



## **PODCAST #254 | ALEX NICE AND ROBERT NEDERHORST** **JOHN WICK: CHAPTER 3 – PARABELLUM**

**Glass act: “John Wick 3’s” VFX supervisor and concept artist reflect on creating the movie’s incredible translucent sets – and then smashing them up.**

Over the past few years, the John Wick movies have breathed new life into action filmmaking, marrying balletic big-screen violence with the intricate world-building and compulsive storylines of a quality TV series. Joining Chris this week are returning podcast guests Alex Nice (concept artist) and Robert Nederhorst (VFX supervisor), who talk about their work on John Wick: Chapter 3 – Parabellum.

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Rob Nederhorst: Why didn't you go with the rosemary water?

Alex Nice: I couldn't do it, man.

Rob Nederhorst: Why not?

Alex Nice: Because it means something if you start drinking stuff like that.

Chris Nichols: If you drink rosemary water? Is it too LA?

Alex Nice: It is a little bit too LA. It's exactly like-

Rob Nederhorst: As opposed to vitamin water?

Alex Nice: Yeah, because it's just a sweet drink, you know. It's not-

Chris Nichols: Vitamin water is pretty much just a re-brand of Gatorade.

Alex Nice: It is, yeah. I remember when vitamin water first came out and there'd be guys giving it away for free on the sidewalk, and they'd be like, "It's really good for you, bro. It's vitamins." Right? Because that's what they say on there.

Chris Nichols: Right. But it's not.

Rob Nederhorst: There's probably vitamins in it.

Alex Nice: Yeah, it's got-

Chris Nichols: Do you remember when you and I were starting Speedshape and we got a bunch of vitamin water, and we were like, "This is just basically sugar?"

Rob Nederhorst: Yeah, oh it's sugar water. Yeah. No question about it. But there was a purple one I think that was the 50 Cent-sponsored one, or whatever, and it was delicious.

Chris Nichols: Yes. Very good.

Rob Nederhorst: I drank way too many of those, because it was awesome.

Chris Nichols: But you see that rosemary water, although it's probably ridiculously overpriced because it's pretty much just water with a few essence of rosemary in it ...

Rob Nederhorst: Yeah. A couple of drops.

Chris Nichols: Tastes good, though.

Rob Nederhorst: It tastes delicious. Yeah, it's pretty great.

Chris Nichols: Yep. There you go.

Rob Nederhorst: Produced in the UK. It's flown all the way from the UK.

Chris Nichols: So I bet you it takes that much gas, of that bottle, to bring that bottle here.

Rob Nederhorst: Oh yeah. The carbon footprint of this bottle is so high I should be embarrassed by drinking this.

Chris Nichols: Yeah.

Rob Nederhorst: But I have to finish it, because if I don't I've wasted this carbon footprint.

Chris Nichols: That's right. That's right. Yeah, there you go. Excellent. All right, guys. As you probably gathered, we already started on this.

Rob Nederhorst: Yeah. I'm concerned about that.

Chris Nichols: You're concerned about that? You guys haven't been in the room since the remodel.

Rob Nederhorst: No.

Alex Nice: No.

Chris Nichols: Yeah. It's fancy now, right?

Rob Nederhorst: It is. It is fancy.

Alex Nice: Wasn't it just like pretty much a couch and a chair and a computer?

Chris Nichols: Yeah, and it was that way. Now we're all around a table, and we can actually look at each other a lot more easily.

Rob Nederhorst: Yeah. It's cool. It's handy.

Chris Nichols: It's handy. It was good. Yeah, I was excited about it. I was sitting there, and I was talking to Lon, and we were talking about John Wick, and I had not actually seen John Wick. And we were specifically talking about it

because we were going to do a Martini Giant episode about it. Right?  
Because ... Do you guys know David Stripinis?

Rob Nederhorst: I do, yes.

Chris Nichols: Two days ago, I was driving down Sunset, and I see a black Tesla in front of me, and the licence plate says LA VFX. I said, "I bet you that's David Stripinis."

Rob Nederhorst: Yeah.

Chris Nichols: So David wants to be on Martini Giants, and I told that to Thron, and he goes, "Oh, he wants to talk about John Wick. I'm sure he wants to talk about John Wick." So I told that story to Lon, and he goes, "We should get Throb and Alex on, because, shit man, these guys have been on. They're friends of ours, and you guys were very, very involved in John Wick 3." Both of you, right?

Rob Nederhorst: Yeah.

Alex Nice: We were.

Chris Nichols: Yeah. So I hadn't seen it, so I decided to just freaking binge watch and watch all of them, which I was hesitant to do, because there's something about the movies, from a far away perception that I was like, I don't really care about it. I watched. I am totally in this world. I love this John Wick stuff, and I-

Alex Nice: Wait. Did you have a break in between watching them?

Chris Nichols: No.

Alex Nice: Or did you do a whole day of watching all three of them?

Chris Nichols: No. I took one day at a time.

Alex Nice: Okay.

Alex Nice: That's a lot, because that's a lot at once to ...

Chris Nichols: It is a lot at once. And t's a lot of killing. And the thing is about it, the killing part was not necessarily as interesting to me. It was the world that was interesting to me.

Alex Nice: Right.

Rob Nederhorst: The world building is excellent.

Chris Nichols: The world building is really interesting, and that's something that I didn't get from my perception of John Wick.

Rob Nederhorst: Nobody was prepared for that when they did the first one.

Chris Nichols: Right.

Rob Nederhorst: I mean obviously Chad and Keanu knew what they were trying to do, but they just made it for fun, like, hey, we've got a script about some crazy assassin dude. Let's make a movie, as like a joke almost.

Chris Nichols: Really?

Rob Nederhorst: And then it became a real movie and made pretty good money.

Chris Nichols: Yeah.

Alex Nice: Yeah, that was unexpected, right?

Rob Nederhorst: Yeah.

Alex Nice: It was like-

Rob Nederhorst: Absolutely.

Alex Nice: What was it made for?

Rob Nederhorst: I don't know the answer to that question.

Alex Nice: I think it made way more than what it cost to create it, right?

Rob Nederhorst: Yeah, absolutely.

Alex Nice: Yeah.

Rob Nederhorst: Yeah.

Chris Nichols: Yeah. I was very surprised by how much I got into it, and then what happens is that once you, because like you said, I took a day between each one, when you stop watching that movie, that world or that taste of that world stays with you.

Rob Nederhorst: Interesting.

Chris Nichols: You know?

Rob Nederhorst: Yeah.

Chris Nichols: Like you drive your car differently. You know? Every motion with your hand feels like it's a purpose.

Rob Nederhorst: Do you find that you exit parking lots at a high rate of speed and then just-

Chris Nichols: No.

Rob Nederhorst: ... lay on the parking brake -

Chris Nichols: No, no, no. It's very methodical, because there's no threat in my life at all. But I feel like I'm being very methodical. And I was like ... just things are prettier. There's something about that world that's so pretty, so pretty.

Rob Nederhorst: I mean it's art directed to within an inch of its life.

Alex Nice: The cinematography in those movies is incredible also.

Rob Nederhorst: Yeah. In every single one, even though the cinematographer changed from part one to part two, the photography in all the films are incredible, and you know, for me, part three I think is ... What I personally worked on, part three is the beset looking film I've ever worked on, bar none. Nothing touches it.

Chris Nichols: If I had worked on that, it would be definitely in that top movie.

Rob Nederhorst: Yeah.

Chris Nichols: Although, I mean honestly Tron was a really beautiful film that I worked on as well-

Rob Nederhorst: Yeah.

