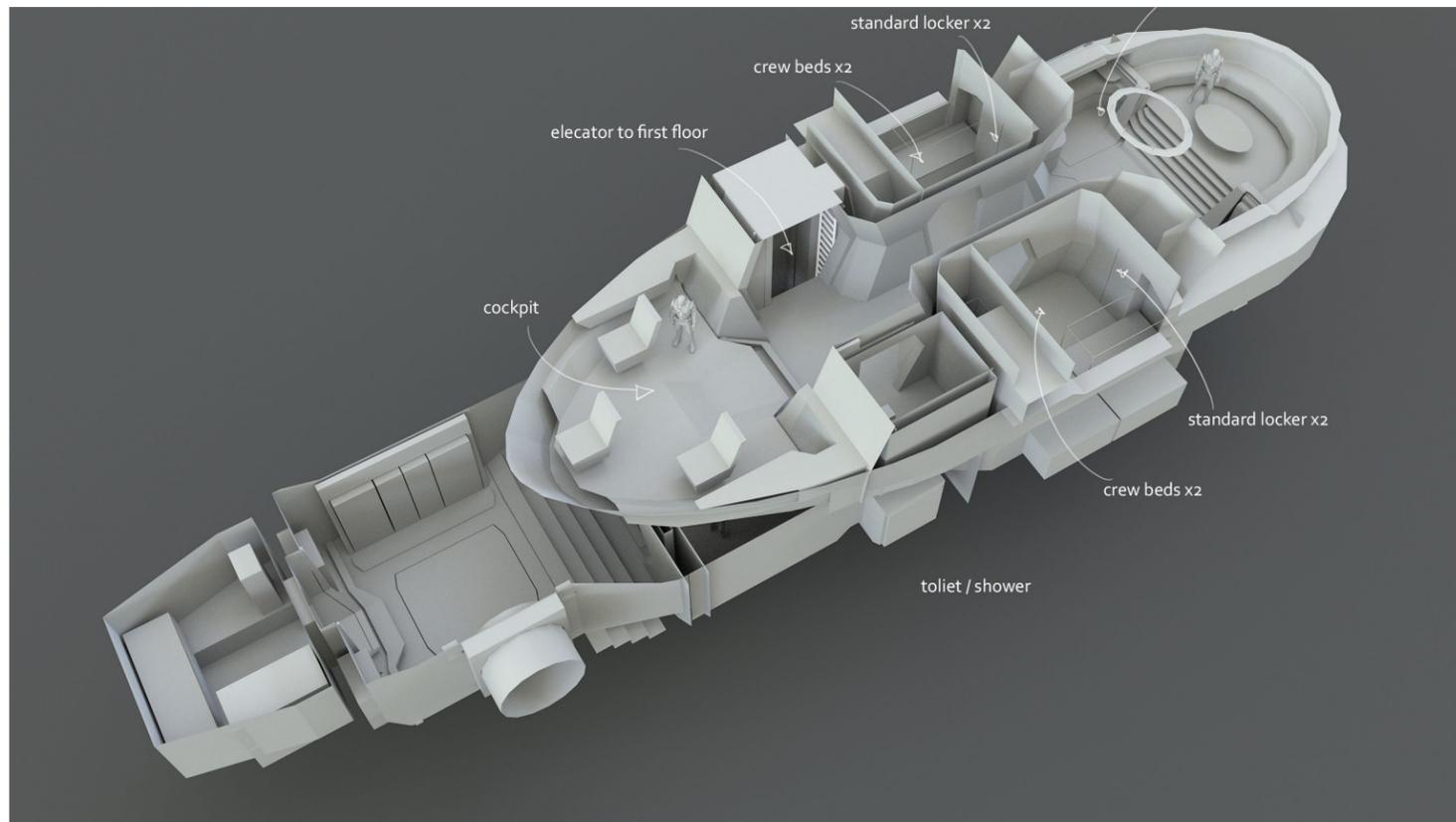


CONCEPT ART - PHASE TWO

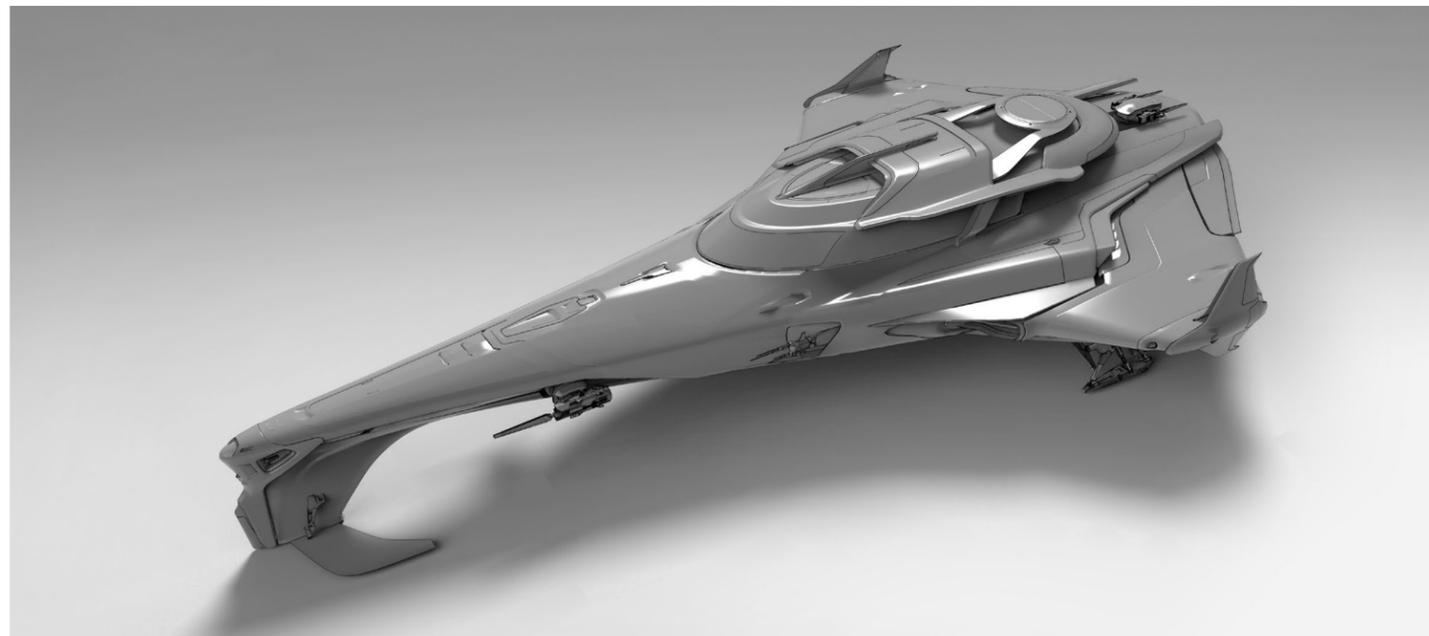
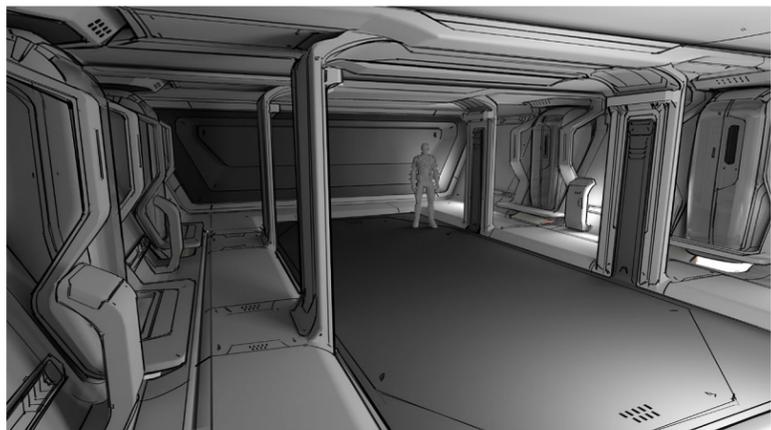
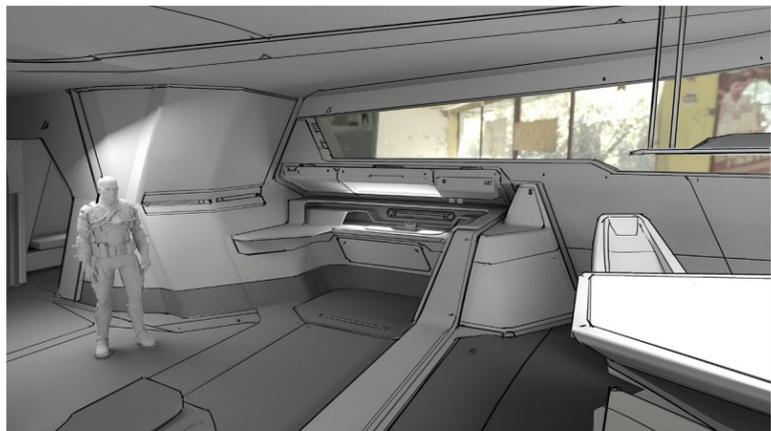
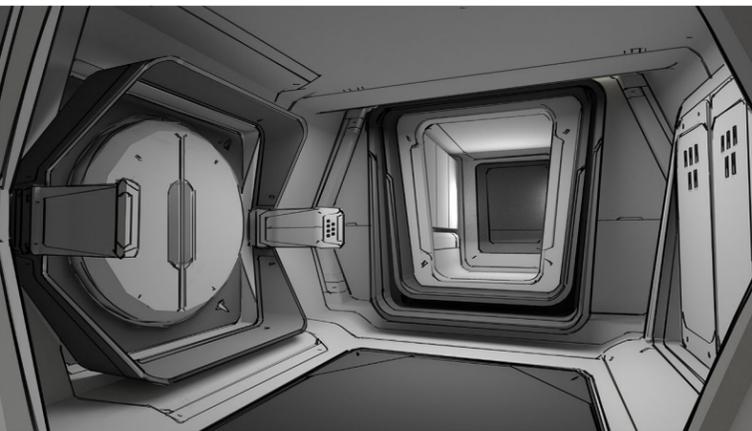
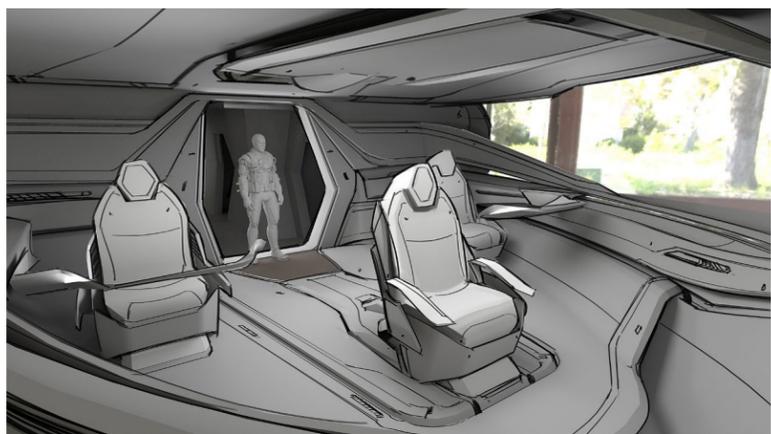
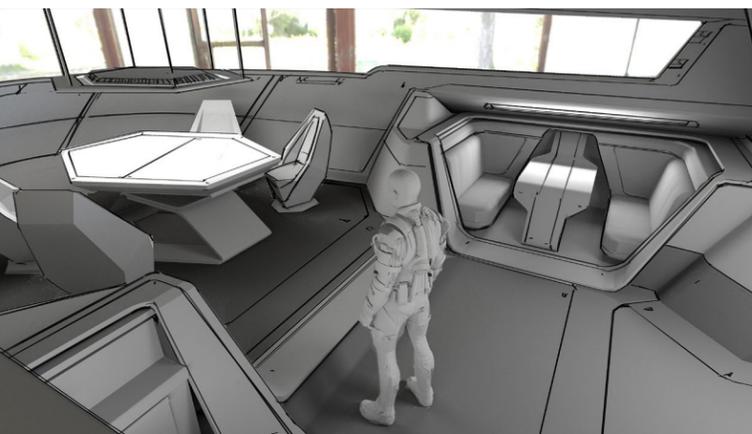
