Image Courtesy of Netflix

SHADOWMACHINE ON CREATING "GUILLERMO DEL TORO'S PINOCCHIO" WITH FLOW PRODUCTION TRACKING (FORMERLY SHOTGRID)

Autodesk helped SHADOWMACHINE...

Manage Design and Project Complexity

Improve Pipeline Flexibility and Scalability

Improve Collaboration
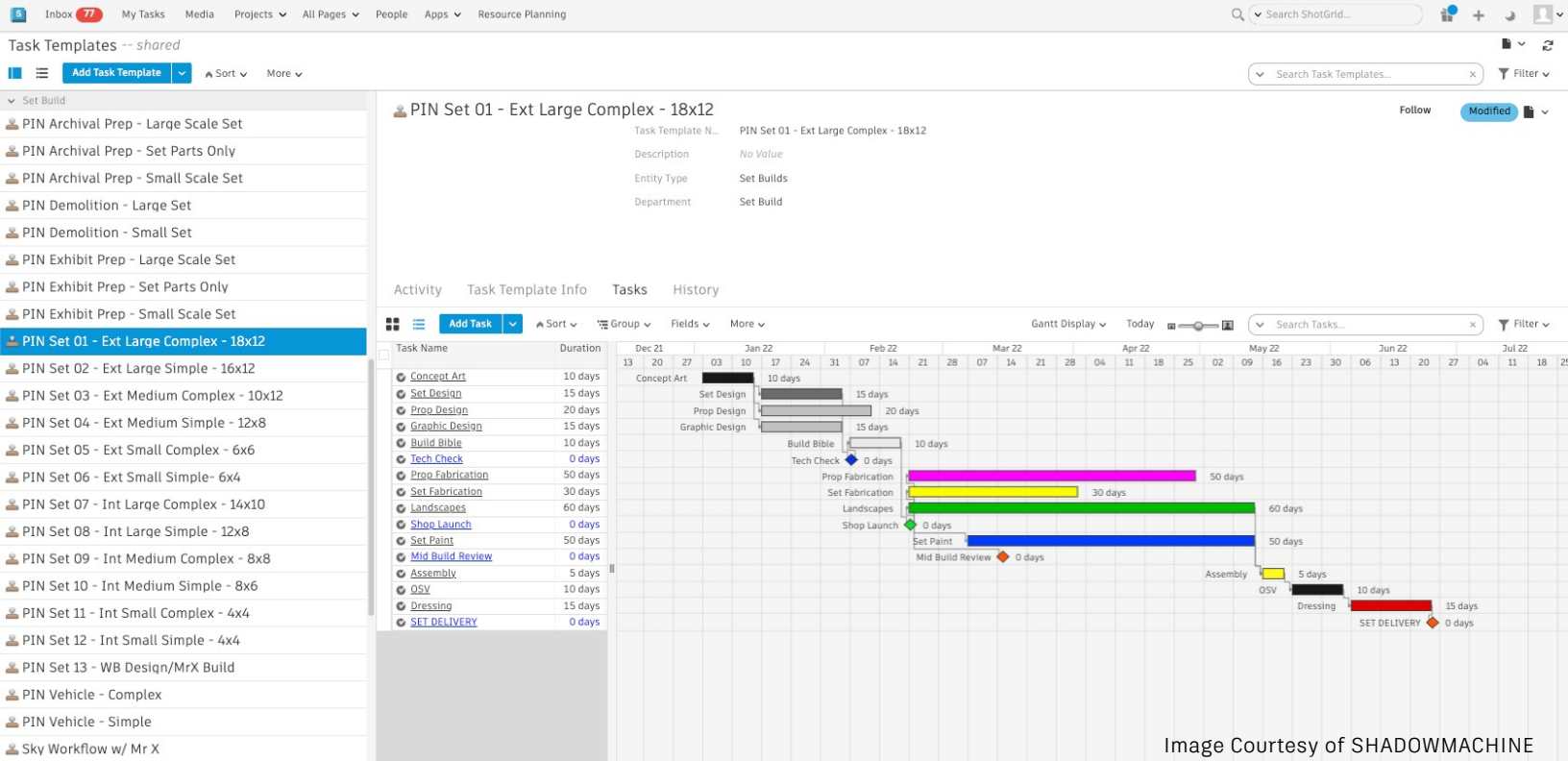
Reduce Errors and Rework