Chris Nichols: ... and I think that that has ... There's some similarities of the framing and the aesthetic and the contrast. The contrast is what really is amazing in those things.

Rob Nederhorst: Yeah.

Alex Nice: Mm-hmm (affirmative). And not being afraid of colour at all.

Chris Nichols: No.

Alex Nice: That's one of the things, when I first went onto that, it was like I was making de-saturated images. He's like, "No. We want colour. This is a colour movie that has its own style. If you look in the windows of a lot of the scenes, it's a green light that's shining in from the city. It's not just regular city lights, which is really cool. It's like an artistic stylization thing. It's really cool.

Chris Nichols: Right.

Rob Nederhorst: To me that level of stylization actually helps pull the viewer into the alternate reality, which is why it doesn't get the level of flak that some of the other super violent movies get. John Wick kills 182 people in part three. That's a lot of killing. I mean even on my daily commute, I don't kill that many people. Like you know, it's 125. I run over as many people as I can.

Chris Nichols: Yeah.

Rob Nederhorst: But he kills a lot of people, and this is a super violent movie, but it doesn't get the level of flak because it lives in this alternate universe, and because they world build, it kind of gets a pass.

Chris Nichols: Oh, it gets a lot of passes. I gave it a lot of passes. Like I don't go in the middle of Grand Central Station and stab two people and just walk away.

Rob Nederhorst: You should. It is super fun. Yeah, I think really that's why it does get a pass, and it's why people who review the film take it as its own thing.

Chris Nichols: Right.

Rob Nederhorst: They don't make comparisons to other super violent movies, because while you can believe that world is real, you don't equate it to-

Chris Nichols: Reality.

Rob Nederhorst: ... the real world.

Chris Nichols: It's not reality.

Rob Nederhorst: Yes.

Chris Nichols: It's fantasy.

Rob Nederhorst: Exactly.

Chris Nichols: Yeah.

Rob Nederhorst: Yeah.

Chris Nichols: It's absolutely fantasy, and that's an awesome ... Obviously there's a lot of references to The Matrix.

Rob Nederhorst: For good reason.

Chris Nichols: For good reason. Yeah. Like "Guns...a lot of guns." That was a good line.

Rob Nederhorst: That line was hotly debated and almost didn't make it in the movie.

Chris Nichols: Yeah, really?

Rob Nederhorst: Well yeah. There was one person who didn't want it in, and there was somebody else who really wanted it in.

Chris Nichols: Right. And you know, just having Lawrence Fishburne in there as well was kind of interesting too.

Rob Nederhorst: Yeah, and it was the 20-year anniversary of The Matrix.

Chris Nichols: Ah.

Rob Nederhorst: So that's why there were a little more homages.

Alex Nice: I didn't know that. That's cool.

Rob Nederhorst: It all kind of came together.

Chris Nichols: Nice.

Rob Nederhorst: Yeah.

Chris Nichols: That's interesting. All right, well let's get into this, because I know we're just going to keep talking about details and details, and we could keep going. But let's talk a little bit about your roles and where you guys came in. Of the two of you, who came into the movie ... You guys probably came in around the same time? Or ...



Rob Nederhorst: No.

Alex Nice: No, I was about a half a year before you, right?

Rob Nederhorst: Yeah.

Chris Nichols: Right. So tell us a little bit about how you got into it and how you came into this movie.

Alex Nice: Yeah. So I was working on ... Am I too far away? I was working on two projects at the beginning I think of 2018, I think it was.

Chris Nichols: Okay.

Alex Nice: And then I got called to go work on Highlander. Maybe I shouldn't say what it was. I got called to go work on another one of Chad's projects out there, and so we were at Manhattan Beach for about a half of a year, doing design work on that first movie, and then it transferred over into John Wick, because of scheduling issues.

Chris Nichols: Okay.

Alex Nice: I went on to John Wick, and I actually hadn't seen any of the John Wick films at that point either, so I binge watched a couple of them also, and then kind of got into the world, and by the end of the project I was super into it, because it was like ... You kind of really get into it when you look at the intricacies of what it is. So yeah, I was there for about six months, in LA, and then eventually went out to New York, and then did another three to four months in New York, I believe it was.

Rob Nederhorst: Yeah.

Alex Nice: And then you came on in New York, or you came on out here in LA?

Rob Nederhorst: They hired me out here in LA, but then I started in-

Alex Nice: That was the first time I saw you, was in New York, though.

Rob Nederhorst: ... New York, yeah, in January I think. January of 2018.

Chris Nichols: Okay.

Alex Nice: Right.

Chris Nichols: So you were designing a lot of the concepts, right?

Alex Nice: Absolutely. Yeah.

Chris Nichols: So what were some of the big ideas and concepts that you were sort of focused on?

## **Concept design**

Alex Nice: I was doing a lot of just general concept work of environments and set design stuff, but it was early on, and then after probably a month of being on it just doing traditional concept illustration work, the production designer, Kevin Kavanaugh, asked me to see if I could kind of port one of the big sets that we had in the film over into virtual reality, so that we could design a set in VR and use that as kind of like a tool. Because, if you've seen the film, there's a big giant glass structure called the glass office, and it's such an abstract kind of crazy set that building that set for virtual reality had a lot of uses that would kind of play out throughout the production.

Alex Nice: And so I initially told him that I wasn't going to be able to do it, because glass obviously is an issue in regular rendering, and then I thought an actual environment made of glass was never going to work, and then I started building it, and things were working with it, and I just kept going with it, and it became this kind of massive project that kind of went through the whole entire production.

Chris Nichols: So I'm going to ask you about that, because I dealt with a glass environment, specifically on Tron. Right? When the light bike sequence, and it was a ray-tracing nightmare to deal with that stuff, right? If you do the ray-tracing correctly, you're actually fine. But I remember specifically when, if you guys remember from Tron, that there's under levels where you have a ceiling of glass and a floor of glass. Right? And you know, I had the correct fresnel in there. I'm very strict about that, and I was sitting there with Joe, in the screening room, and I basically gave him a wedge of how many bounces of reflections are we going to have. And it was a freaking fun house of insanity when we put 12 or 15 bounces of reflection.

Alex Nice: It becomes a mirror almost, right? I mean a house of mirrors-

Chris Nichols: It's like you can't see. You don't know where the top and bottom is, so we actually had to restrict and taper off the reflections. We gradient it, so that you could know where the actual top and bottoms are. How did you deal with that?

Alex Nice: I mean I would break it up into, like there's the visual aspect of it in dealing with the ray-tracing.

Chris Nichols: Yeah. Because you dealt ... They built that.

Alex Nice: Yeah, so it was going to be a physical set from the start-

Chris Nichols: Right.

Alex Nice: ... but really the VR wasn't a look development thing. It was a layout thing.

Chris Nichols: It was a layout thing. Oh, okay.

Alex Nice: Yeah. So the way that I dealt with it in VR is obviously the old '90s way, which is opacity maps and gradients, right.

Chris Nichols: Right.

Alex Nice: And so that's what I did. I didn't even touch any of the ray-tracing stuff, because it was never an option for 90 frames-a-second.

Chris Nichols: Yeah, of course not. Absolutely, I agree. But I think that the look of the reflection of the glass was important to them, right?

Alex Nice: Yeah, absolutely, but that would be ... I mean that came later, and that came as the illustration concept side, and then the VR was more of the layout and design side.

Chris Nichols: Got it.