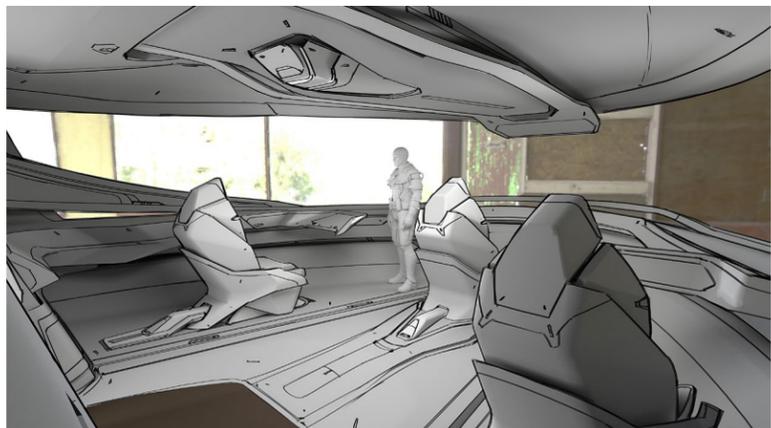
With both Paul Jones and Chris Roberts happy with the concept direction, the 400i moved into the second phase of its development, which would include the interior. With the overall wing shape and top canopy locked, the Art team could build a luxury interior to be proud of.

