

JUMP POINT

ISSUE: 09 05



IN THIS ISSUE →→→

- 03** — **BEHIND THE SCENES:**
Anatomy of a Patch
- 15** — **VISUAL GUIDE:**
Ship Weapon Manufacturers
- 29** — **GALACTAPEDIA:**
Imperial Arts Foundation
- 31** — **SHORT STORY:**
Homesick

FROM THE COCKPIT

GREETINGS, CITIZENS!

As you read this issue, you're likely already enjoying Invictus Launch Week 2951... or, more likely, you're catching up on the magazine a while after taking part in the very big show. It's always so exciting to see what we're able to put out to the community as these events get bigger or more complex, and there's nothing more fun for me than seeing my social media feeds fill up with folks excited about this or that surprise discovery during an event. Which is to say, no hard feelings if you're picking up the May **Jump Point** in June or so!

Our big feature this week relates directly to the event you're currently enjoying, but maybe not in the way you'd think. One of my hopes for **Jump Point** is that, once all is said and done, we'll be able to revisit old issues to see how *Star Citizen* came into being, and that means giving a little more space to the aspects of development that aren't necessarily as well known as the artists designing spaceships or the designers coming up with new mechanics. To that end, we decided to ask the team responsible for launching each patch about their experiences and exactly what they do. It's a pretty interesting read and hopefully you'll wind up with a greater appreciation for some of *Star Citizen's* unsung heroes.

I also want to add a special thank you to the team members who answered the call for this interview. In planning a typical **Jump Point**, we try to schedule our interviews to catch team members when their

projects are wrapping up and they have a little free time to chat. The folks responsible for publishing, however, are busy pretty much all the time, so the fact that they took the time to provide such thorough interview answers is truly appreciated!

We've also got the second edition of the visual guide to corporations, this time covering the companies that produce ship-based weapons. I can still remember Dave Haddock's original plan for weapon companies from back at the very start and it's neat to see that almost all of them now make weapons that are available in the 'verse! It's exciting to see how *Star Citizen's* weaponry ecosystem has come together, of course, but it's also wonderful to see how much background lore has grown up around just who makes individual parts of our spaceships. On the lore side of things, we've got two in-universe pieces. The first is a brand-new Galactapedia entry about the Imperial Arts Foundation and, again, how many space combat games even think about such things?! And we end with Homesick, a short experience from *Star Citizen's* history, the First Tevarin War.

That's all for this issue, folks, but we'll be back in June... when I suspect we may have a new spaceship or two to talk about!

Ben

JumpPoint@cloudimperiumgames.com

Editor & Writer: Benjamin Lesnick Narrative Team Writers: Adam Wieser & Cherie Heiberg Design: Michael Alder
Copy Editor: Martin Driver In-Engine Imagery: Charline Wegria, Simon Ravenhill & Simon Jennings
Associate Marketing Producer: Dan Houbrick Marketing Art Producer: Matthew Simpson Narrative Team Producer: Stephanie Bedford



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THE ANATOMY OF A PATCH

Early in the Hangar Module days of *Star Citizen's* development, patching the game meant downloading an entirely new copy each time. As development continued, a launcher and a delta patcher made the process simple and largely invisible to players. But there's still an expert team of developers working behind the scenes responsible for preparing, publishing, and monitoring each new patch. At the time of writing, they were hard at work putting out the Invictus Launch Week 2951 update but were still kind enough to walk us through their essential work.

BEGIN TRANSMISSION →

JUMP POINT: Please give your name and title and let us know what you've worked on on *Star Citizen*.

JUSTIN BAUER (JB): Hey there! I'm Justin Bauer, and I am the technical project manager for Publishing Technology. Prior to this I was in Quality Assurance. My goal as a TPM is to provide support in any way I can. The nature of our work means every single day

with this squad is unique with its own set of challenges. Anything required of me will similarly change on a daily basis. Some of the tasks I do involve verifying game stability, monitoring the health of the LIVE and PTU environments, and liaising with other teams to keep track of long-term initiatives.

ERIC GREEN (EG): Hello! My name is Eric Green and I am the director of platform operations here at CIG. Having been a backer since 2012, I joined the company as a game support agent back in 2016 and have spent most of my time assisting with publishing operations in every way I can. From assisting with our deployment checklists, communicating, planning, and testing with our Evocati and PTU test groups, to RSI Launcher maintenance and improvements, I try to stay informed of every aspect of our patch process to aid in cross departmental coordination to enable our teams to be as successful as possible.

MICHAEL SMITH (MS): Michael Smith, better known as "Baior", and I run the Player Experience Team.

JP: How is it decided what goes into a particular patch?

EG: At the start of each quarter the teams go through quarterly planning, which helps identify the work they will be focusing on for that cycle. A 'patch goals' document is created as a result so the rest of the company has a decent understanding of what's to come. As the teams get through the bulk of this initial development phase, all of the features go through a set of go/no-go reviews to determine if they're ready for the upcoming release. Should they survive the gauntlet, they are integrated into the release branch. Once we start getting closer to having a viable testing candidate, QA will spend a greater portion of their time ensuring this branch and the features contained within are stable enough for a PTU release.

MS: We are further downstream than all other teams, so we don't really get much say in this. However, we do create the patch notes, which is how players know what's in a given build. What gets put into the notes is usually based on what features are in a complete enough state that they are ready for players to try them out.



JP: Are there regular reviews of content? Who has the final say what content makes it and what waits for a future patch?

EG: Yes, absolutely. In each feature go/no-go, the associated pillar directors review the work being presented and decide whether the content is acceptable to make it into the release, needs a little more work and an additional review, or needs to undergo much more development.

JP: How did this process work for the current *Invictus* Launch Week patch? What was involved in making it all come together?

EG: Before ILW 2020 was even over, the teams were considering what we could improve and what we'd like to see for the next event. But generally for an event like this, high-level planning is taking place as far out as six months before, with requests for other teams' time beginning to get penciled in. As time marches on, more and more teams begin to focus their efforts on the development requirements for the event. When the event starts to take shape, QA and other internal participants will begin to test, starting with small localized tests that eventually

expand to company-wide weekly play sessions. Shortly before hitting the company-wide tests, we tend to be fairly comfortable with what we can commit to officially being within the event, which enables the Marketing and Community teams to make any adjustments to their plans and initiatives. Then the fun begins, as we get to start trickling out builds to the community while being ever diligent to not spoil too much of the surprise ahead of time. This all sounds fairly simple, but I can assure you that this is an extremely complicated orchestration that also has to navigate around other initiatives that are ongoing at the same time. At the end of the day, it takes the herculean efforts of countless teams across the company to successfully pull off an event like this, but the positive reactions of the backers always make it worthwhile!

JP: Is a feature patch different from an event-specific patch like this one in some way? Or are they identical processes from your perspective?

JB: The answer to this question changes every quarter! Some events don't involve additional action from the Publishing Technology Team, but we are always invested in how each event functions. On the flipside,

there are events that are entirely dependent on some settings that are only be enabled by the team. For example, the Lunar New Year envelopes were triggered specifically by a setting Publishing Technology would toggle on the game servers.

EG: From a very high level, the process is ultimately the same, but you may as well be in orbit at that point. Each and every patch release brings its own set of challenges the teams must overcome, and live events are definitely the most intense.

MS: Event-specific patches usually require very specific testing and organized play tests with players to observe them playing through the event. Feature patches are more general and free-form in testing on the PTU.

JP: What needs to happen before a patch can launch? (What is the server environment and how does it work?)

JB: Prior to every patch, there is a large amount of testing that occurs, and not just inside the game. We're constantly working with multiple

teams to ensure we're delivering as stable a game environment as possible. Specifically, we're talking about the ability to scale to the needs of the player base and resiliency to avoid outages whenever possible. I'm a big football guy, so I also like to think of this in terms of gameplans and playbooks. "Okay, we know that we're targeting X group of players, and we're expecting something in the range of Y amount to login and play with these specific mechanics." The team will build an environment tailored to what is needed.