Alex Nice: Because it is such an abstract place, imagine wrapping your head around what you're going to do in a place that you can't even see in concept art or renders. It's really difficult.

Chris Nichols: Yeah.

Alex Nice: So that was why we did it in VR. And it went through a lot of design changes. It was originally four levels, then three levels, then two levels,

and a lot of that kind of development stuff to get it to, to figure out what they were going to do in kind of balancing cost and whatnot.

Chris Nichols: Okay. But they built it. That must've been amazing to see that-

Alex Nice: It was amazing to see. It was an amazing process to see happen. Like when you hear the person pricing out glass by the tonnage, and the seal by the tonnage, and figuring out the space and figuring out the height of your sound stage to see how big you can actually build this building, I mean there's so much stuff involved with it. It's really, when I look at that thing, I don't understand how it got made. There's no reasonable reason why something like that should be made for a film, and it happened. It's so awesome to me.

Chris Nichols: All right. That's got to be a challenge on the visual effects side.

Rob Nederhorst: I'll definitely talk about the visual effects side. To add to that, basically all the spec, the real hard spec was, we have to put a crew on glass with camera gear. Oh, and by the way, a bunch of dudes throwing stuff, and throwing each other on the glass. So the glass could hold 150 pounds per square foot.

Chris Nichols: Right.

Rob Nederhorst: That was the thing. So you couldn't have five big people stand in one square foot area, because that would be bad.

Chris Nichols: Right.

Rob Nederhorst: The glass was what, three inches thick, or two, two-and-a-half, somewhere around there.

Alex Nice: I can't remember. Yeah.

Rob Nederhorst: It was super thick.

Alex Nice: It was a triple pane, I think.

Rob Nederhorst: Triple pane, super low iron. We did iron wedges. You know, they've got different types of glass.

Chris Nichols: Explain that. Explain that.

Rob Nederhorst: Because, depending on the iron level is where it goes green. Right, if you have a lot of iron in the glass, it goes green.

Chris Nichols: Right.

Alex Nice: Oh yeah.

Rob Nederhorst: It's like, how much iron do we want in the glass? Low iron, medium high, whatever. I think they had four or five different levels.

Chris Nichols: And that changes the strength of the glass, right?

Rob Nederhorst: No. It just changes the colour.

Chris Nichols: Okay.

Rob Nederhorst: The amount of tempering changes the strength.

Chris Nichols: Right.

Rob Nederhorst: But they had a glass manufacturer, and at some point I remember, I believe the guy's name was Maynard.

Alex Nice: I don't remember his name, but I remember ... Are you talking about the samples that came in?

Rob Nederhorst: Yeah. Yeah, yeah.

Alex Nice: Yeah.

Rob Nederhorst: Yeah, and they were like, "Okay, guys. Here's the deal. If we don't make the decision to build this thing in the next 12 calendar days, the glass manufacturer cannot make enough glass to do this at all. We have engineering problems. We have to build something that has to be fought upon, and a camera had to stand next to these people.

Chris Nichols: Yeah. This is an architecture problem.

Rob Nederhorst: It's a serious ... It's an architectural and engineering problem.

Chris Nichols: Right, right.

Rob Nederhorst: So, you know, the art department had to ... I mean the work that you guys did in the art department, and everybody, like major kudos to the amount of actual super brain power that had to go into that. It's one of the craziest things I've ever seen.

Alex Nice: Yeah.

Chris Nichols: Yeah.

Alex Nice: We didn't cover it a lot, or talk about how difficult it was to actually get something like that built. I'm surprised they didn't have a documentary on it, on the making of, or whatever.

Rob Nederhorst: Yeah, no kidding.

Alex Nice: Yeah. It was-

Chris Nichols: Well we have a podcast at least.

Alex Nice: But I mean one of the other things also was insurance too, like insurance to have Keanu Reeves running around on that glass, and I also remember ... Maybe I shouldn't tell this to ... I'll tell it, but I think there was a safety guy. You know, they go in before they actually shoot the thing, and they have a safety guy walk around on the set. Shall I not talk about this?

Rob Nederhorst: It's super funny.

Chris Nichols: Well I can cut it out if you-

Alex Nice: Okay. So they had a safety guy. Maybe you tell the story actually, because were you there?

Rob Nederhorst: I think I was near there.

Alex Nice: I've heard about it, but I wasn't there.

Rob Nederhorst: Yeah, basically so the safety guy goes and checks out the set, as they do with all sets. They have to go and make sure that everything's cool, and the railings have to be certain codes, and it's a whole situation.

Chris Nichols: Sure.

Rob Nederhorst: So before the crew can set foot on it, it has been cleared by the safety inspection officer for the studio.

Chris Nichols: Right.

Rob Nederhorst: And there's all kinds of varieties of things they have to follow. Anyway, so the safety guy forgets that, or doesn't see that there's no glass wall, and

falls right off the set. So the exact thing that everyone was concerned about happening ...

Chris Nichols: Happened to the safety guy.

Rob Nederhorst: ... happened to the safety guy. And everyone ... Almost everyone, I know I did it, everybody at least once walked into a glass wall.

Chris Nichols: Oh, I'm sure.

Rob Nederhorst: At damn near full speed. Hey let me, boom, okay. Yeah. I did that. I think, I want to say, day two that I was on the set, just looking around. I'm like, okay, planning this and seeing if we're going to shoot here, how much reflection is there.

Chris Nichols: I'm sure I would've. I would've walked away with so many bruises on my face.

Rob Nederhorst: That was definitely a solid face print of mine on one of the panes of glass, by one of the samurai outfits.

Chris Nichols: Let me ask you this. What was your Windex budget?

Rob Nederhorst: Amazingly enough-

Alex Nice: How many squeegee guys were there?

Rob Nederhorst: There were a couple of squeegee guys.

Chris Nichols: Yeah.

Rob Nederhorst: Who would constantly clean the glass between takes, between setups, everything. They did an incredible job.

Chris Nichols: Walking around in booties also, so you don't scratch the-

Rob Nederhorst: Everybody walked in booties, all the time on that set, so that we wouldn't leave scuff marks, and any scuff marks that were left were left by the actual.

Chris Nichols: The actual action.

Rob Nederhorst: Yeah, the talent that was on camera.

Chris Nichols: Yeah.

Rob Nederhorst: That was a whole, it was a whole situation, and then I made everybody wear black.

Chris Nichols: How many days on that ... Right, because of reflection.

Rob Nederhorst: Because everybody started showing up in like ... Okay, guys, you can't wear the hot pink Hawaii shirt, because nobody in the John Wick universe wears hot pink. I can't get away with this. And so a company memo went out, and I said, "Everybody wear black." And so everybody wore black, and so as a result, the amount of reflected crew you see is very minimal.

Chris Nichols: Yeah. I was looking for it. I couldn't find it.

Alex Nice: Oh, and the other crazy thing about that whole thing is the trans light also. The city backdrop beyond the glass also.

Chris Nichols: I was going to ask you about that. Go ahead and tell me about that.

Alex Nice: I mean yeah, what was the length of that thing? It was insane. It went basically a fabric printed city backdrop that was three stories tall, that went around the entire sound set, and then was back-lit by I guess trans light stuff, or whatever. Hanging lights.

Rob Nederhorst: It's a giant trans light.

Alex Nice: Yes. Like just a big, giant fabric backdrop that was in there, which was really crazy, because there was one perspective, obviously, on one of those backdrops.

Chris Nichols: Yeah.

Alex Nice: So there's certain areas that when you're walking around in the set looks right. Other areas in the extreme corners of that thing, perspective's obviously off, which I'm assuming you guys had-

Rob Nederhorst: We were solving those problems.