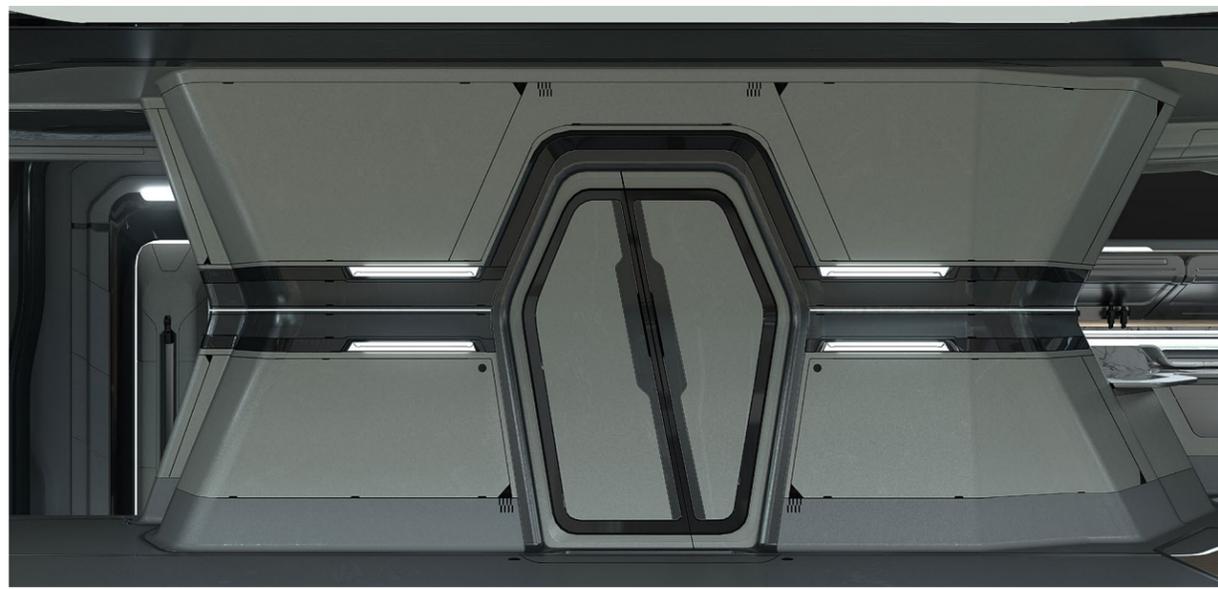
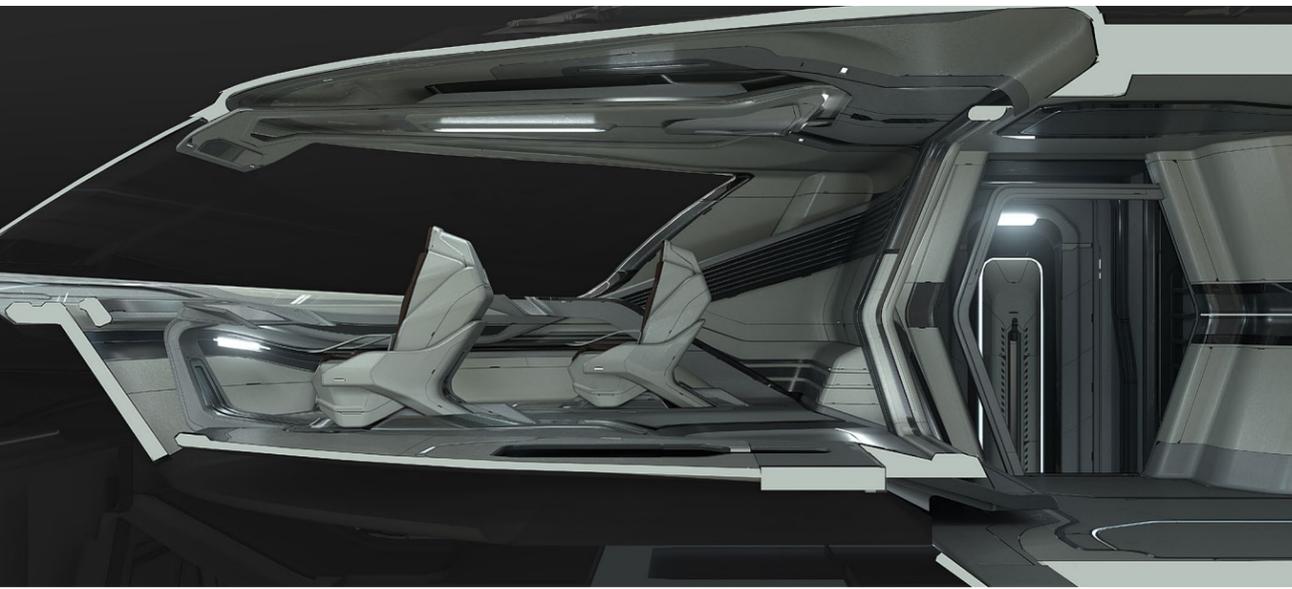
To begin the process, Ouyang built a more detailed mesh (which still included a pool at this point!). Jones recognized that internal planning on this ship was going to be a particular challenge, especially because it was meant to have cargo space, which they had missed when reviewing the original brief. And so, the second pass began with a focus on getting all of the necessary components (and the missing cargo) into the ship. Here, the work was largely iterative with Jones and Ouyang going back and forth making tweaks to make the interior more interesting and more connected to the design language of the Origin lineup.

Ouyang put together the first set of interior images as the pair worked on the ship's internal flow. The ship originally had stairs going into the component room that went back and forth, even becoming a cross between stairs and an elevator at one point. Jones felt the forward room lacked a visual hook and asked the team to focus on how it could be more interesting. They added glass walls, giving a sense of elegance and the suggestion of a climate-controlled room. Cross-sectional walls helped split up the space and survived all the way to the final ship. The airlock also got a special work over, replacing an original vertical lift and adding lockers. Jones continued to offer direction on materials, lighting, what might go where, and anything else the ship might need. Finally, he had the "a-ha" moment he was waiting for: the upper deck should focus on luxury and the lower deck on components. By splitting the two, the ship and its flow immediately felt much more real.