EG: I couldn't have made a better analogy if I tried. When we're releasing to PTU there's a specified set of approvals needed. However, if we're prepping a release to be promoted to the live servers, the complexity goes off the charts.

MS: For us, we must play through every feature that is ready for testing to be sure we understand the entire start-to-finish flow. Not only does that allow us to call out potential problems with the flow, it also familiarizes us with the upcoming features and any potential issues players might have.

PATCHING

JP: Please walk us through the process of going through the launch checklist. Are we talking about an unceremonious button press or something like a rocket launch?

JB: Every publish that we undertake follows a rigid checklist and requires constant communication and involvement between multiple teams. The different teams rely on each other to progress the publishing progress step-by-step. For example, after the game servers are created, we rely on Quality Assurance to complete their own detailed checks to verify stability and that services are functioning properly.

EG: Being an avid rocketry enthusiast, it's much closer to a rocket launch than many would think. The testing of each build can be viewed as a rocket's static fire before launch. We want to make sure that we can put that bird vertical on the pad, fuel it up, and light the engines without a catastrophic failure. Sometimes this process can happen multiple times while we identify potential issues and retest before launch. Once satisfied that we're ready for deployment, we get approvals from the various stakeholders in the publishing organization. Once the final 'go' is given, the publishing teams make final preparations and release the build to the public. Unfortunately, no amount of internal testing can properly prepare the build for contact with the destructive forces backers can apply, resulting in client or server crashes. If this should occur, we use all available telemetry at our disposal to triage the situation and formulate a plan to hotfix, rollback, or let the build play out till the next viable release candidate.



MS: I would say it's more like a rocket launch but much less dramatic. There's a sequence of events that has to happen in a certain order, hence the checklist. In addition, it has to be given a greenlight from QA and approved by the Publishing Team. Usually that involves reviewing the list of issues QA has called out and determining if they are detrimental to the experience. The Player Experience Team often provides the context of the public environment by comparing how players play the game with whatever issues we may have in order to determine the severity of the impact.

JP: What is going on under the hood when the game is patched? Where is the data going and how does it then reach players?

JB: Once a build has been chosen as our release candidate, one of our team will then upload the needed parts to a content delivery network (CDN) that has edge locations world-wide. The reason for this is to speed up the download process for our global community of players. After the patch is uploaded to this CDN, the team hands over what is effectively a map to the location where the patch can be found. Platform takes the address of the map and advertises it through the RSI Launcher.

EG: Once I have that map in hand, we build out a release channel in the launcher. These channels allow us to have multiple builds available to different groups at any given time that we can point at either the live, PTU, or internal (even our devs play some builds through the launcher) environments. When we are sure all of the data within the channel is correct, the channel gets published, which is an event picked up by



production and development teams to gather as much data as possible about the patch. In addition to this, they will watch every single build check-in and make note of anything that would be relevant to those playing the upcoming build(s).

MS: Patch notes fall on us and are created from a combination of the feature list and the daily check-ins going into the build.

JP: *What's the experience like when it happens? We know you have a lot of late nights... what's the mood like, how does the team communicate?*

JB: Positivity is huge! You can't ever plan for absolutely everything, since there are so many unknowns. Problems suddenly arise, and we support one another. We're all invested and want to see this succeed. We have a unique camaraderie in ATX that allows us to keep looking at the bright side, even if it's 2am.

EG: It can be quite a rush. The entire publishing group is just one giant family at this point. We share in the trials and tribulations of every release and support each other to the best of our ability. If things are going smoothly, text chats are more than enough to get through the process. However, if things hit the fan, it's not uncommon for everyone to jump on a video call to triage through the issues and update our plans. We are entrusted to deliver hundreds if not thousands of hours of work via the builds we deploy and to also gather any and all available feedback on said work to help the teams improve their content as much as possible. While there are late nights and frustrating days, this work is exceptionally rewarding and there's really nowhere else I'd rather be.

the RSI Launcher. Once the new version is detected and selected for updating, the RSI Launcher determines what files are needed to update the current local build to this new version and then obtains the missing data. Once complete, the latest client can be launched.

JP: *Does the amount of content in a particular patch impact the process in any way?*

JB: Absolutely. Currently, with the additional of all the super-cool Invictus content, all teams are taking additional steps to check its functionality before it gets into the hands of players. This has generally resulted in a longer publishing process.

JP: *How quickly does it take to patch the game? What's the timetable from getting a 'go' to players downloading and joining the updated 'verse'?*

JB: For Publishing Technology, our part of this equation is in provisioning and configuring the cloud resources and distributing the client patch, as touched on above. The entire patch process is a multi-team endeavor, but we work in parallel, and each respective team is not blocked by another. This helps reduce the total time required for publishing. Now, when it comes to live or a major event – like Invictus – we undergo some additional steps that wouldn't normally

occur for something like the PTU. Specifically, we do something called "pre-warming," which is to say preparing large, regionally distributed cloud resources. This pre-warming is vital to long-term success as it makes our auto-scaling systems increase our game instance capacity instantly, which pays dividends as demand increases in the three main regions of service.

JP: *Who is standing by during a patch beyond your group? Are there programmers ready to hit last minute bugs with additional patches if possible?*

JB: The Publishing Technology Team is always on deck to monitor game environments. In regards to last-minute bugs, this is definitely dependent on what type of bug is occurring! In some situations, they can be 'hotfixed' by pushing a necessary change on the backend. Thankfully, we have a few awesome devs who are able to work on these hotfix-able issues on the fly as we report them in real-time.

JP: *Who writes those comprehensive patch notes that come with each release?*

EG: This is an effort undertaken by the Player Experience Team. Throughout the quarter, they are in constant contact with the





MS: We have an overall publishing chat where we discuss progress and give updates, along with lots and lots of reacting and decision making. The entire sequence is very dynamic as each patch presents a different set of challenges, most of which aren't known until we start the process.

JP: Do you have any interesting stories about patching?

JB: We have absolutely all had those nights where we get absolutely derailed by a single bug. We think it's fixed, just to find out it's still happening, and we have to repeat the entire publishing cycle two or three times a day before we get the one we want. Let me tell you, these publishes ain't quick.

EG: I have a few that maybe one day I'll share over a beer at CitizenCon, but I will say that each and every release can take on a personality of its own. With so many moving pieces a lot can go wrong and, boy, do some deployments just refuse to get off the ground.

MS: I would say that almost every week during PTU heroics are involved as we try to turn around information quickly and get problems resolved.

JP: Has the need to work from home this past year impacted patching at all? If so, you wouldn't know it from the other side!

JB: ATX is the publishing HQ, and even pre-pandemic we were well positioned to handle any publishing requirements needed of any of the teams involved. This is a process we've been doing for several years at this point and we are very, very good at rolling with the punches.

EG: I think deploying from the office brings a greater sense of unity and more energy than being isolated working from home, but we have done everything we can to ensure that this has had zero negative impact on our ability to deploy. I will say that one thing I am very proud of was in the very first days of our transition to work from home is we were able to leverage the RSI Launcher to ensure QA had high-speed access to builds to test. Those early days brought on a lot of challenges, as I am sure it did for every company out there, but we were able to use the tools at our disposal to make the shift as frictionless as possible.

MS: Mostly just missing that face-to-face connection and body language, which is an important part of human communication. However, for my team, working from home was already a regular part of the job so adjusting to it had a minimal impact.

AFTER THE PATCH

JP: What happens after a patch goes live? Is there a special process for monitoring to make sure everything has launched correctly?