Alex Nice: Yeah, the effects would fix those problems. But what was really interesting was that in the VR set, too, because we have the set built to scale in the actual sound stage model in there also, so that we know it's going to fit in there, and then we put the backdrop on it, you can walk around in VR in the set, and see where the actual backdrop broke. So you knew ahead of time-



Chris Nichols: You could preplan your shoots.

Alex Nice: Exactly.

Chris Nichols: Your angles.

Alex Nice: Yeah. You can see where that backdrop is not going to work, and that could've helped a lot in the planning of a lot of the shots I think also.

Chris Nichols: Yeah. Well I think it's amazing, and I think it's great that you guys built the set, and I think that's really important. I remember when I was on Oblivion, and they were going to do his little apartment in the sky thing, and they said ... It was like, "Oh, we'll just do green screen." It was like, green screen? It reflects everything, and so we basically built a virtual ... Because we had the model of the building, it was like we showed them a rendering and ray-traced it. It's green fucking everywhere, because it's not a good idea to green screen reflections.

Rob Nederhorst: I in fact, I called Joe, when they were talking about trans light, projections and the whole thing. And I said, "Hey man, tell me a story."

Chris Nichols: Tell me about Oblivion.

Rob Nederhorst: Tell me about this, and how did you guys do this, et cetera, et cetera. So I got a good download from-

Chris Nichols: From Joe about it.

Rob Nederhorst: ... Joey K. about that.

Chris Nichols: Well that's cool, and I think it's important, because I think it's one of the reasons I started to really think about this story being a really cool story, is the fact that from the designer, to the set, to the VFX, and how you guys actually all worked together to try to figure out how you were going to make this work. I'm sure you guys had some battles to figure it out as you were going along, but trying to make the real world work and make the visual effects help that narrative is really cool. Really cool. All right, so let's get into it. What were some of the challenges with that?

Rob Nederhorst: With ...

Chris Nichols: You said ...

Rob Nederhorst: With which part?

Chris Nichols: With a lot of it. The first thing I think is important is, visual effects actually tries to minimize the amount of work they have to do, right.

Rob Nederhorst: Yeah.

Chris Nichols: So you started with everyone wears black.

Rob Nederhorst: Yes. My role is to mitigate problems.

Chris Nichols: Right.

Rob Nederhorst: That is the role of visual effects supervisor. You have to make everything look good. That is the thing that goes without saying part of the job.

Chris Nichols: Sure.

Rob Nederhorst: Right, but the bus driver has to drive the bus. Very simple.

Chris Nichols: Right.

Rob Nederhorst: But then it's okay, how can I make this look photographic with minimal impact during production, and causing as little problems as humanly possible during post-production.

Rob Nederhorst: Because if I make minimal impact during production but all of a sudden we spend an extra 10 weeks on post-production, then I won't be working on this movie very much longer. Or any other movie, when people find out about that. So that is my job, is to go, okay, I have to see six to eight months in the future, to know what kind of problems we're going to run into.

Chris Nichols: Yeah.

Rob Nederhorst: So a lot of my experience on the vendor side really kind of came into play, where in this movie, and I guess should I do a spoiler alert? Because I'm going to tell-

Chris Nichols: Oh no, we should just totally spoil it.

Rob Nederhorst: Okay. So spoiler alert. So turn it off, spoiler it. So at some point, John Wick has to cut his finger off to prove his fealty to the High Table, and at some point somebody said, "Let's put a green sock on him?" I said, "Let's not do that. Let's put a black finger condom on him."

Rob Nederhorst: Everybody said, "Well that's weird. Why would you do that?" And I said, "What colour of clothing does everyone wear in this movie?"

Chris Nichols: Right.

Rob Nederhorst: And everybody said, "Black." And I said, "Yep. So when his hand flies around a lot, and it goes over the inky blackness of New York City night ..."

Chris Nichols: It's going to be green everywhere.

Rob Nederhorst: "... or suits, you're going to see the green. I have to paint that out. But if it's black, and I don't see it, I don't have to paint it out."

Chris Nichols: And then you just stick to roto at that point?

Rob Nederhorst: Yeah. But the cleanup is really minimal.

Chris Nichols: Yeah, of course.

Rob Nederhorst: You know, I have to clean up ... I mean we looked. There are shots in the movie, where if you were to really step frame through them and really gamma them up, you can see the finger condom. But if you don't do that, and nobody does that, then you don't ever see it. There are shots that we didn't-

Chris Nichols: You didn't need to remove the finger because you don't notice it.

Rob Nederhorst: You don't notice it unless you really crank it.

Chris Nichols: Right.

Rob Nederhorst: That's only times when a light would hit it a certain way.

Chris Nichols: Brilliant.

Rob Nederhorst: Or something like that. There's a closeup of where he looks at his hand. The camera's looking straight up at him, and he looks at his hand like he's contemplating his decision that he made, thinking, okay, you know I just cut my finger off because I'm trying to stay true to my wife, and he made me give him the ring, and now I'm about to go against the High Table, et cetera.

Chris Nichols: Right.

Rob Nederhorst: So anyway, that's all to say that my job is to mitigate problems in the scene of the future.

Chris Nichols: Yeah.

Rob Nederhorst: And my biggest challenge is then managing that process and all the personalities involved with that process, and then even outside of that process, including the AD department, and the editorial department, et cetera, et cetera.

Chris Nichols: Yeah. That totally makes sense. I mean yeah. Those are choices I think that people don't necessarily see. Remember in IRL when we did that, and we were sitting in Daniel Buck's driveway, and we were sitting there with a DP who knows what all visual effects people, and then he says, "Aren't you going to put green screen behind there?" And he goes, "No. That's too much work. We're just going to put white sheets back there and just blow it out, and then we don't have to do anything."

Rob Nederhorst: Yep.

Chris Nichols: And he goes, "But you guys can do it real easy." He goes, "Well we know how much work it is, and now we don't have to do any of it."

Rob Nederhorst: In the current movie that I'm working on now, we did exactly that for a tonne of scenes.

Chris Nichols: For driving and stuff like that? Or just for-

Rob Nederhorst: No. For people, they're in a house. They're just hanging out talking, and they just put a giant silk behind it, and put a bunch of lights on it, and it looks like it's bright sunlight outside, and you would never know that it's in a sound stage in Atlanta, and it's 105 degrees outside and everybody's sweating like crazy, but inside it's just somebody's sitting in a house in Connecticut somewhere.

Chris Nichols: Right. Exactly.

Rob Nederhorst: Yeah. Tricks.

Chris Nichols: Well those are smart tricks that I think people should think about. Not everything can be answered with visual effects. Right?

Rob Nederhorst: Yeah.

Chris Nichols: You can do some really cool things that look great without necessarily needing to do a bunch of CG on it. But I'm sure we had to do some CG on the glass set.

## **Is it CG, or is it real?**

Rob Nederhorst: Of course. Yeah. You know, again my job is to mitigate problems, and so what I tell every director that I'm looking to work with, I say that my goal is when you're done with principle photography that you fire me because I have nothing to do.

Chris Nichols: Right.

Rob Nederhorst: I know that that's not the case, but that is my dream. My dream is that we don't do visual effects because they'd never look as real as photography.

Chris Nichols: Right.