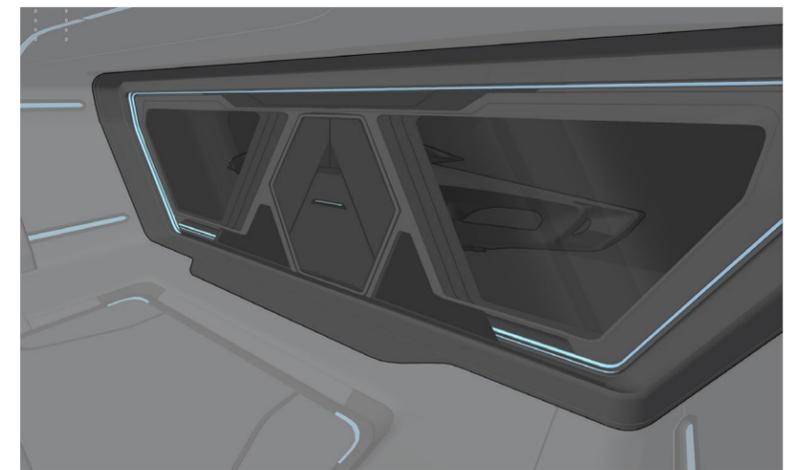
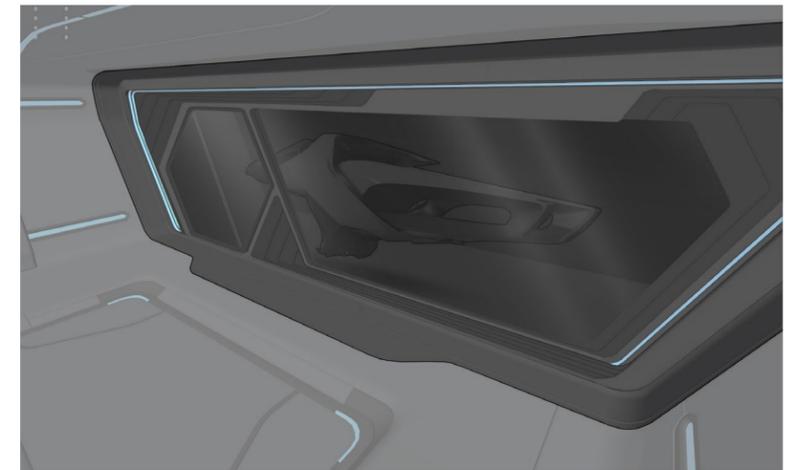
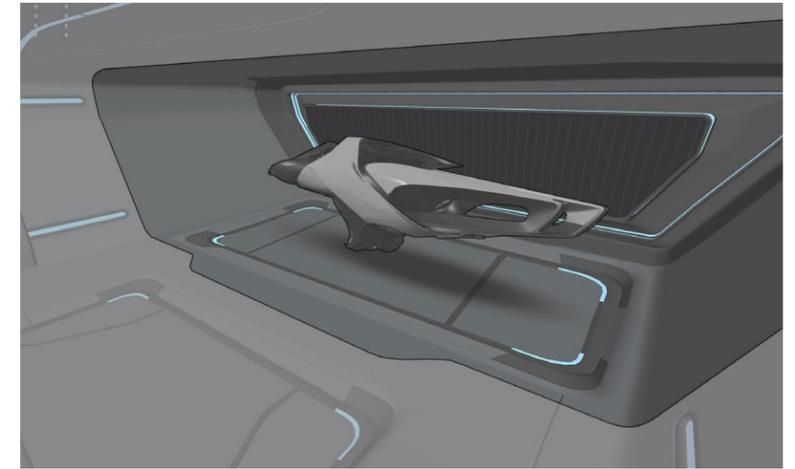
Jones was happy with Ouyang's updated interior and the inclusion of 600i-style flow lines. Jones did a paintover of these to help with the direction. He provided a sketch-up of flow improvements and the team moved on to working out the escape pods, locking down the split lines, the flow, the size of the engines, and the angles of the exterior panels. Jones went on to develop lighting examples and an initial cutaway pass to show what he expected for the final delivery. As Ouyang's contract on the 400i finished, Jones had particular praise for the final model delivery, which he noted was characteristically far more detailed than necessary.





With the concept contract up, Jones was extremely happy with the project: the design ticked all the boxes and requirements, everything felt good, the materials were correct, and the design language worked. He oversaw a final set of interior cutaways showing material assignments, making sure everything on the interior had the luxury feel Roberts wanted. At this stage, that simply meant minor refinements to the kitchen, working in marble and stainless steel for an ultramodern feel.