JB: The entire Publishing Technology Team is 'all hands on deck.' This is when we go into overdrive to monitor how the game environments are running. The first week after we go live is the most critical time to our team. While we can prepare and plan for months, there are just some issues that you can't anticipate once thousands of players login. We have several tools that we use to monitor the technical aspect of the game environment, but we also rely heavily on Player Experience, Player Relations, and Quality Assurance to get a larger overall view of how the game is functioning.



EG: The same goes for Platform Operations. While we leave a lot of the environment monitoring to Publishing Technology, we keep eyes on the website for any issues with new promotions or the various systems running. Should an issue arise, we ensure that we provide updates about the live service via the RSI Status Page, Spectrum, and RSI site announcements.

MS: Once we patch, this is where my team kicks into high gear as it's our job to know and understand the player experience. We live-monitor several chats and spend a great deal of time in-game, both going through the live gameplay in the player context as well as monitoring in-game chats. In addition, we watch and update the Issue Council as things come in.

JP: Do developers typically join the community on patch day, either to observe their reaction or to have fun themselves?

EG: Absolutely. While the teams are always busy, we almost always dedicate our weekly play session on Friday to jumping in on the live servers after a major release. In addition to this, those who are too busy to jump in-game will very often be watching streams of backers playing the game to keep an eye on how things are going.

MS: For our team, this is part of our workflow and we do it every day. We also make it a point to try and hit every gameplay loop and as many vehicles as possible.

JP: How does messaging to the community work during a patch? Who handles posting on the website and alerting folks on Spectrum?

EG: For major releases, it's a team effort. Each team responsible for a major milestone in the deployment checklist will post chat updates on Spectrum. The Player Experience Team is responsible for patch notes, regression testing threads, structured playtests, and/or feedback threads. Community handles the patch announcement comm-links as well as any initiative updates. Last but not least, any in-game broadcasts or RSI Status updates are covered by Platform Operations.

MS: Patch notes and website communication for live release are handled by the coordinator on my team, Nathan "Waka" Coy, and alerts are handled by the team in general, which includes announcing a patch is being assessed for release as well as the impending release itself.

JP: What's your favorite part of this year's *Invictus* Launch Week patch?

JB: Coming from a QA background, I specialized in testing ships, so I'm rather partial to walking around the different expo halls and playing with everything on display.

EG: While not specifically part of the patch itself, that first weekend we ran the event was magical. Certain parts of the community were convinced that the Javelin tour couldn't be true, and the addition of



the Bengal fleet fly-by prompted some truly amazing community moments that I won't soon forget.

MS: I enjoyed the first reactions to the Javelin tour, which I genuinely think players weren't expecting to be so in-depth and immersive.

JP: Do you have any special message for the community that is enjoying these events?

JB: Thank you for your incredible enthusiasm and support!

EG: Thank you for your constant support. We are all a part of this project and we share the ups and the downs. We get equally frustrated sometimes and just as excited when all the pieces fall into place to create amazing experiences.

MS: A lot of time and work goes into these events, but we always want to make them better so each experience tops the last. The community is part of that process, both building up to release and even after. The next *Invictus* will be crafted, in part, from the feedback players give on this one.

JP: Is there anyone else on your team we should be sure to credit for making these patches happen?

JB: The entire Publishing Technology Team. I like to think the work they do is like making something incredible in the kitchen. I'm just the waiter, but those guys are the true chefs.

EG: The entire *Star Citizen* family. From dev and production to publishing and studio operations and especially our testers (both internal and external). It takes everyone working together to make each and every build a success.

MS: The core job of the Player Experience Team is to be the voice of the players inside the process. We bring a list of the worst issues and work hard to advocate for fixes to the ones we find most critical and most often discussed. Those lists are created from conversations in game, on Spectrum, feedback thread replies, Issue Council participation (contributions, votes, reproductions), and even outside information like Discord and Reddit. If there is a tough issue or bug generating a lot of discussion, we try to be there and monitor it so we can bring that discussion to the teams internally.

END TRANSMISSION

VISUAL GUIDE: CORPORATIONS (Part 2)

Last month, we brought you the first in a series of visual guides covering *Star Citizen's* in-universe corporations that detailed over a dozen of the game's ship manufacturers. You can see that issue for more details on the origin of *Star Citizen's* complex system of corporations and associated entities developed to add additional layers of realism to the 'verse. We had several questions about the 'brand matrix' description. The brand matrix is the current system the team uses to coordinate *Star Citizen's* fiction and the reality of the game being built; it tracks every company developed for the game and provides details ranging from their histories and products to any details about style and design that might be required for future development. As you can see from this month's entries, descriptions can range from a detailed history to a quick sentence or two covering generalities. As development for a particular company grows, more detail is typically collected in the brand matrix!



This month, we're covering *Star Citizen's* ship weapon manufacturers, which have evolved from an original 2012 design document and a few early references in the initial ship specifications. When design work on the game started, Chris Roberts was adamant that he wanted to go further than ever before in adding detail to the universe, so where his previous games might have occasionally assigned a manufacturer or a designation to a spaceship, *Star Citizen* would go the extra distance of determining not only who made each component of each ship but where and how they would be produced in the living universe. Details as small as where a factory exists are recorded by the team because they could become much more important in the future!