Rob Nederhorst: Having said all that, we do an incredible amount of planning to make sure that what we deliver is ... I don't like the word photo-real, because it implies that it's not real. I like to use photographic. So I actually want to use actual camera data, and I want to use actual data that is completely realistic. So, for example, there are, when John is having a conversation with Winston and it's on this rooftop, that rooftop is completely fabricated, actually designed by this guy over here, Mr. Alex Nice.

Chris Nichols: Yeah.

Rob Nederhorst: With a beautiful water fountain that you did not think was going to make it into the movie, but-

Alex Nice: I love that water fountain.

Rob Nederhorst: It's a beautiful water fountain. It looks awesome. And at any rate, the whole idea is where does this place, where does it live? Well it lives somewhere in Manhattan. It lives in the financial district. Well let's take a look. Actually this place can't live there, because there is no place for us to shoot this, at all, and John Wick 2, they shot it over at Rockefeller

Plaza. Apparently lighting it was a real pain in the rumpus, purely because of just continuity, so ...

Chris Nichols: Which was a golden hour, sunset scene.

Rob Nederhorst: Yeah, and how do you take a really long scene and shoot it at golden hour? You don't is the answer to that question. So Dan Laustsen, who was the director of photography on both John Wick 2 and this current one, Parabellum, he said, "Guys, we're just going to shoot it on stage." And I said, "Okay, well as long as I can get all the data I need, I want to be able to recreate your lighting, but on digital versions of the elements that live there." So all the buildings, et cetera, et cetera. So we took a scanner to what was the Continental, one Hanson ... Not Hanson.

Chris Nichols: Coffee?

Rob Nederhorst: Oh boy. Cocoa Exchange.

Chris Nichols: Cocoa Exchange.

Rob Nederhorst: Yeah, so we got permission to go on the roof of the Cocoa Exchange, which is an apartment building, and so we got the LIDAR scanner out, and I got my HDRI kit out, and then we got an actual Arri Alexa out, and we shot massive pan tiles, HDRs, photogrammetry. Full LIDAR scanning. The LIDAR data set was extreme. It was a lot of stuff. So when you look outside, where they're having that confrontation, between the High Table and Winston and John, what you see out there is about 95% reality. It just had to be created, and we moved a couple of buildings around, because you would never get light through the giant cluster of tall buildings that are right there in the financial district.

Chris Nichols: Okay. So it is virtual though.

Rob Nederhorst: It is virtual, and very heavily based on photography.

Chris Nichols: Right.

Rob Nederhorst: Yeah, including actual Arri Alexa photography that we then mapped onto buildings, but then moved a few buildings around for cosmetic purposes.

Chris Nichols: Yeah. Because you can't ask New York to move buildings for you.

Rob Nederhorst: No. They get really annoyed when you start trying to move buildings around.

Alex Nice: Bureaucracy.

Rob Nederhorst: Yes. Yeah, it's a whole thing. But we did that a lot. For example, at the very end, when John falls off of that roof, and then lands into the alley, at some point I remembered that I had worked actually with Kevin Kavanaugh on another film called Roman J. Israel, and they had shot in this really gross alley in downtown LA. And I said, "Wait a minute. I know a guy who lives in downtown LA." Ring, ring, "Hello, this is Alex," and I said, "Hey, Alex. Do you live near a really gross alley?"

Alex Nice: I'm going to interject and say, had I known that I was going to be walking through some of the most disgusting alleys I have ever been in in my life, I probably wouldn't have agreed to do this.

Rob Nederhorst: So I had him go and-

Alex Nice: So nasty.

Rob Nederhorst: ... take a few photos.

Chris Nichols: Really? Did you walk-

Alex Nice: Yeah, because I went to all the alleys that are in the historic area, near Skid Row and everything, and I went into these alleyways, and I mean I don't want to gross out the listeners, but there's some terrible things going on in those alleyways.

Chris Nichols: And you took pictures.

Alex Nice: Yeah, but you shot there also, so-

Rob Nederhorst: Yeah, the thing that you think is happening in the alley is happening in the alley. There's no question. So just come up with bad stuff, and you've ... I mean I almost saw ... I mean I did see, actually. So you say, okay, we want it to be in an alley, so what do we do? We don't want to make a CG alley. We want to make a real alley digitally.

Chris Nichols: Okay.

Rob Nederhorst: So we went, scanned it, photogrammetry, and we did the whole thing.

Chris Nichols: So you scanned a gross alley and then-

- Rob Nederhorst: We scanned a really disgusting alley, and the gentlemen ... There's about five or six people that live in that alley. One of the guys who I guess is the head dude, his name is Cleveland, very nice man, who at some point I said, "Hey, Cleveland. Would you do me a favour? I've got to scan stuff, and I can't have a bunch of people moving around. Would you mind, what if I buy you guys lunch? Would you guys mind cruising out of here for ... I need an hour-and-a-half. Is it cool?"
- Rob Nederhorst: I said, "I know this is your home. I don't want to displace you in a bad way, so I'm happy to buy you lunch. If you need some stuff, let me hook you up." He goes, "No problem. Happy to do it."
- Chris Nichols: So he got the other guys?
- Rob Nederhorst: So he got the other guys. They all got out of there, and I think one of the guys there was-
- Chris Nichols: You went to Musso & Frank's or something?
- Rob Nederhorst: Of course. Yes, in was Lobster Thermidor for everyone. But yeah, so I got those guys a couple of bucks, and they went and got some food, and at some point Cleveland comes back and he's like, "So what are you all doing over here?" And I told him. I said, "Look, we're scanning because we're going to put this in a movie." And he's like, "Man. You people. You people are crazy." I said, "Why is that, Cleveland?" He goes, "This alley is the most disgusting alley in all of Los Angeles, and all you guys just want to come over here and put cameras? It's disgusting. Why would you want to do that?"
- Alex Nice: It's like actually we don't want to put cameras in here. We just want to scan it so we don't have to put cameras in here.
- Chris Nichols: Right.
- Rob Nederhorst: But yet we spent, I mean I spent a good four to five hours in there.
- Chris Nichols: I'm sure.
- Alex Nice: Not regular rats, super rats.
- Rob Nederhorst: Super rats, and one of the shop owners, I think he owns a jewellery store that's right there, I think it was right next door to it. He came out one time because he was pouring basically bleach and Lysol, you know, diluted in



water, all around the alley to get rid of the smell, and other physical things that you ...

Chris Nichols: Yeah, would have in an alley.

Rob Nederhorst: ... that you would have in an alley of that type. And at some point he's like, "How long are you guys going to be here? Because my customers don't like to show up in my store when my store smells like human excrement." And we said-

Chris Nichols: But you were not doing that.

Rob Nederhorst: No. No, no. But when it happens, three to four times an hour, you can't get the smell out of there unless you're constantly cleaning it.

Chris Nichols: Constantly bleach it, yeah.

Rob Nederhorst: Yeah. But anyway, I've kind of tangented a little bit, but yes-

Chris Nichols: So what you did basically is you digitised that area ...

Rob Nederhorst: Yeah.

Chris Nichols: ... so that you wouldn't have to shoot there.

Rob Nederhorst: Correct. Yeah, because we couldn't.

Chris Nichols: You can't. There's physical problems with shooting there, right?

Rob Nederhorst: Physical limitations, actor availability limitations, et cetera, and at some point you know it is cheaper for visual effects to make up a shot than it is to get the cameras, get the actors, get the cinematographer, get everybody, because the cinematographer is in Denmark, some people are in LA, some people may be in New York. You've got to travel everybody. You have to pay per diem. It's like there's a whole situation with-

Chris Nichols: Yeah, I got it.

Alex Nice: That's a real tricky, challenging shot also. Right?