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Task Templates -- shared

Add Task Template ∨ | ⬆ Sort ∨ | More ∨ | Search Task Templates... | ▼ Filter ∨

Set Build

- PIN Archival Prep – Large Scale Set
- PIN Archival Prep – Set Parts Only
- PIN Archival Prep – Small Scale Set
- PIN Demolition – Large Set
- PIN Demolition – Small Set
- PIN Exhibit Prep – Large Scale Set
- PIN Exhibit Prep – Set Parts Only
- PIN Exhibit Prep – Small Scale Set
- **PIN Set 01 – Ext Large Complex – 18x12**
- PIN Set 02 – Ext Large Simple – 16x12
- PIN Set 03 – Ext Medium Complex – 10x12
- PIN Set 04 – Ext Medium Simple – 12x8
- PIN Set 05 – Ext Small Complex – 6x6
- PIN Set 06 – Ext Small Simple– 6x4
- PIN Set 07 – Int Large Complex – 14x10
- PIN Set 08 – Int Large Simple – 12x8
- PIN Set 09 – Int Medium Complex – 8x8
- PIN Set 10 – Int Medium Simple – 8x6
- PIN Set 11 – Int Small Complex – 4x4
- PIN Set 12 – Int Small Simple – 4x4
- PIN Set 13 – WB Design/MrX Build
- PIN Vehicle – Complex
- PIN Vehicle – Simple
- Sky Workflow w/ Mr X

👥 PIN Set 01 - Ext Large Complex - 18x12   Follow | Modified

Task Template N...	PIN Set 01 - Ext Large Complex - 18x12
Description	No Value
Entity Type	Set Builds
Department	Set Build

Activity | Task Template Info | **Tasks** | History

Add Task ∨ | ⬆ Sort ∨ | ☰ Group ∨ | Fields ∨ | More ∨ | Gantt Display ∨ | Today | Search Tasks... | ▼ Filter ∨

Task Name	Duration
Concept Art	10 days
Set Design	15 days
Prop Design	20 days
Graphic Design	15 days
Build Bible	10 days
Tech Check	0 days
Prop Fabrication	50 days
Set Fabrication	30 days
Landscapes	60 days
Shop Launch	0 days
Set Paint	50 days
Mid Build Review	0 days
Assembly	5 days
OSV	10 days
Dressing	15 days
SET DELIVERY	0 days

Image Courtesy of SHADOWMACHINE

Guillermo del Toro's "Pinocchio" reimagines the classic children's tale through stunning stop motion provided by animation and production studio SHADOWMACHINE. Lauded a "triumph" by IndieWire, the dark retelling for Netflix was primarily created out of the studio's Portland facility. A labor of love more than four years in the making, it marks SHADOWMACHINE's first project to receive an Academy Award nomination along with awards from the BAFTAs, Golden Globes, Annies the VES and more, an even more remarkable feat considering the team delivered the striking and deeply meaningful film amidst a global pandemic, widespread local protests, and rampant wildfires – finding purpose in their art. Throughout production, Autodesk Flow Production Tracking (formerly ShotGrid) served as a centralized source of truth, offering certainty amidst the chaos and the necessary collaboration tools for success.

We recently spoke with IT Systems Admin and Pipeline Technical Don Schwartz, Art Production Manager Whitney Schmerber, and Scheduler and First Assistant Director Jared Bumgarner about their experiences in bringing "Pinocchio" to life. Here are the highlights of our conversation.

The "Pinocchio" Project

Alex and Corey started the studio in 1999, so it's well established. "Robot Chicken" was the first project to put SHADOWMACHINE on the map, and they've done many more projects since [in addition to winning several Emmy Awards], working out of both our Portland and Los Angeles facilities. The Portland studio focuses solely on stop motion while our Los Angeles team specializes in CG, with some stop motion.