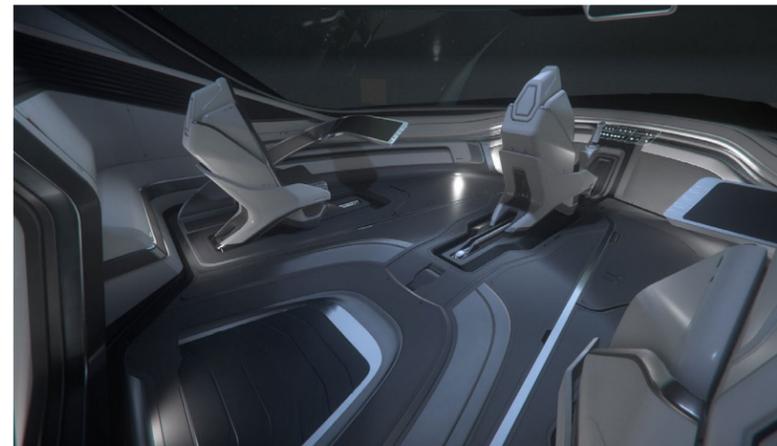
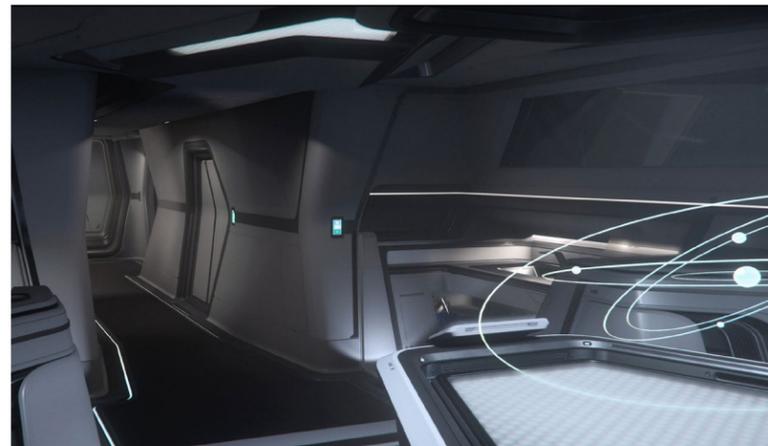
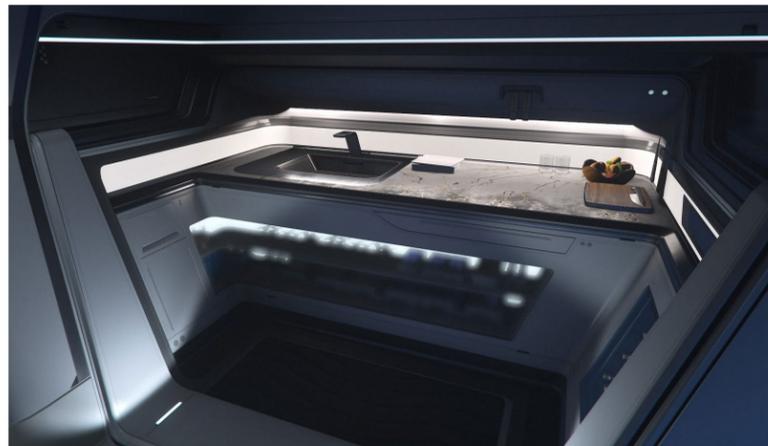
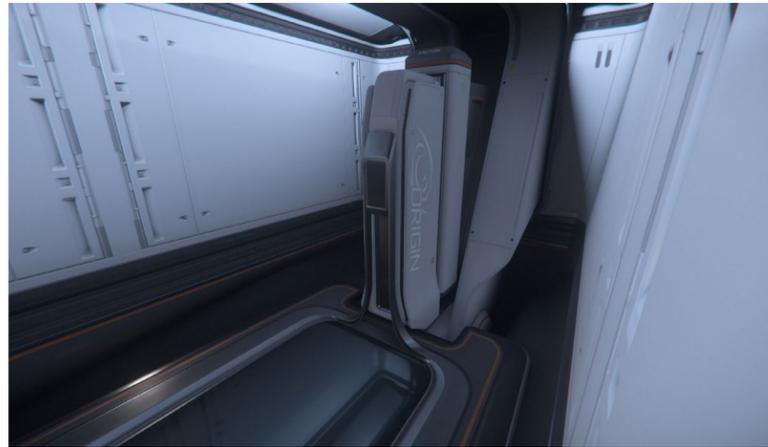




And then, changes were requested! On review of the ship, Roberts asked that a dedicated captain's room be added. Jones ditched one of the crew rooms and converted it into a captain's suite. The new suite was designed by concept artist Greg Chryssaphes, who developed several variants complete with props to show what it might look like lived in. Then, another somewhat significant change from the Design team: the Origin 400i needed to be able to deploy an Origin X1 bike. Jones initially looked at placing the bike in the rear of the cargo section but ultimately realized it could be stored in the distinctive nose fin of the ship, allowing a player to unload and access it while landed.

By mid-November 2019, the team was putting the final touches on the package that would be delivered to the designers who would bring the 400i into the game in advance of CitizenCon. They produced several animations showing entry methods, different landing gear, and revisions of the escape pods. The entire set of concept meshes and supplementary material was sent off for its final construction, where the development teams would make a number of changes and additions before finally making it real with the Alpha 3.15 alpha patch that would be shown to the world at CitizenCon.

In the end, Jones credits the 'split interior' realization with significantly helping the process. He's very proud of the work his team did to make the 400i happen on schedule and with the work the designers went on to do bringing it to the finish line. Players around the world seemed immediately interested in the ship, with many eager to give it a long-awaited test flight. They just have one question: so now what's the Origin 500?





## THE ANVIL AEROSPACE HURRICANE

DEVELOPMENT HISTORY



## DEVELOPMENT HISTORY



In early 2605, during the height of the second Tevarin War, the UEEN Aerospace Weapons Center contracted Casse Aerospace to conduct a major tactical analysis concerning enemy spacecraft shielding. The study, which reviewed thousands of hours of dogfight footage captured during both the current conflict and Humanity's previous battles with the Tevarin, confirmed the long-standing suspicion that a statistical majority of enemy successes resulted from their extremely durable phalanx shield systems. The shields were hugely powerful, forcing human spacecraft to expend, on average, several times the amount of firepower it would have taken to simply destroy the enemy hulls outright. Despite this strength, the study also revealed a potential weakness: phalanx shields, sufficiently overloaded, would reliably fail for several seconds at a time before their backups could kick in. The solution, the study proposed, was that the UEEN develop a new form of 'turret fighter' that would allow a second crewman to quickly focus firepower on enemy targets as soon as the fighter's forward weapons overloaded the shield.

Desiring such a weapon as quickly as possible, the military issued a no-bid contract to Casse to produce what would become its first military spacecraft, the A4A Hurricane medium fighter. The hope was that a working prototype could be built in just eight months, with a production prototype entering service in early 2607. Casse's engineers proved

capable of developing military hardware, but the unrealistic timeline ultimately led to further delays. The first two bespoke prototypes, designated V1 and V2, did not take their first flights until April 2607, with the production model lagging behind six months. The rushed initial testing phase proved tragic when an accidental laser hit started a fire that killed both the pilot and gunner of Hurricane V1. Because of the desperate need for the ship on the front line, Casse had little time to regroup. Instead of rebuilding V2 from the ground up, the testing program was forced to continue with the test pilots requesting hundreds of minor changes that were made on the fly.

The other major issue discovered during the testing phase was that coordinating the pilot and gunner was extremely difficult, as bomber crews regularly rotated between ships. This allowed greater flexibility in mission assignments and encouraged gunners to learn to fight defensively, protecting their particular arc of any bomber as well as possible. However, it was quickly discovered in flying the Hurricane prototype that a great deal more coordination would be needed, a fact which prompted the UEEN in late 2607 to begin recruiting and training dedicated two-person Hurricane teams. Unlike bomber pilots, Hurricane crews would be assigned to a single ship and always work together; recruiters were even encouraged to seek candidates that had existing

connections, such as friends or siblings. As Casse continued to improve the troubled prototypes, the military worked diligently to prepare to fight a new kind of space combat.

The Hurricane's production prototypes were finally completed in October 2608 and quickly approved for active status by the UEEN. Casse converted its existing Cosmo Sloop factories into a war-footing-style production line capable of turning out dozens of Hurricanes a day once fully realized. Deliveries began in earnest by Q1 2609, and the first units were officially formed and given orders to deploy with the fleet. By this time, the war had a foregone conclusion: existing tactics had been adapted to have more success against Tevarin fighters and the Empire was on the march to conquering remaining enemy holdings.