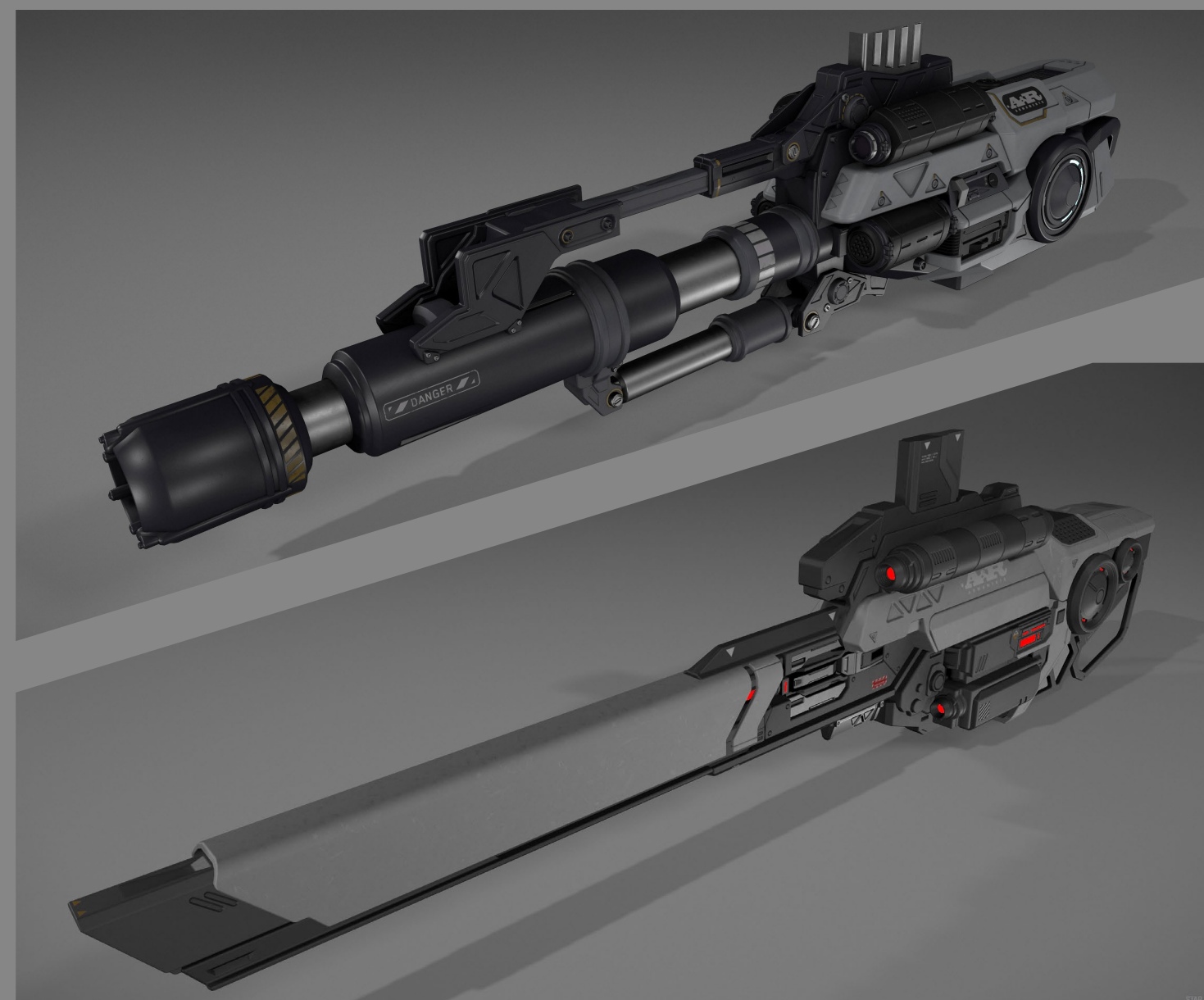


Amon & Reese began life simply as A&R, listed as the manufacturer for the Omnisky series of laser cannons offered on such early ships as the Origin 300i. *Star Citizen's* lore makers developed that simple, unspecified acronym into a veteran-run laser manufacturer that fits directly into the UEE's military history.

PRODUCTS

LASER CANNONS: Omnisky Series Cannon (S1-6) Scattergun, PyroBurst

BRAND DESCRIPTION: Formed early in the Messer era by recent veterans Marcelo Amon and Travis Reese, A&R Co. is one of the oldest energy weapon manufacturers in the UEE. Their designs have always been user focused and they have a well-earned reputation for dependability and ease of use, something the company claims derives from a dedication to field testing that well exceeds what other companies do. Even though they have sold to the military for centuries, they have managed to remain politically neutral, even avoiding the stigma that many of the other Messer military suppliers faced. This is due in no small part to their dedication to the starmen themselves rather than the military complex. The company has been known to go above and beyond when it comes to helping enlisted and veterans alike. A&R has expanded their line to include other components that focus on energy use and creation, and over the years, their quality and customer service have made them not only a military favorite but a civilian one too.





APOCALYPSE ARMS

Apocalypse Arms was developed as a manufacturer for some of *Star Citizen's* 'scarier' weapons, the sort of rugged, battle-hardened technology that has survived the test of time and

combat in the 'verse. The company was not one of the original weapons manufacturers but was established fairly early on to build the Revenant Gatling weapon. The November 2015 issue of *Jump Point* includes a portfolio covering the whole of the company's history.

PRODUCTS

Cannons: Strife Mass Driver (S2)

Gatling Guns: Revenant (S4), Draugar (S6)

Repeaters: Shade (S4), Eventide (S5), Nightfall (S6)

Scatterguns: Havoc (S1), Hellion (S2), Predator (S3)

BRAND DESCRIPTION: Very angry, aggressive, devastating weapons inspired by Messer-era technology.



Behring was one of the first five weapon manufacturers included in *Star Citizen's* initial public pitch document. In the years since, Behring has become a favorite contractor for the UEEN and has evolved a fairly ordered series of military-designated energy cannons that are found anywhere and everywhere in the 'verse. The February 2014 issue of *Jump Point* includes a portfolio of Behring, which has since been updated for a web release.

PRODUCTS

Cannons: C-788, M3A, M4A, M5A, M6A, M7A, M8A, M9A

EMP Generator: REP-8

Missiles: Marksman, Pathfinder, Pioneer

Missile Racks: Marsden, Santoro

Ordnance: Fragmentation Mine

Repeaters: SW16BR1 "Buzzsaw", SW16BR2 "Sawbuck", SW16BR3 "Shredder"

BRAND DESCRIPTION: Terra-based weapons consortium. Outsources to a lot of designers and subsidiaries to be a one-stop shop for all your defensive needs. The Behring Research Consortium was founded in 2554 on Terra as the end result of several years of buyouts and consolidation of dozens of small research and development firms by Behring Equity Investments. By having so many different research units focusing on a wide variety of developments, the Behring group hoped to increase the likelihood of expensive research resulting in a marketable product. Their history speaks for itself as the famed laboratory is accredited for the standardization of laser weaponry and dozens of other innovations. Today, Behring is still going strong with their technological-forward products featuring straightforward and simple designs, making everything from guns, missiles, sentry drones, to shields and armor.





FIRESTORM KINETICS

The original pitch for weapons manufacturers focused on guns and specialty item manufacturers. FireStorm Kinetics was developed in a second wave of corporations as the need for companies that manufacture munitions was recognized. After all,

if a particular company is making your ship's guns, it stands to reason that another would be making the missiles, rockets, and other disposable weapons you would need to reload.

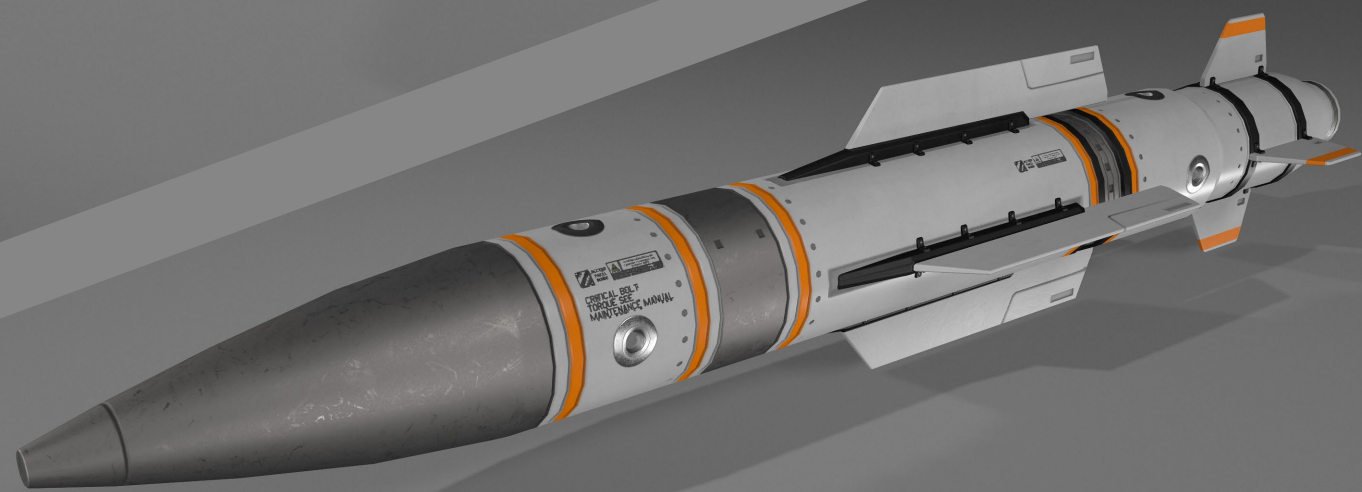
PRODUCTS

BOMBS: Colossus

MISSILES: Arrester, Ignite, Spark, Tempest, Thunderbolt

ROCKET PODS: Yebira I, Yebira II, Yebira III

BRAND DESCRIPTION: Got their start manufacturing cap-ship rockets and torpedoes for military bombers. As the civilian market grew, they expanded their operation into missile manufacturing.