Rob Nederhorst: It is, yeah, and it had to be choreographed very specifically.

Chris Nichols: So what were ... The actors were all on giant green screen and then you comped it in?

Rob Nederhorst: Yeah. We shot a real stunt man landing on a roof that was all very well calculated by the stunt department, and for anybody who thinks the stunt department does not take these things seriously, boy are they wrong. These guys are-

Chris Nichols: Oh, I'm sure.

Rob Nederhorst: They ran through everything, and it is very well tested.

Chris Nichols: Yes.

Rob Nederhorst: Extensively tested. The safety is very key, and at some point things were shut down because somebody was like, "This is not safe." One of the stunt guys, the stunt coordinators said, "Well, hold on. We need to figure this out, because it feels unsafe." And so they would change some things around about certain things. But anyway, I saw Jackson Spidell, who is John Wick's stunt double, basically fall to his "death" from a 40-foot platform-

Chris Nichols: Jesus.

Rob Nederhorst: ... all the way down into this cantilevered glass roof, onto something that was across the alley, which was also a cantilevered balcony where all the railings were made of this rubberized material so it would all collapse. And then he has to jump from there to another cantilevered piece, and then that cantilevered piece gives way, and then he lands on the ground.

Chris Nichols: Wow.

Rob Nederhorst: I watched him do ... Those had to be done in two pieces, just purely for safety reasons.

Chris Nichols: Yeah.

Alex Nice: Which is why the John Wick movies are kind of amazing, is the stunts also, right? They're not hiding things. They show the stunts being ... They use the stunt man and the ability that they're able to achieve those things is crazy.

Chris Nichols: Yeah.

Alex Nice: Yeah.

Rob Nederhorst: And yeah, I mean they did that falling stunt, I think they did four takes of it. Yeah. Yeah, yeah.

Chris Nichols: That hurts. That's got to hurt.

Rob Nederhorst: And every time, I'd go to Jackson, because I got to know him a little bit, and I said, "How are you doing?" He's like, "I'm fine." I'm like, "You can't be fine. This is crazy." It's just kind of what he does. That's just his thing. But I mean he doubles Ryan Reynolds for Deadpool. He's that guy. He's one of the more prolific stunt performers out there.

Chris Nichols: That's amazing.

Rob Nederhorst: He's a super talented guy, extremely-

Chris Nichols: Oh yeah.

Rob Nederhorst: ... nice human.

Chris Nichols: That's incredible.

Rob Nederhorst: Yeah.

Chris Nichols: That's incredible. All right, well let's talk about the glass. How do you deal with glass in CG? You have to have used some CG in there.

Rob Nederhorst: Yeah. We had our friends over at Method Australia-

Chris Nichols: Oh, yeah, yeah.

Rob Nederhorst: Yeah. They were the ones who-

Chris Nichols: Those were the ... They used to be-

Rob Nederhorst: Iloura

Chris Nichols: Iloura. Now they're called Method Australia. Nice guys.

Rob Nederhorst: Yeah. Great team. The thing that's awesome about the crew at Method Australia is that they've just been working together for so long that they clearly have a built-in language between the crew, so that the work just comes out good earlier. Because everybody has an idea of who does what.

Chris Nichols: Sure.

Rob Nederhorst: Now I don't have any confirmation of that, by the way, but it just feels that way when I get the work.

Chris Nichols: Right.

Rob Nederhorst: And also when I'm on cineSynchs with them, and I deal with phone calls with them, I get the feeling like they know each other extremely well, and there's no ... You know, everything's politics, but there's no crazy political infighting at that place.

Chris Nichols: Sure, sure, sure.

Rob Nederhorst: You know, no more than any other place. But at least the supervisors get along in a really great way, and they have a really good level of comradery amongst themselves. And they delivered excellent work, and they were the ones who did that alley-

Chris Nichols: The alley sequence.

Rob Nederhorst: ... the alley sequence, as well as the rooftop.

Chris Nichols: Okay.

Rob Nederhorst: And you know, it wasn't easy. It was a difficult problem to solve, but the glass office, they handled that stuff, and every once in a while we would extend a little bit here and there, but what we did at some point is we just put a roof on it and just made sure we didn't see through anymore glass. We did a test, and we put a roof on it. We had different levels. Actually you did the concept for that, I believe.

Alex Nice: Yeah.

Rob Nederhorst: Yeah.

Chris Nichols: Explain that, Alex. What do you mean?

Alex Nice: Well, on the set, there was no rooftop. I think so that they can get the overhead shots in the fighting, is that why there was no roof? Or was it a visual effect situation?

Rob Nederhorst: Initially there was no roof because they wanted to put a third floor of glass over it.

Alex Nice: That's right. Yeah, yeah.

Chris Nichols: Oh right. Okay.

Rob Nederhorst: Yeah, because we ran out of time to physically build a third floor of glass, so the idea was how do we put a third floor of glass? They were, "Well visual effects can do it." Of course we can. You know, it's no big deal. It's just some rendered time and some amazing artists doing amazing work.

Chris Nichols: Right.

Rob Nederhorst: And then at some point we said, "Well let's just, what if we just put a regular roof on there, and it just looks kind of cool ...

Alex Nice: Looked better.

Rob Nederhorst: Will anybody notice it? And we showed it to Chad Stahelski, the director, and he's like, "This is great." And so then we closed it off so it actually cut down, I assume, cut down render times dramatically by just having a glossy reflection on there versus massive amounts of refraction and-

Chris Nichols: Reflection, yeah.

Rob Nederhorst: ... glass. Yeah.

Chris Nichols: So that's cool.

Rob Nederhorst: Yeah, but then when people get kicked into glass, and that smashes, most of that was rendered.

Chris Nichols: Really?

Rob Nederhorst: Yeah. I'm glad you didn't notice. That's good. Thank you.

Chris Nichols: Well explain that. There's several things I noticed, right. With the glass, glass is unpredictable.

Rob Nederhorst: Yeah.

Chris Nichols: Right? I can imagine it's unpredictable. But there's so many things in there that were like ... you know, when the blades hit the glass, and the cracks in the glass and all that stuff. It's like, there's no way. But it looks ... I know instinctively that there's no way you can plan that physically.

Rob Nederhorst: Correct.

Chris Nichols: But it looks 100% believable.

Rob Nederhorst: I mean that's ... Hopefully we do our jobs well, and that's the-

Chris Nichols: And the other thing that you guys did is that ... I must be right. All the cracks in the glass from the blades and stuff, that's all CG.

Rob Nederhorst: Yeah. Correct.

Chris Nichols: What really sold it for me, and you guys really nailed, is the warping. Like as people bumped into glass.

Rob Nederhorst: That's real. Because people are actually bumping into the glass.

Chris Nichols: I know, but the cracks warped correctly.

Rob Nederhorst: Oh sure. Yeah. That's what happens when you hire great people who are great artists-

Chris Nichols: Yeah.

Rob Nederhorst: ... and care-

Chris Nichols: It really sold it. It really sold it, because that's what made that ... yeah, it was really good. Okay, so sorry. I didn't mean to distract.

Rob Nederhorst: No, it's all good-

Chris Nichols: I just got excited about the glass ...

Rob Nederhorst: Yeah.

Chris Nichols: ... and I didn't realise how much of it was CG. So explain first of all why was it CG?