In spite of the reduced need, the Hurricane units that managed to reach the front before the conflict's conclusion saw great success. The highly trained pilot/gunner teams proved to be hugely effective, generating a number of co-ace awards (unlike bomber or capital ship crews, historical Hurricane teams formally shared kill scores between the pilot and gunner; this practice is not continued with the modern iteration). In perhaps its most surprising accomplishment, Hurricane pilots serving with the fleet managed to develop an effective 'box formation' attack that allowed four

fighters working together to severely damage corvette-sized Tevarin ships. Perhaps the most famous photograph of the Hurricane also came about through the war as a flight of the fighters performing in missing person formation led the Messers' weapon-focused victory parade at Earth the day the surrender was announced.

In the years immediately following the war, the UEEN found itself with more Hurricanes than anyone knew what to do with. While war contracts were cut or canceled, thousands of finished-but-unused ships were left filling hangars and depots in the wake of the conflict. With no expectation that a third Tevarin conflict was even possible and the ship requiring a costly, specific training program, the decision was made to scrap and otherwise divest the fleet of remaining Hurricanes. This decision ultimately signaled the end for Casse Aerospace, which found itself over-extended with war production and unable to pivot back to its initial, smaller footprint. Without even service and part contracts for the existing ship, Casse was ultimately forced to shut shop. The surviving Hurricanes saw brief popularity in the 2620s as civilian "warbird" conversions, adapted for purposes ranging from specialized tourism to competitive racing. However, the lack of spare parts or the ability to adapt components from other ships at the time meant that, by the early 28th century, there were no more flying Casse Hurricanes. The design's popularity faded, with the



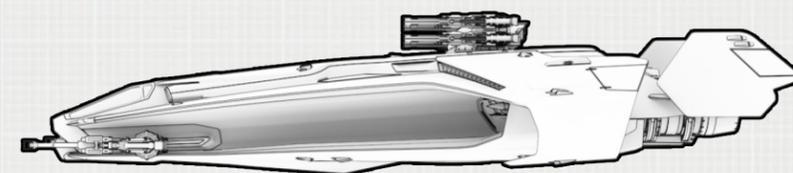
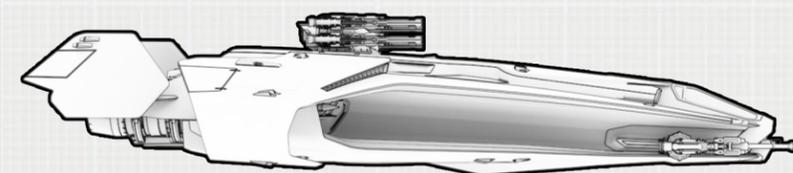
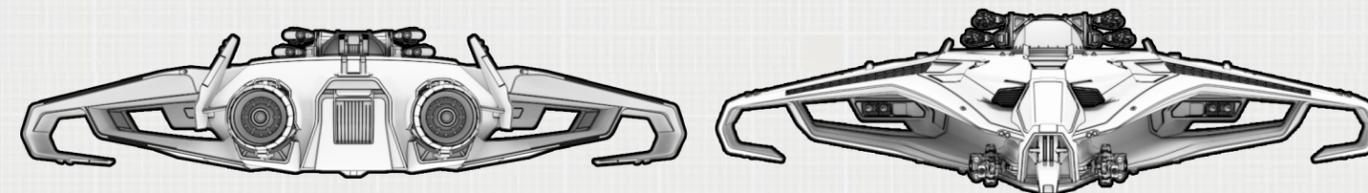
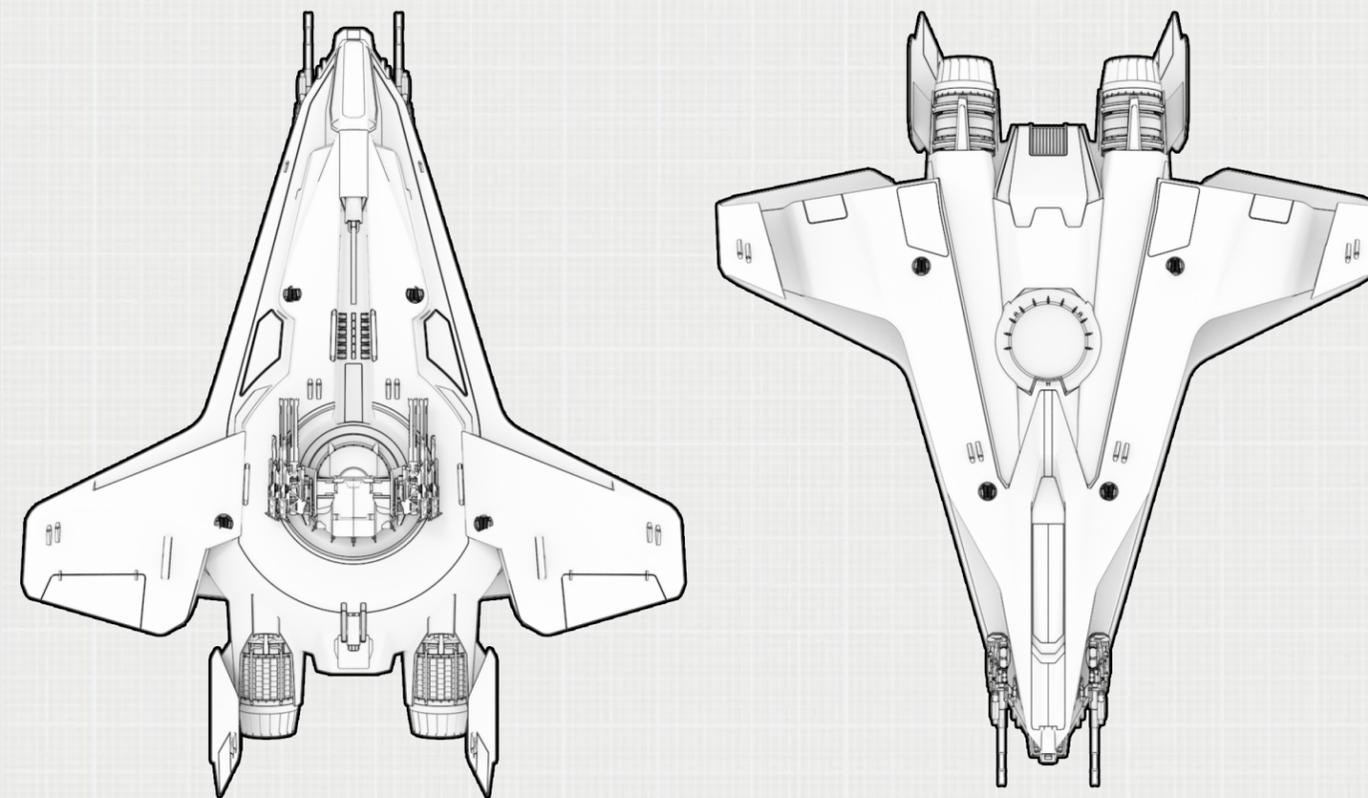
average civilian knowing the Hurricane's silhouette only as the neon logo of the now-defunct X-Burger food franchise.