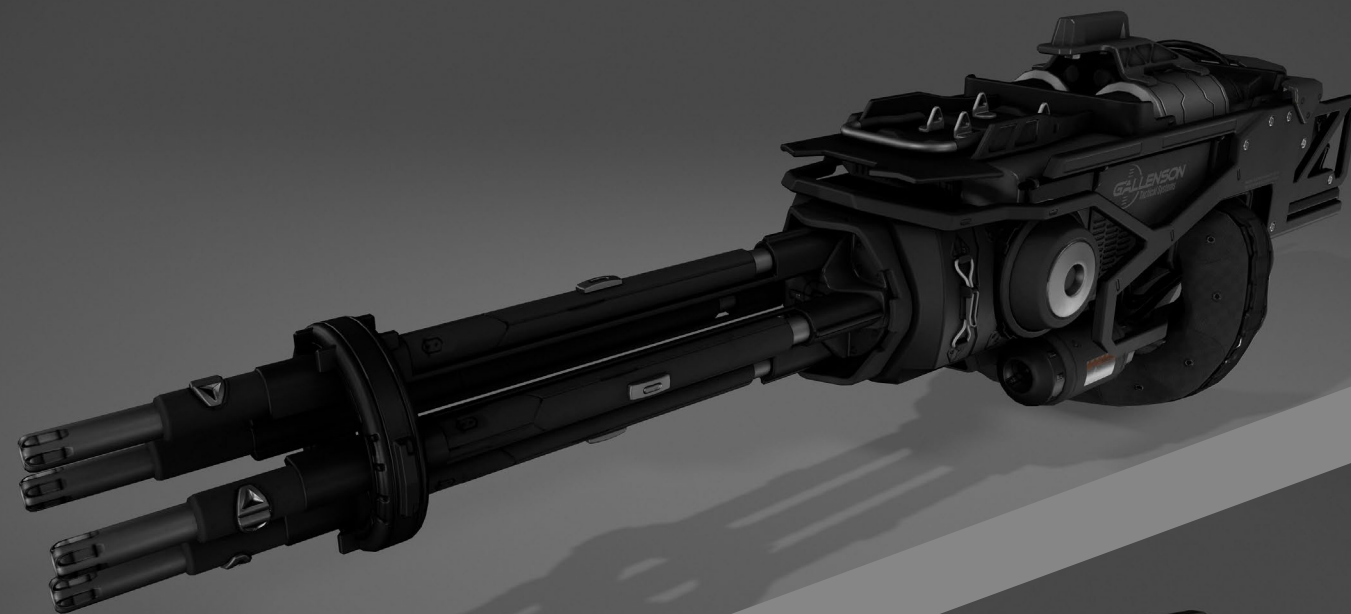
PRODUCTS

CANNONS: GT-870 Tarantula (S2), GT-870 Tarantula Mk3 (S3)

GATLING WEAPONS: GT-210 YellowJacket (S1), GT-215 Scorpion (S2), GT-220 Mantis (S3)

BRAND DESCRIPTION: Started out as a gun shop in Salt Lake City, Utah. Bought up a small foundry and began making their own high-quality weapons. Recently introduced several lines of Ballistic ship weapons. Have a heavy-duty feel to their guns. Should feel powerful or intimidating.

GallenSON is a manufacturer of both slug-throwing Gatling weapons and several of the personal weapons carried by players, a logical connection since both types function the same internally. It was added to the canon of weapons manufacturers alongside *Arena Commander* and was first discussed in-depth in a May 2015 episode of *Around the Verse*.



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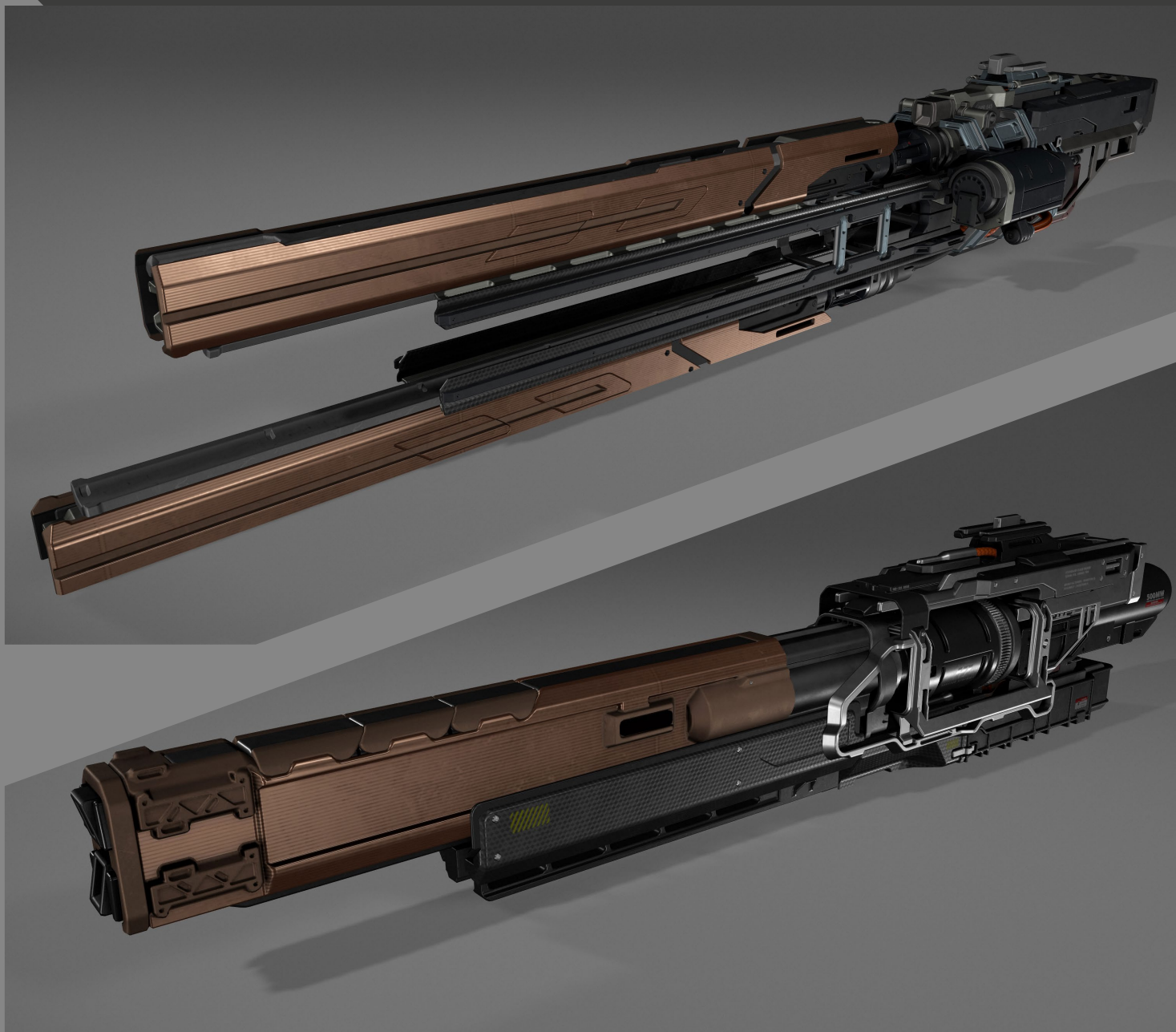
HURSTON DYNAMICS

Even casual players will recognize Hurston as one of the mega-corporations that has its own self-named planet in the Stanton System. Hurston is a massive combine that develops and manufactures all types of goods, but among them a variety of energy-based weapons and even a class of rocket pods!

PRODUCTS

- ELECTRON BEAM:** Liberator series
- LASER REPEATERS:** Attrition series
- LASER SCATTERGUN:** Dominance series
- ROCKET PODS:** Jericho series

BRAND DESCRIPTION: Unapologetically violent. As a company, Hurston dominates their employee's lives. While they have made a ridiculous fortune over the centuries from their line of electron and quantum cascade cannons, they are a major manufacturer of ship-based energy weapons and have zero qualms about who they sell them to. Owns one of the planets in the Stanton system.