They've used Flow Production Tracking (formerly ShotGrid) on a few projects in the Los Angeles studio, but not extensively. "Pinocchio" marked their first implementation of Flow Production Tracking in Portland, and Don's first Flow Production Tracking setup personally.

Whitney and Jared both came from Laika, where they used Flow Production Tracking for years, but in a unique way. When they launched "Pinocchio," they knew that they needed something more than just a bunch

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of Google sheets and a semi-organized server. We needed a database, so Don and Jared built their Flow Production Tracking (formerly ShotGrid) integration. Jared logged his first "Pinocchio" task in it in June 2018.

The Flow Production Tracking Experience

Coming from a bigger studio with a full-time production technology department, integrating Flow Production Tracking (formerly ShotGrid) was a different beast. At the beginning of "Pinocchio," it was a little bit of a Wild West scenario in that we didn't have the budget to hire a team to build custom tools. The team was making it up as it went, which was thrilling and challenging. Jared like stop motion specifically because it's scrappy and every day reminds you of film school. Starting up a Flow Production Tracking project without much support was cool in that same way because they'd just solve their own problems, and that was liberating.

Don spent a lot of time watching Flow Production Tracking videos and reading tutorials, so he grew and learned a lot. They found a specialist through Autodesk, who helped them get up to speed in setting up the pipeline and figuring out the learning curve.

They try to get anything made by an artist into Flow Production Tracking as quickly and as seamlessly as possible. At the beginning of the project, they'd have concept artists and character designers push content to Flow Production Tracking. Then, the more technical designers take over. So, you'll have an artist do the pretty character design and somebody else do the turnaround to inform the sculptors for the puppet, or maybe it just goes straight to sculpt. They try to get anything made by an artist into Flow Production Tracking as quickly and as seamlessly as possible.

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> " **Many elements just grew exponentially until we reached the end, and Flow Production Tracking (formerly ShotGrid) helped keep us organized.** "

Managing a high volume of assets

Assistant camera operators interact with Flow Production Tracking the most. A

squad of ACs add photography to Flow Production Tracking all day long, and storyboard artists feed it content as well. They also depend on the Flow Production Tracking database for post production. Their storyboard artists add content, which is shared with editorial. For this project, they used Avid Media Composer and our editors sent sequences straight into Flow Production Tracking (formerly ShotGrid), which was massively important. They need to ensure that they're working with the most current version of the film and that the editors are keeping statuses up to date to keep the show moving forward without bottlenecks. There are tons of asset versions. As concepts are approved, physical artists use them to build the items. Each asset is tracked in Flow Production Tracking every step of the way, including all the physical pieces that must be located and put on stages. There is an insane volume of assets being wrangled on a show like this.

They broke down the builds by size into small, medium, and large, and created task templates to make it easier to stamp in schedules. Every art task begins with concept art and a set number of days to complete the work. Once complete, the work is fed to set design, prop design and graphic design – each assigned to a different person, ideally. After the design aspect is wrapped, they complete a tech check, where all department heads get together and review the drafts to spot any major potential design and functionality hiccups. Then they create a build bible, which is all the documents to prepare the shops, and manage the fabrication schedule to ensure everything is created properly and aligns with Jared's schedule for the actual shoot.

Paperwork tends to get lost, so they needed a way to store it all digitally for quick reference. In Flow Production Tracking (formerly ShotGrid), they never delete old versions. All our assets are available and labeled to ensure we've got their history and process documented where possible. On "Pinocchio," they had 99 different sets, and

Each set had anywhere from one to thousands of parts, and then they also account for the characters and their components. For them, Flow Production Tracking is an encyclopedia of everything in "Pinocchio," down to the tiniest wood shavings.

> "
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> "

Navigating complexity

Navigating Covid was tough; their job as a studio isn't just to make a movie, but to keep their team safe. Back in March 2020, there wasn't testing, and nobody knew what was going on, so they just tried to keep making progress on this film to their best ability. Those days were so difficult, and then they were both challenged with and inspired to know that they were making what the filmmakers kept referring to as "the best stop motion film ever made."