Then, in 2871, Anvil Aerospace surprised the galaxy by returning the Hurricane to active service. Anvil, hot off the massive success of the F7A Hornet, had become the new prime military contractor for the post-Messer UEE and was eager to expand its weapons development. In particular, Anvil's management believed that this could be done by anticipating the military's future needs instead of waiting for specific contracts. To that end, Anvil's researchers had conducted a review of known Vanduul encounters that was very similar to Casse's initial tactical review of the Tevarin. Again, the results suggested that a design like the Hurricane would significantly increase survivability in one-on-one encounters.

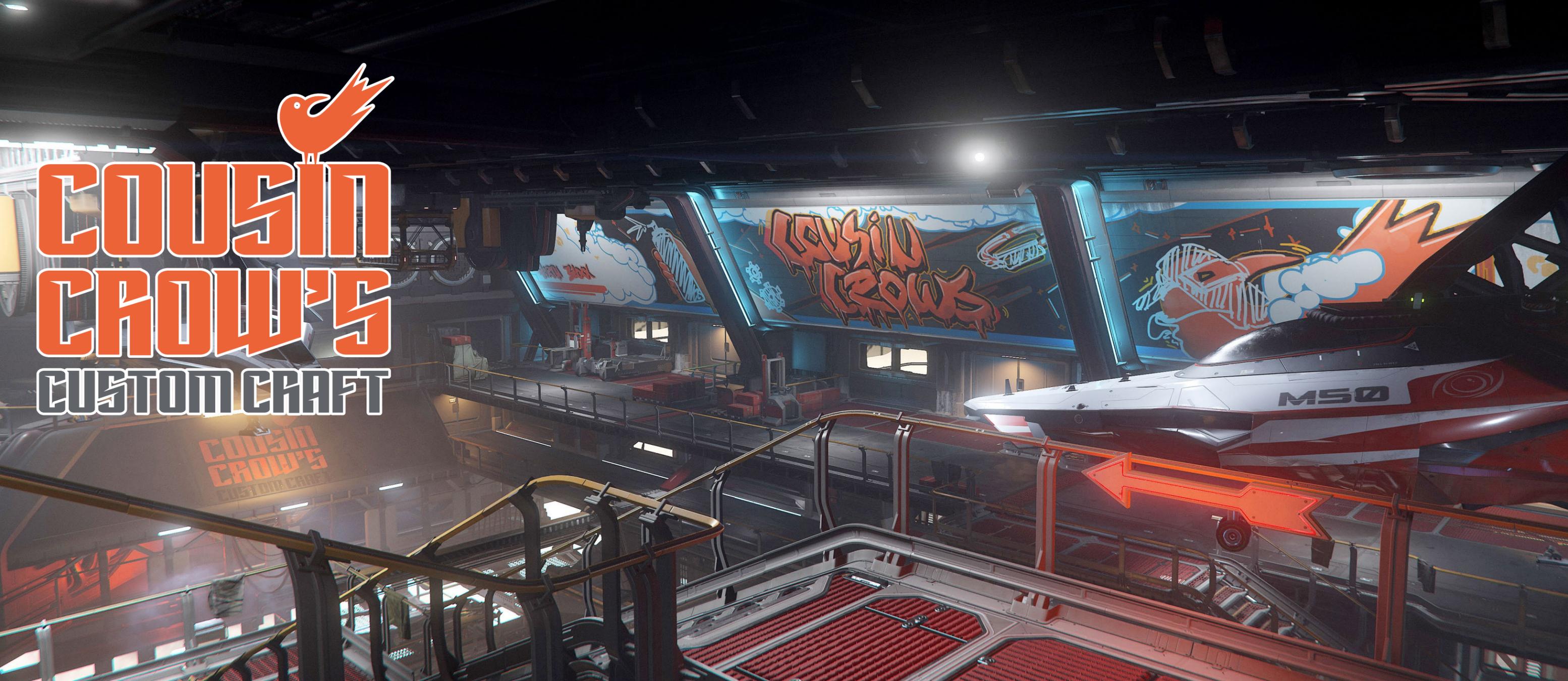
Anvil legally purchased the Hurricane rights and design details from the holding company that had eventually acquired Casse's intellectual properties. In spite of this and of the overwhelming visual similarities, the new Hurricane was essentially a completely new spacecraft under the hood. Anvil did not reuse a single unique part from the original Hurricane, instead redesigning the ship's components with a focus on both modern use and on reusing as many parts as possible from existing Hornet production. Designers reasoned that this would both make the spacecraft appeal to the military, which would not need to establish another supply chain, and that it would give the ship a much greater lifespan as it could be maintained using components that were unlikely to be replaced any time soon.

The navy was impressed... somewhat. The UEE began officially purchasing a small number of Hurricanes from Anvil in 2873 for testing and has slowly increased its fleet each year since. While the Hurricane has not supplanted the Gladius, Hornet, or any other frontline military fighter, it has proven to be an exceptional support ship. The navy has slowly reintroduced the idea of turret teams, with crews again training together in a six-month program preparing them for coordinating a Hurricane. The Hurricane has seen much greater adoption at ground bases than it has with fleet units, with the well-constructed hull being particularly well suited to shorter runways and rougher maintenance. In 2905, a quartet of Hurricanes replicated their Tevarin War-era success by taking down a larger Vanduul raiding ship by boxing it between the fighter's four turrets. The design has become popular among the UEE Marine Expeditionary Brigades, where it has served successfully as a ground pounder, using its forward weaponry and turret to soften specific targets in preparation of amphibious operations.

Following the success of the F7C Hornet line, Anvil has made its wholly-owned Hurricane design available to civilians, where it has seen a great deal more activity than the military. Civilian Hurricanes often serve with military units or as independent operators on the frontier. Anvil has sought to distance itself, however, from a number of organized crime groups that have become known for their use of the design (including Argul Dawn and the Otoni Syndicate). Hurricanes are often co-owned by a pilot and gunner, with civilian crews needing to practice themselves to make sure their turret tactics are as effective as those of the military.