JOKER

PRODUCTS

- DISTORTION CANNON:** Suckerpunch, Suckerpunch-L, Suckerpunch-XL
- LAUNCHERS:** Defcon Chaff Launcher, Defcon Flare Launcher

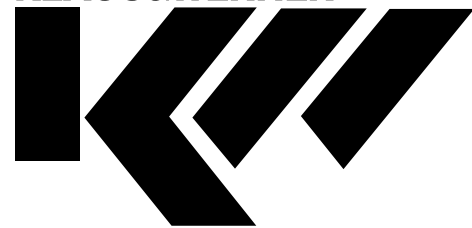
BRAND DESCRIPTION: Small start-up company founded by an eccentric engineering whiz-kid named Barlowe Elias. Anarchic engineering. Items always have flair and a dark sense of humor to them. Most of the products are built specifically to facilitate illegal or duplicitous activity. Their products are intended to cause chaos.

ORIGINAL PITCH: Small start-up company founded by an eccentric engineering whiz-kid named Barlowe Elias. Burst onto the scene by creating 'specialty weapons.' His weapons are generally favored by criminals and pirates because of their unusual applications, such as the Beacon Bomb designed to simulate a distress beacon with customizable distress calls.

Joker was one of the first five *Star Citizen* weapons corporations proposed with a special emphasis on how it could be used as the flagship for unusual or different weapons systems that might expand gameplay beyond just shooting guns and launching missiles. So far, that has taken the form of EMP and countermeasure-type weapons in the game itself, but the company's lore expands to much more that can be expanded upon in the future.



KLAUS & WERNER



Another of the original set, Klaus & Werner is one of the UEE's most respected weapons manufacturers. The idea behind having different companies developing the same types of weapons was that players would have more choices to make based on build quality and price. Want to equip a spaceship quickly and cheaply? Maybe look elsewhere. Want to spend a little extra for a more durable build? Klaus & Werner is your answer! It's a system that turns understanding how the game's weapons work into an increasingly complex set of options for players who are interested in digging a little deeper.

PRODUCTS

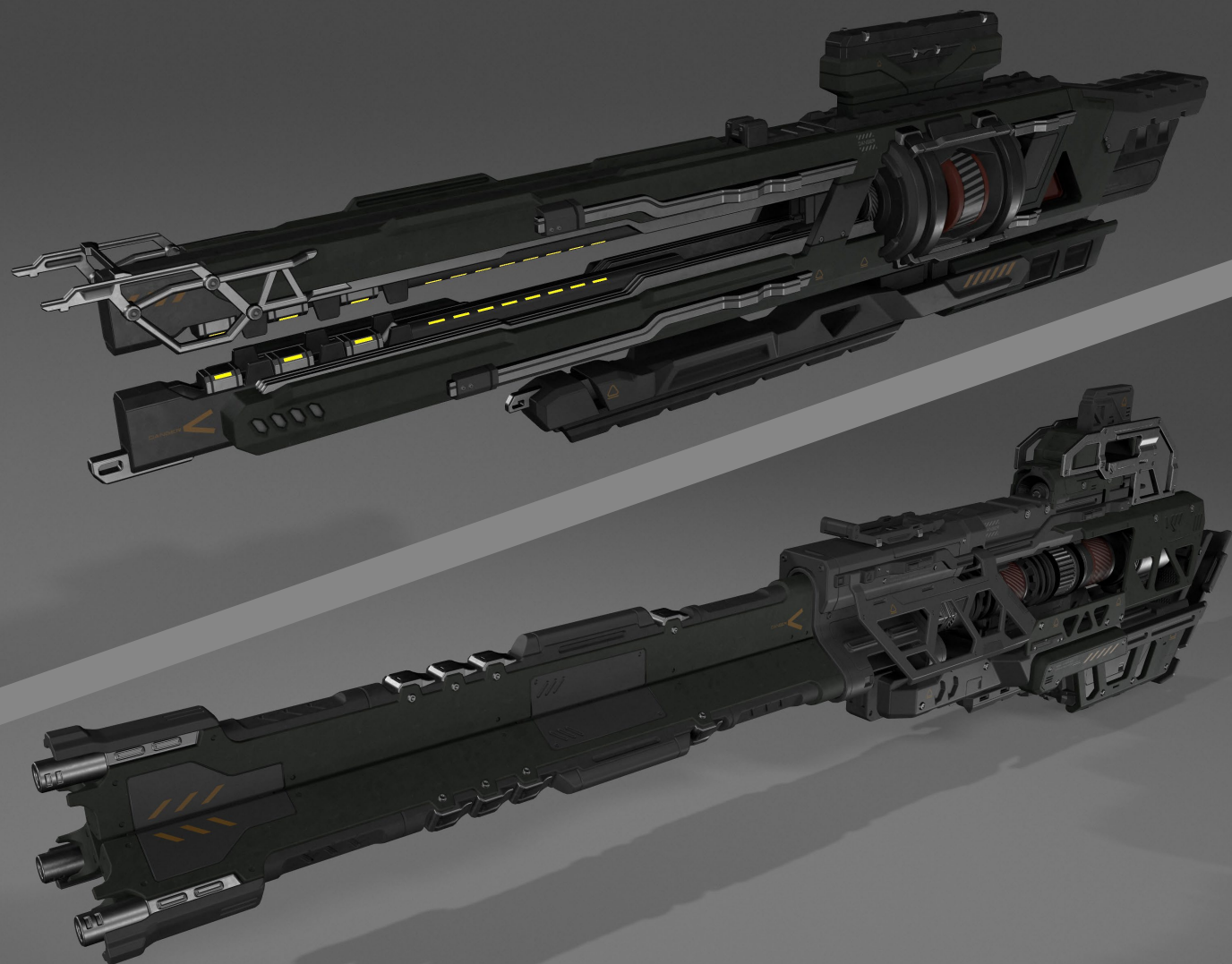
MASS DRIVER: Sledge II (S2)

REPEATER: CF-117 Bulldog (S1), CF-227 Badger (S2), CF-337 Panther (S3), CF-447 Rhino (S4), CF-557 Galdereen (S5), CF-667 Mammoth (S6)

BRAND DESCRIPTION: Formed in 2893, Klaus & Werner makes guns, and they make them well. This simple philosophy was the brainchild of Hector Klaus, a successful weapons inventor who believed above all else that simplicity of design would triumph in a combat situation.

ORIGINAL PITCH: Some government contracts but mostly personal defense company. Almost exclusively handguns, rifles, and shotguns (both energy and hard-ammo).

POPULAR MODELS: Model II Arclight – handheld laser made famous as Kyle Fenris' sidearm on the hit vid-show The Frontier.

KNIGHTBRIDGE
ARMS

A natural counterpart to Klaus & Werner, KnightBridge was developed specifically to be a manufacturer of cheaper, less effective weaponry. Their 'sword' series of ballistic weapons are all reliable but not impressive, offering a baseline that new players can become comfortable with without blowing the bank.

PRODUCTS

BALLISTIC AUTOCANNON: 9-Series Longsword, 10-Series Greatsword, 11-Series Broadsword

BRAND DESCRIPTION: Cheap, low cost, mass produced, needlessly flashy weapons.





MaxOx is another corporation that grew out of the original set of ship descriptions. The company's original products were intended to be neutron cannons, though they have now been adapted to be more in line with *Star Citizen's* other energy weapons. MaxOx has also since expanded to produce a variety of laser repeaters. MaxOx's history was covered in the April 2019 issue of Jump Point.

PRODUCTS

CANNONS: NN-13 (S1), NN-14 (S2), NN-15 (S3)

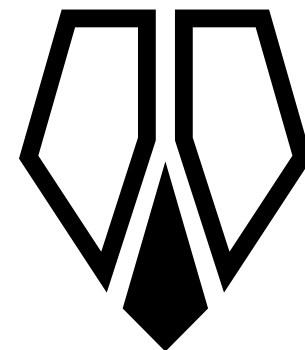
ORDNANCE: TroMag Burst Generator

REPEATERS: NDB-26 (S1), NDB-28 (S2), NDB-30 (S3)

BRAND DESCRIPTION: Very clean, high-tech. Got their start making medical and laboratory lasers and transitioned into combat applications.