For Whitney, the hardest part about "Pinocchio" was that work and home used to be separate, but suddenly she had a whole team of people showing her the inside of their homes, their kids snuggling with them on video calls,

the tips of their toes as they shared photos of their work. "Pinocchio" became everybody's safe space. There were so many times when people would text her after a rough night wanting to come into work and make beautiful things and be around other people navigating similar struggles.

They also had a real racial reckoning here in Portland, and rampant wildfires. People were bringing their most cherished items
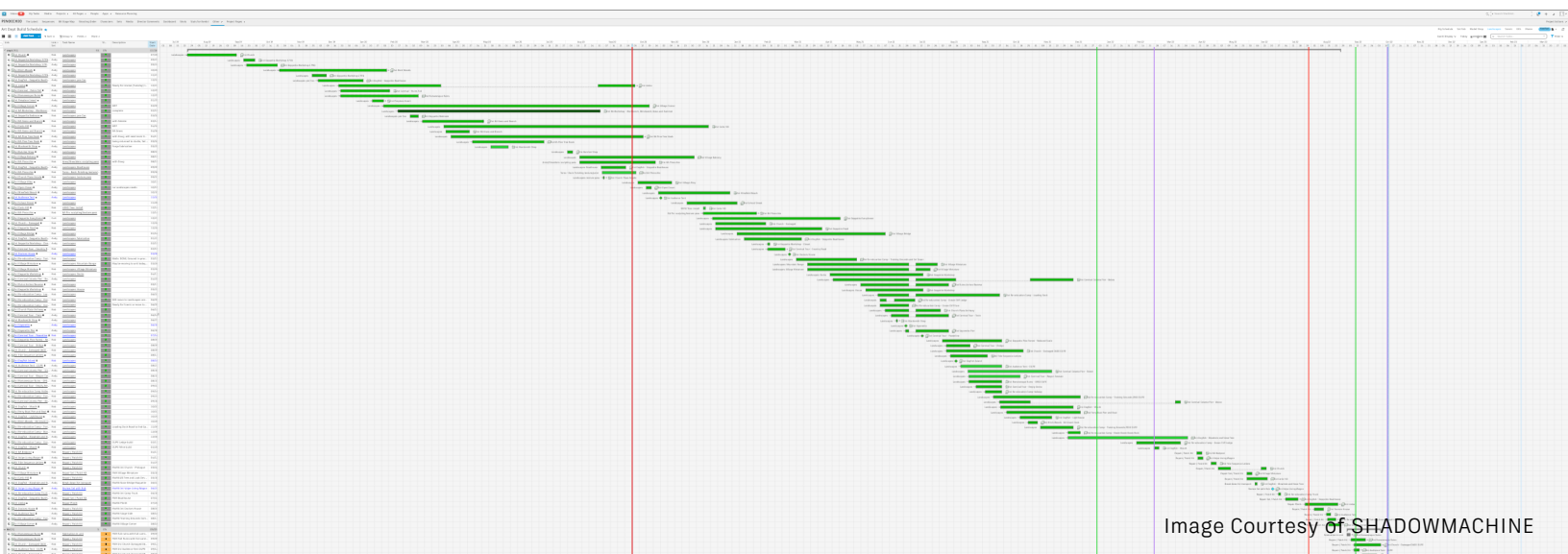
> " **Flow Production Tracking (formerly ShotGrid) brought me comfort because it was one thing I could control. Flow Production Tracking was something that we could lean into and have processes in place.** "
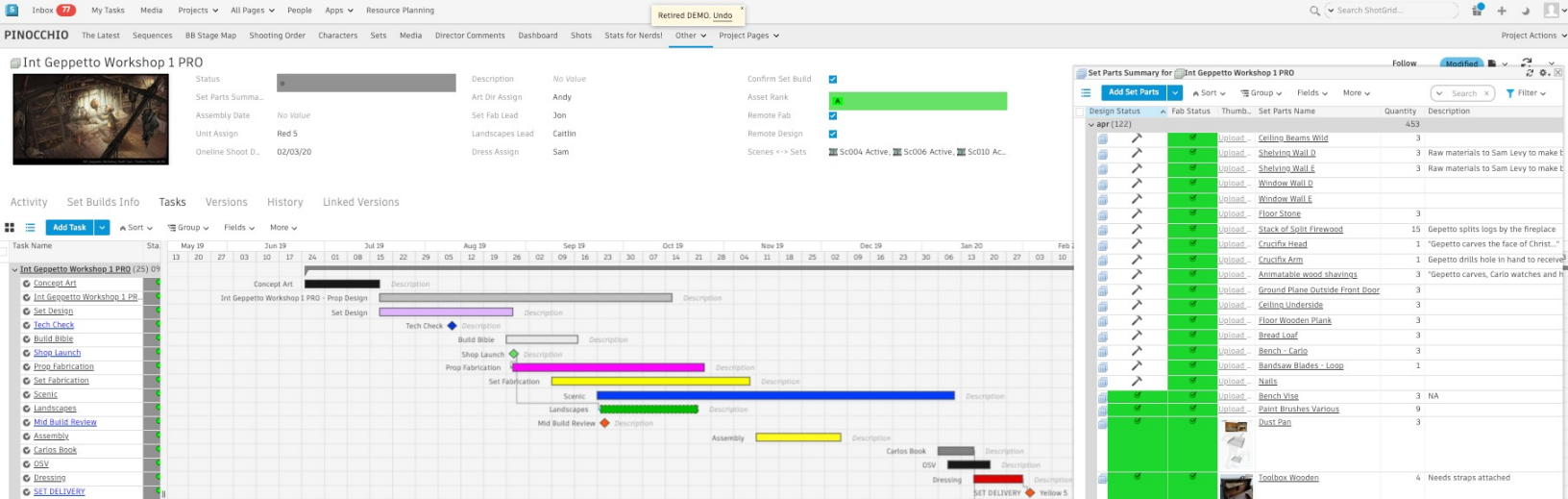
into work and putting them under their desks because they weren't sure if they'd be able to go home at the end of the day due to evacuation orders, or couldn't drive into work because they got pepper sprayed. As a manager and a leader, it was tricky to juggle the emotional weight of it all. Everybody's functioning in such a vulnerable place, and they had to figure out how to give people confidence in what they're doing and the sustainability of the company and this project. Flow Production Tracking brought her comfort because it was one thing she could control. Flow Production Tracking was something that they could lean into and have processes in place. That brought a lot of relief and there's no way we could have finished "Pinocchio" without it.