HURRICANE	
MANUFACTURER	ANVIL AEROSPACE
ROLE	FIGHTER
SIZE	SMALL
MAXIMUM CREW	2
MASS	86,454KG
LENGTH	22M
HEIGHT	6M
WIDTH	14.5M
SCM SPEED	265 M/S



# COUSIN CROW'S CUSTOM CRAFT

When Cousin Crow's Custom Crafts opened its new flagship store on Orison in 2949, the event was so massive that the Providence platform registered a record-setting number of controlled bursts to maintain its proper altitude. People packed the store and overflowed up the stairs in both directions, overrunning the Crusader Discovery Center and Covalex store. Crusader Security considered ending the raucous event early but worried about how the already rambunctious crowd might react. As culture reporter Sabastien Frost remarked, "Half of Lo spent their life savings to attend this thing, and they aren't leaving until all the booze is gone."

The store was built out of a series of old repair bays that had formerly been used to maintain Crusader's fleet of cargo haulers. The open design allows customers to see ship customization in action. Yet for the opening extravaganza, these repair bays held classic ships, or pieces of them that showcased Cousin Crow's most famous mods and paints. "Each ship you see is part of my story. Part of what got me here," recounted Nampo Vasko, or as he's known under his more popular moniker 'Cousin Crow,' before pointing to a small piece of the first Kraken Privateer, "For

example, that's the ship that made all this possible." The shop features a triptych of vibrant graffiti-style murals that pay homage to Vasko's home neighborhood of North Block in New Junction. Designed by friend and frequent collaborator 'Tufo' Donato, the murals are meant as both a reflection of where Cousin Crow started and a reminder that no matter how much his life has changed, a part of him remains the same kid from the wrong side of New Junction.

## LO DOWN

Born in New Junction (Lo, Corel system) in 2883, Nampo Vasko spent his days raising hell with friends instead of working on his Equivalency. He would later state that his primary education came from the smuggling runs his mother took him on. Seeking to pay off the debts accrued from her gambling addiction, Nampo's mother would frequently sneak contraband in and out of New Junction. Nampo's role on these trips would be to provide a cover story and act as a distraction if any authorities paid their ship unwanted attention.

When Nampo was twelve, his mother suffered her biggest loss wagering on the Murray Cup. In order to pay her debt, she agreed to "loan" Nampo to a local Banu criminal souli. The Banu put him to work on a wide variety of tasks, but Nampo fell in love with stripping ships for parts. It was through this work that Nampo would acquire the first ship he ever attempted to repair himself. That 2894 Cutlass was featured prominently at the opening event, with a sign describing it as "the ship that made Cousin Crow fall in love with ships."

Even after helping pay off his mother's debt, Nampo became a regular at the Banu chopshop and grew more and more entangled with New Junction's criminal underworld. Nampo continued to work on ships and absorbed the Banu philosophy that no design was sacred, and everything could be improved to look or work better. He created ship liveries for fake companies, modified internal layouts to build smuggler's holds, and more. Yet as Nampo grew, so did his ambitions. Seeing the amount of credits smugglers made compared to chopshop workers, Nampo assembled a group of friends and stole a Constellation. Under Nampo's direction, the group reworked it into

a smuggling ship and used his underworld connections to do small runs. A replica of that Connie's smuggler's hold was on display at the opening and described as "his first failed design" for not properly concealing contraband. In 2905, Advocacy, operating on an anonymous tip, arrested Nampo and his crew for smuggling and sent them all to a rehabilitation facility.

## BECOMING COUSIN CROW

Nampo found prison life both excruciatingly mundane and terribly dangerous. As his friends fell into gangs, Nampo instead used his boisterous and affable personality to survive. His jet-black hair and ability to float between groups earned him the nickname Cousin Crow, "cousin" being slang at that facility for someone who could be trusted. After hard work earned him an early release, Nampo returned to his North Block neighborhood. He scraped together credits by doing ship repairs and modifications for people he met through connections made in prison. Since they all knew him as Cousin Crow, he went with the name when opening a small ship customization shop in 2924.



Cousin Crow's Custom Crafts grew into a North Block sanctuary where folks could hang out safely. Though he stayed on the straight-and-narrow, Cousin Crow happily and expertly tricked out ships to be as audacious or inconspicuous as their owner desired. Often he hired friends fresh out of prison or looking to leave the outlaw life to work at his shop. The most notable being 'Tufo' Donato, who would go on to design some of the company's most famous liveries and the graffiti-style murals currently adorning the Orison store.

The original shop's reputation slowly spread and attracted customers from outside the Corel system. Cousin Crow's big break came in 2942 after partnering with a luxury tourline company to modify an old Genesis Starliner into the ultimate party ship. A massive marketing campaign saturated spectrum with images of the starliner and made Cousin Crow's a name in ship conversion circles across the empire. A piece of that party ship was also on display at the store opening described with the ad campaign's infamous tagline, "So much fun, it shouldn't be legal."

Not long after, Drake executives invited him to visit their headquarters on Magnus. There they showed Cousin Crow plans for their first capital ship and offered him a chance to make an exclusive livery for the launch. Cousin Crow countered with an even bolder idea. Over the years, many of his clients had hired him to convert their ship's holds into Banu-like marketplaces. Rather than have to do an after-market retrofit, how much

better would it be if he could work with Drake directly? The executives loved the idea and soon the Kraken Privateer was born, sealing Cousin Crow's reputation as one of the premier conversion shops in the UEE.

Soon, Cousin Crow found himself successful beyond his wildest dreams and with more credits than he could ever spend. He became a connoisseur of high-end street fashion, a generous patron of his favorite artists, and a classic ship collector. He also poured credits into his business by drastically expanding his shop in North Block and hiring friends and family at sky-high salaries to curb any lingering temptations to running afoul of the law.

In 2944, following his recent success and his earlier impressive "party ship" starliner conversion, Crusader Industries reached out to Cousin Crow to see if he was interested in overseeing its engineering team responsible for converting branded starliners to customer specifications. As part of the deal, Cousin Crow negotiated for a flagship store on one of Orison's most heavily trafficked platforms.

From wild child to wildly successful entrepreneur, Cousin Crow has become a beloved hero to North Block residents for achieving success without turning his back on where it all began. A feat he achieved by adapting to any situation and seeing the potential for change in himself, other people, and most importantly ships.

# BEAT THE HEAT



Explore high-temperature environments without breaking a sweat thanks to these special edition Pembroke suits. Caldera and RSI combined their collective craftsmanship and ingenuity to create a version of the Pembroke suit that delivers unrivaled comfort with distinctive style. Featuring an upgraded sensor suit and an improved inner lining, these suits are ready to help you survive when things start to heat up.

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