## Breaking glass

- Rob Nederhorst: One of the bigger glass moments is when Wick is getting kicked into the glass cabinets that have the skulls in there.
- Chris Nichols: Yes.
- Rob Nederhorst: And so I was on the Verrazzano Bridge, because we were shooting the motorcycle chase-
- Chris Nichols: Oh, yes, which is also amazing. I want to get to the motorcycle chase, but-
- Rob Nederhorst: Right. So I was there, and they were shooting that moment of John getting kicked into the glass cabinets, and I got a phone call from my producer, Cary Joseph, and he's like, "Hey, Bobbo," and I said, "What's up?" He goes, "I'm going to send you a video." And he sends me a video, and the video is of Jackson Spidell, who is the, as I mentioned before, the stunt double, getting kicked into the glass. And the first one breaks, because they'd put charges in there, and it looks great, and then the second one, the charge doesn't go off, so he just knocks it over. And then it kind of dominoes, and so now things topple, but it's not cool. He's not getting kicked into it. The glass is just kind of smashing and it's whatever. So you can see-
- Chris Nichols: They weren't using sugar glass, or ...
- Rob Nederhorst: Yeah, it's Alfonso's glass, it's all made to break, et cetera, et cetera, but they put charges in there, at the very bottom there are charges that we painted out, so you never see them in the final film, and so as somebody gets kicked into the glass they blow the glass.
- Chris Nichols: Right.
- Rob Nederhorst: So it makes ... because the glass just doesn't do that. That's just not how that works. It doesn't break that way. You have to blow the crap out of it.
- Chris Nichols: I know, but it looks cool though.
- Rob Nederhorst: I mean look, we've got a guy killing 182 people, you know. We've got to go with the flow.
- Chris Nichols: Keep going, keep going. I'm with you.

Rob Nederhorst: Yeah, so at any rate, because that didn't work so well ... The biggest issue with glass is reset time.

Chris Nichols: Oh my God, yeah.

Rob Nederhorst: Once any glass breaks on set, it is a massive cleanup process, because you can't just broom it away. Yeah, you have to broom it, but then you have to mop it, and you have to make sure there's no glass anywhere, because if anybody gets hurt, now you've got a massive insurance liability, as you mentioned earlier, Alex.

Rob Nederhorst: So it's a 30 to 45, maybe even an hour of reset time.

Chris Nichols: After every glass break.

Rob Nederhorst: After every glass break. So guess how many glass breaks we did after that thing didn't work out?

Chris Nichols: Right.

Rob Nederhorst: Almost none. We did one. We did one glass break, because somebody was like, "God, we have so much glass. We have to blow the glass. This is crazy."

Chris Nichols: Right.

Rob Nederhorst: That's why we ended up doing a lot of glass break in CG, even the antique warehouse where the knife fight is, the antique warehouse knife fight.

Chris Nichols: Yeah, yeah, yeah.

Rob Nederhorst: All of that glass is 100% digital. There is never one actual real pane of glass even in the cabinets, ever.

Chris Nichols: Oh really?

Rob Nederhorst: Not ever. And it was taken out for safety purposes, and for reset time purposes, because if you need to have somebody do that same thing over and over and over, which is exactly how these shoots happen, because they're choreographed extensively by-

Chris Nichols: To the frame. Or some frame.



Rob Nederhorst: Absolutely, yeah, without question. They're highly choreographed. And things have to move a certain way, which is why these movies have a flow, and they are ... it is ballet.

Chris Nichols: Yeah.

Rob Nederhorst: So the fact that there's actually a ballerina in here, there's a lot of meta things going on.

Chris Nichols: Oh yeah.

Rob Nederhorst: But the whole idea of having digital glass is to avoid that reset time. It's like, okay, well let's shoot some glass breaking as elements, so that our visual effects teams know what that looks like.

Chris Nichols: Right.

Rob Nederhorst: I need them to have realistic glass breakage just for reference. I don't ever have to see them do that, and I don't actually look at turntables, to be honest with you. I'm not a big fan of those. I want to see stuff in context. The audience of a film very rarely sees turntables. So I don't think anybody's ever seen a turntable.

Chris Nichols: I've seen turntables.

Rob Nederhorst: Well yeah. But not while you're watching a movie.

Chris Nichols: I've seen turntables of hailstones.

Rob Nederhorst: All right. Oh yeah, I've seen those too. Oh boy. We worked on the same project. Yeah. So we ended up doing real glass breakages, but we shot-

Chris Nichols: For reference.

Rob Nederhorst: For reference, and then at some point, John actually physically kicks a dude who goes through a cabinet, and that is a real glass explosion.

Chris Nichols: Okay.

Rob Nederhorst: That happens one time, but everything else the glass is all digital.

Chris Nichols: Okay.

Rob Nederhorst: Yeah.

Chris Nichols: So every time he crashes into a cabinet with a skull in it, whatever ...

Rob Nederhorst: Digital.

Chris Nichols: That's all digital.

Rob Nederhorst: Yeah, including the skulls and everything else, yeah. That's all 100% CG. Yeah.

Chris Nichols: That's so cool.

Rob Nederhorst: Yeah. It's rad.

Chris Nichols: Yeah.

Rob Nederhorst: It's impressive if you-

Chris Nichols: I don't ... yeah. I would not have known. Honestly.

Rob Nederhorst: Honestly it's not easy. It took us a long time to get those big moments. To get them right, was tricky. Yeah, because when you're simming that, now you've got-

Chris Nichols: Did the actors ... The actors did get thrown.

Rob Nederhorst: Without question, yeah. The stunt performers get thrown into stuff, and they do the role, they do the whole scene.

Chris Nichols: So did they get thrown into a box or something?

Rob Nederhorst: In those cases, no. They just get thrown into it and basically there's no resistance, because there's nothing there.

Chris Nichols: Right. So that's how they just go right through it.

Rob Nederhorst: They go right through it.

Chris Nichols: Okay.

Rob Nederhorst: But luckily it happens quickly enough to where you don't pick up that there's glass that would be resisting them. It just breaks.

Chris Nichols: No, it just explodes.

Rob Nederhorst: Yeah, and it looks cool.

Chris Nichols: It does.

Rob Nederhorst: So we all get away with a little bit, because-

Chris Nichols: No.

Rob Nederhorst: ... it's fun.

Chris Nichols: Absolutely. Absolutely. It works.

Rob Nederhorst: Yeah.

Chris Nichols: I was ... Yeah. Anything that deals with that kind of ... like because I know this, having worked on the Tron thing, I can mention, and that was a long, long time ago, obviously.

Rob Nederhorst: It's not that much easier. Just your computers are faster.

Chris Nichols: Yeah. But it's hard. It's really hard, the super sharp reflections like that is really hard to make it look ... But the set was beautiful. Some of those shots, dude, Alex ...

Rob Nederhorst: Yeah, it came out great.

Alex Nice: It's so cool to design something for almost a year and then walk around in something like that. Because it's a whole year of your life almost, where you're kind of going back to it, like we said the levels. There was four levels to it, then three levels. There was budgetary issues, where it was going to be really small, much smaller than it ended up, and then it got bigger, and to actually walk around in that thing, it was just so surreal to see all that. It was really cool.

Chris Nichols: A couple things I'm going to note about this, because I think it's absolutely beautiful. It is definitely an incredible piece of architecture and should be revered as incredible design. Right?

Rob Nederhorst: Melted down.

Chris Nichols: Melted-

Alex Nice: Is it true that a lot of this glass just kind of went with the crew, or what happened to all of that glass? That's one of my questions.

Rob Nederhorst: They melted it down.

Alex Nice: Did they really? Oh.

Rob Nederhorst: Yeah.