Flow Production Tracking quickly became essential because they didn't want to miss any beats when they suddenly went remote. She asked artists to quickly pack up their tools and reference images – anything they'd need to continue building assets for the next two weeks from home as much as their situation allowed. Fortunately, most artists already had a home workspace sorted out, but she needed that time to figure out some systems on my end.

With everyone working from home, instead of an art director walking around to check on physical assets, the team captured pictures with their phones and texted those

Image Courtesy of SHADOWMACHINE

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images to the Art Directors for review. Because she couldn't just walk through the shop and see what everyone was working on, she itemized every single task in Flow Production Tracking (formerly ShotGrid). They had an art department crew of 54 people, and it helped her keep track of who was working on what, completion timelines, and reference needs. With the support of the department coordinators, they sorted out physical asset transit between artists' homes. For example, they created 27 buildings for the shots when Pinocchio walks in the village. Each of those buildings moved between an average of seven different artists' homes before returning to the studio and for deck installation, assembly and delivery to the stages for the shoot.

What's next for SHADOWMACHINE?

They had around 357 people working on "Pinocchio" throughout the course of production, and about half of them used Flow Production Tracking (formerly ShotGrid). They also had vendor accounts for the studios that provided visual effects.

SHADOWMACHINE Portland was the central hub of the show, then we had a visual effects team in Canada, and McKinnon and Saunders partnered with us on the puppet builds. A studio in Guadalajara also created some puppets and sets and shot a portion of the film. We worked closely with co-director Mark Gustafson, along with Guillermo del Toro for review.

SHADOWMACHINE is now in production on a Mike Judge show called "In the Know" for NBC Peacock. That's about all they can say, but it's very different than "Pinocchio."

Learn more about SHADOWMACHINE