TALON
WEAPONS SYSTEMS



The original missile manufacturer! Talon was among the first five weapons companies pitched for *Star Citizen* and, in its role as flagship missile maker, has been assigned quite a few scary-sounding weapons lines over the years. So no matter what the job (or the payoff), there's an appropriate Talon weapon for you. Talon also produces chaff and missile racks themselves, another sign of *Star Citizen's* dedication to explaining EVERY ship component's backstory. Talon was profiled in the July 2019 issue of Jump Point.

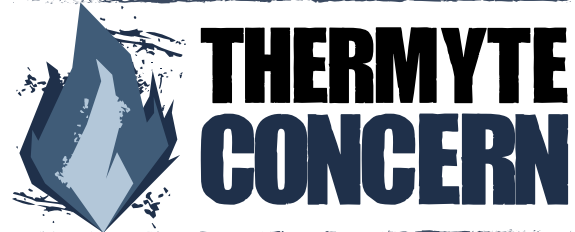
PRODUCTS

CHAFF

MISSILES: Argos, Assailant, Dominator, Hellion, Raptor, Reaper, Scimitar, Seeker, Stalker, Talon, Triton, Typhoon, Valkyrie Missile Racks

BRAND DESCRIPTION: Croshaw-based munitions manufacturer, focusing mostly on missiles, bombs, and torpedoes. If it exists, there's a Talon that can blow it up.





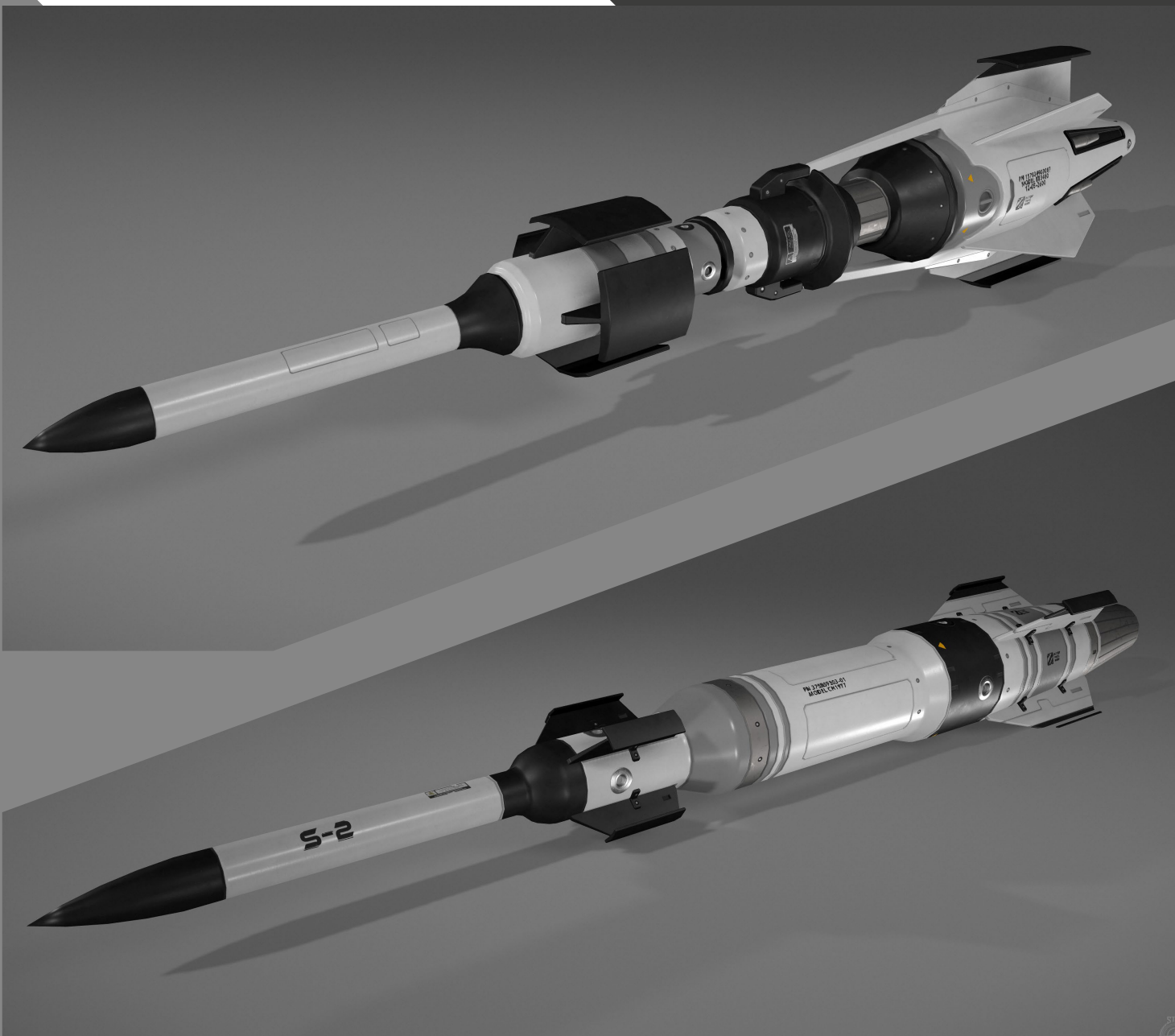
As the name implies, Thermyte is a company responsible for a variety of explosives that range from blasting charges used in mining equipment to missiles and rockets used by combat ships. In true *Star Citizen* tradition, Thermyte's history of building mining equipment isn't just backstory, it's something that players will notice as they examine the mining equipment encountered throughout the galaxy!

PRODUCTS

MISSILES: StrikeForce, TaskForce

ROCKET PODS: Liberator, Liberator Prime, Liberator Ultra

BRAND DESCRIPTION: A demolitions company that's recently expanded to manufacturing missile warheads. Civilian division builds mining gear.



Remember how exciting it was when *Star Citizen* introduced the first beam weapons? Well, Trident was the company created alongside that development to provide a history for exactly where those beam weapons came from! Trident is the newest company on this list although it has already been tied directly into UEE history.

PRODUCTS

LASER BEAMS: Arame, Kombu, Wakame

BRAND DESCRIPTION: Energy-based weapons manufacturer. Started out as a ballistic-exclusive company but switched in 2821 because it was cheaper to make energy weapons on a larger scale.





GALACTAPEDIA

IMPERIAL ARTS FOUNDATION

The Imperial Arts Foundation (IAF) is a nonprofit charitable organization located on Green (Ellis III) that provides funding and resources to artists and arts programs in the United Empire of Earth (UEE). It was founded in 2811 by Marana River (2788 - 2887). Every year, the IAF awards grants and fellowships to artists who work with a wide variety of forms, including music, sculpture, dance, performance, digital media, and writing.

BACKGROUND

After graduating from Aydo Polytechnic with a degree in sculpture, heiress Marana River was able to work comfortably as an artist thanks

to her family's wealth. Many of her friends, however, struggled to make art and support themselves at the same time. This difference in circumstances pushed River to research how she could provide artists like her friends with enough money to concentrate on their work without worrying about paying rent or obtaining basic necessities.

Enlisting the help of her parents, River secured initial funding to hold a gala, to which she invited local businesses, government officials, celebrities, and wealthy friends. The gala was a success; in its first year, the organization raised roughly 3 million UEC. With these funds, River registered her new charity under the name Green Foundation for the Arts and hired her first employees. She continued to hold other fundraiser events alongside her annual gala, and after six years of fundraising, established an endowment of 400 million UEC.

The charity awarded grants only to new artists on Green for eleven years. When it opened a second branch on Aremis (Vega II) in 2829, it was renamed the Imperial Arts Foundation and amended its mission to support new artists in all parts of the UEE.

EVENTS

The IAF sponsors two major events every year: the Green Gala and the Folk Arts and Music Fair. The Green Gala, held at the Green Museum of Art, is a red-carpet, invite-only event used to generate funds for the IAF. Celebrities and philanthropists attend alongside IAF grant recipients selected by an independent committee of arts peers. Each gala is assigned a theme to set the tone for attendees' formal dress. The Folk Arts and Music Fair, held on multiple planets on a rotating basis, is

an arts festival showcasing traditional and non-traditional arts unique to each planet in the UEE. The first fair, held on Saisei (Centauri III) in 2847, honored traditional Saisei instrument craft.

AWARDS

In addition to grants, the IAF gives out awards to artists who demonstrate outstanding potential. Those early in their careers are given the River's Promise Award and a monetary prize. The Eminence Award is given to artists who have benefitted from IAF grants and have gone on to achieve prominence in their chosen discipline. Lastly, supporters who have donated to the IAF, without whom the charity would be unable to continue its mission, are recognized with a Patron of the Arts Award.



HOMESICK

June 2544, Terra system. Three years into the First Tevarin War.

"Impressive, isn't it?"

"That the biggest one we got?" I asked with eyes glued to a massive ship sporting the largest gun I'd ever seen.

"Not even close. Our biggest ships don't fly in atmo, so we keep 'em docked at space stations all across Terra."

"How much bigger are they?"

"Like floating cities. Every recruit that leaves with us today goes straight to one waiting just out of atmo. That means there's one watching over you right now, protecting you from the Tevs. You interested in flying?"

I glanced at the young Navy starman. A massive Invictus recruitment banner hung over her head. Terra's afternoon sun glinted off a button on her freshly pressed uniform. I looked away and shrugged, "Only ever done it once."

I nervously shifted a bag of groceries from one hand to the other, thinking about being hurried aboard that first ship during the Tevarin orbital bombardments of Idris IV. I'd always hoped to one day leave Idris but never expected it to be like that. Crammed into a suffocatingly crowded cargo hold next to mom as she cried hysterically over Florin's decision to stay and fight. Nothing had been the same since.

At the refugee camp, mom barely ate and spoke less. She spent most of

her time staring vacantly at the horizon or sleeping. A doctor put her on meds that helped, but things got bad again after we moved into long term housing in New Austin. Mom started having unpredictable mood swings that vacillated between angry, sad, and completely zoned out on meds. Making matters worse, she became extra vigilant about my whereabouts, worried we would be separated if the Tevarins ever launched another surprise attack. I reassured her we were far from the front lines, but that didn't really help much as we constantly argued over the smallest things. I religiously watched the news for any positive update about the war on Idris, hoping that something, anything, would break her out of her mood.

"Well," said the starman, regaining my attention, "sounds like the perfect opportunity to step aboard your second ship. I'm leading a tour of the beauty you've been admiring in a few minutes if you're interested."

"I've got my groceries."

"Don't worry about that," the starman said while glancing at the bag's meager contents. "Sure we can keep it safe for you while you're onboard. How about I save you a spot, just in case?"

I glanced at the ship again, wondering what it must look like inside, and then nodded.

"What's your name?"

"Atsuko Tillery."

"Nice to meet you Atsuko. I'm Starman Marinos," she beamed a smile. "Just one spot? There a friend or a parent that might want to join you?"

I lowered my eyes and shook my head. Mom didn't even know where I was right now. Not after I stormed out after our latest fight. It began when I literally dragged her out of bed for the one piece of news that should have cheered her up. Florin was alive. He could be clearly seen in a news vid about freedom fighters on Idris IV. He was part of a group calling themselves the Greys, homegrown rebels who hid in the Corsti mountains outside of Tany's. In the vid, Rachel Locke, their leader, implored people to do anything and everything possible to save their own system from suffering Idris' fate. Florin stood among the soldiers stationed behind Locke. His face aged a decade and visibly scarred, but proudly letting us know that he was still alive.

I pointed to the image of him frozen on the vidscreen, "Mom, look..."

Mom looked at Florin and then walked back to her room, "Not like we'll ever see him again. I told him staying there would only get him killed."

Her response crushed me and I asked why she didn't see this as good news? That's when the screaming started. After several minutes of mom ranting about how it was selfish of Florin to abandon us to play hero, I couldn't take it anymore. What Florin was doing was brave, but nothing I said would change her mind, so why try anymore?

I raced out of our apartment complex and wandered the streets. It felt freeing to do what I wanted for once without worrying if it might anger

her. Walking without a destination cleared my head, but deep down I knew the only place I had to go was the one place I couldn't stand anymore, home. I wandered into a store to grab a few essentials then decided to take the long route back. Along the way, I saw a stream of people following massive Invictus banners announcing a shipyard full of the Navy's latest ships. Curious, I followed. I'd seen news vids of Navy ships, but never one up close.

"And how old are you?" Starman Marinos asked, bringing me back to the present.

"Sorry, what?"

"How old are you, Atsuko? Technically no one under 17 can take the tour alone."

"19."

"Good, good," Starman Marinos tapped on her tablet. "And you're from here, right?"

"Idris, actually."

"I'm sorry," the starman stiffened and lowered the tablet to look at me. "Were you evacuated here with your family?"

I just glanced at my feet. Not sure how to explain that the mother I knew and loved never really left Idris. "My brother stayed behind to fight. He's with the Greys."



"Really? That's incredibly brave of him. You must be proud."

"Wish I would've stayed with him. Would've done more good than what I'm doing here."

"We all have our part to play."

"It's just... I wish I could do more."

"Well, that's what Invictus is all about. We're here today not only to show off the Navy's most incredible ships and tech but to help people figure out how they can best support the war effort." Starman Marinos hit more buttons on her tablet. "Have you given any thought to how you'd like to help?"

"I mean, a little. Don't really know what I could do though."

"Don't worry, I can help you figure that out. We have a handful of simulators set up to test your skillset."

"Really?" I remembered Florin had used a mining simulator at a job fair once and spent days talking about how real it felt. "Always wanted to try one of those."

"Let me just reserve one for you," Starman Marinos hit a few more buttons and then smiled. "Come on. I'll let you jump to the front of the line so you get a good view of everything and can ask me any questions you want."

"Okay," I said while following her past a long line of people waiting for the tour to begin.

"I think you're gonna really like the tour. You'll get to see exactly what it's like to spend your day as a Navy starman."

I nodded, imagining how proud my brother would feel knowing that I had joined the fight against the Tevs. He understood the importance

of doing everything possible to help save Humanity, even if it meant leaving those you loved. Then I thought of mom sitting at home alone, probably furious that I wasn't back already. Hopefully she made some lunch, though I doubt she cooked anything for herself. At least there were a few meal bars in the cupboard.

"You okay on time?" Starman Marinos asked, noticing my slowing pace.

"Yeah, fine."

"Good, because I think once you see what a Navy ship looks like inside, you'll never want to leave."

At the front of the line, Starman Marinos reached for the bag of groceries but something caused me to instinctively pull it back.

"It's ok, I'll have Starman Haas personally watch over them," she said while waving Starman Haas towards us.

"Actually, I should go."

"You sure? I thought you wanted to see the ship."

"I do..."

"Then let's go. The only thing stopping you is yourself."

"I wish that was true." With that, I turned and started to walk away. Faced with the reality of signing up for the military, I'd realized something surprising.

"Atsuko," Starman Marinos called after me, "I thought you wanted to help save Humanity?"

I did, but first I had to try and help save mom.



FEAR NO FRONTIER

Built for adventure but ready for anything, the Aztalan armor from Tehachapi won't just help you survive, but thrive. Utilizing their unique blend of armor plating with strong polymer weaves, the Aztalan armor will keep you light on your feet while also providing strong protection.

ALSO AVAILABLE IN TWO ADDITIONAL COLORS.