Chris Nichols: Okay. Which brings me ... You're right on target with what I'm about to talk about. Because I used to be ... I was an architect. I worked in architecture, and everyone was like, well, architecture is real. It exists, et cetera, et cetera, right? One of my, when I was an intern as an architect and I worked on a project and it was really cool. It was in New York, also, and it was a lot of glass, interestingly as well. I made this big glass atrium thing. I was incredibly fortunate. I worked at Fox & Fowle Architects, which is a really great architecture firm. I was incredibly fortunate that they put me on a design team, and I guess I excelled at it, and I did some CG renders of glass, and it was like ... and that's what sold them on building this glass structure in front of it.

Chris Nichols: I was like, this is awesome. Right? They built it. It got built, and I got to see it in person. I'm like, "Wow, look at that."

Alex Nice: Very cool.

Chris Nichols: It's cool. They tore down that building. So that building doesn't exist anymore. And I'm thinking about it, and I'm like, hmm. First of all, I don't know how many people saw it or noticed that building, that walked around New York. Probably a lot of people. Right? But it's gone, and then no one's going to remember that building.

Chris Nichols: They melted down all the glass, so the structure that you designed doesn't exist anymore.

Alex Nice: Right.

Chris Nichols: But it exists forever in that film.

Alex Nice: Correct.

Chris Nichols: Right?

Alex Nice: Yeah.

Chris Nichols: So people are going to see it as the way it was built in that film, and that's going to be the design that you made. So you can always say, "That's something that I helped envision." You know?

Alex Nice: Yeah.

Chris Nichols: And that is architecture, in a lot of ways, and I think that some people don't give credit to that. Now by the way, another thing is, no one's going to build a building like that in real life, because it's not safe.

Alex Nice: Well you know what's one of the references for it was the Apple Building in New York, also. Right? Because there's that big giant glass cube.

Chris Nichols: Yeah, but ... Yes, sure.

Alex Nice: But not the same, yeah.

Chris Nichols: No one's going to have that amount of glass everywhere, on everything, and look as cool as that.

Alex Nice: Mm-hmm (affirmative).

Chris Nichols: So I think it's really cool to design things that looks good on film and then it'll always be on film. Right?

Rob Nederhorst: I think somebody could actually build something. Now that somebody's done this work, I bet somebody could actually build a building like this.

Alex Nice: Yeah. I mean the upkeep. If your building comes with a bunch of weegee people, I guess.

Rob Nederhorst: Somebody cleaning it all the time.

Chris Nichols: Oh my God, smudgeville.

Alex Nice: Yeah.

Rob Nederhorst: Oh yeah, for sure.

Alex Nice: But that, for me, in the art department, is the most rewarding thing, is to walk around in something that you've designed. There's something ... I've done it on a couple films now, and to just walk these places and come up with an idea and then physically be in that space, it's still like the first day of work for me. It's so awesome.

Chris Nichols: Yeah.

Alex Nice: I mean, when I was in VFX a long time, for like 10 years, I was in VFX, and then going into the art department and doing this, I really enjoy a lot of the set design stuff that I've been doing the past few years.

Chris Nichols: Yeah. I can imagine. I can imagine. Well I think it's really cool to be able to think about that, and think about the world of design. I also think it's interesting that you came from visual effects. Right. So you and Rob probably spoke the same language. You were thinking about, am I going to make a nightmare situation for Rob, right?

Rob Nederhorst: He shouldn't have to care about that.

Chris Nichols: He shouldn't. He shouldn't, but-

Rob Nederhorst: And really, I mean I'm going to ... I'll speak for you. I don't think you did. I don't think you made concessions for us.

Chris Nichols: No, no, no. I don't think you're making concessions. In fact, I think being understanding of each other is important. Like you're not saying, I'm going to make ... It's like, you know what, because sometimes if you think about how it's going to work on set, you sometimes can come up with even more creative ideas, like you know what would be really cool? And/or, you know what could look really cool or how to think about this set extension? You know, you thought about it in VR, right?

Alex Nice: Mm-hmm (affirmative). Mm-hmm (affirmative). I mean Rob's amazing when he comes by. It's always, "I will make it work," which is really cool, when he comes in, and it's not like here's the design, see what you can do. It's a collaboration, so it's always a conversation that's going on for months and months.

Rob Nederhorst: Yeah.

Alex Nice: And then by the end, it's not just one person's thing. It's like 100 people's things, which is so cool. Yeah, I mean it was a really incredible feat of cooperation between all the departments, and all the people, and construction. I mean, even ... The VR scene was actually crazy. One of the things that I kind of market around with the VR stuff is that even the construction crew that built the physical set on the sound stage came over to VR, and then put the headset on to walk around in the set, and then got down on the ground, because everything's to scale, and then

crawled underneath the building, and then decided where they'd lay the wiring for the lighting in the scene.

Chris Nichols: Right.

Alex Nice: I mean it's just a crazy collaboration between all the different departments.

Chris Nichols: Yeah. Yeah, that makes sense too. Yeah, I think ... Yeah, well basically what you guys did was a lot of what architects do, and taking advantage of that, and going into VR was actually the same thing, right?

Alex Nice: Mm-hmm (affirmative).

Chris Nichols: Like oh, okay, this is how it's going to work. Did you guys use any of the VR in this? You probably didn't need to.

Rob Nederhorst: We ended up getting your set.

Chris Nichols: Oh, right.

Rob Nederhorst: We grabbed his model, and that only happens because I know him. Normally that kind of transfer doesn't happen that easily.

Chris Nichols: No.

Alex Nice: Yeah, and you did a lot of the ray-tracing tests and everything, the lighting tests, to figure out what would work and what wouldn't work.

Rob Nederhorst: Yeah, so I went and I pulled his model into V-Ray, on my little laptop, which I think I basically killed my Surface laptop a couple of times by trying to render on that thing. When I did that, it's like, okay, either this can work, this can't work. What kind of reflections do we truly see after putting in the trans light and all that stuff? And that helped inform the director of photography approximately the kind of reflections he would get.

Chris Nichols: Right.

Rob Nederhorst: You know, obviously the real ones are a little bit different. Has to be known that they always will be, but I get in the 90th percentile of accuracy-

Chris Nichols: There's no reason why you can't.

Rob Nederhorst: Yeah.

Chris Nichols: Ray-tracing is ray-tracing. It's physical, right?

Rob Nederhorst: Exactly. But I won't go a thousand bounces of ray casting to ... you know, to-

Chris Nichols: Well no, because it'll die down after a while.

Rob Nederhorst: Yeah.

Chris Nichols: Yeah.

Rob Nederhorst: So I dropped it because I was on a laptop with 16 gigs of RAM, man. I had all kinds of trouble rendering on that thing.

Chris Nichols: I've got a ... I'm going to show you a laptop after this. You're going to be jealous.

Rob Nederhorst: I almost set that thing on fire a few times.

Chris Nichols: I'm sure.

Rob Nederhorst: Sometimes metaphorically, sometimes actually.

Alex Nice: But one of the other things about the house, too, is that the lighting changes in the project. Because when he first goes in, the lights are off.

Chris Nichols: Yeah, because when they flip the switch, it ... and actually that's another thing that I thought was beautiful about that. They flip the switches and the whole thing changes.

Alex Nice: Yeah.

Rob Nederhorst: Yeah, and then there's that giant video wall back there.

Chris Nichols: Oh, right. Yep.

Rob Nederhorst: Along with the Carl F. Booker advertisement that is outside the window that ... You designed that at some point for-

Alex Nice: I put it in as a suggestion, and it ended up being in there.

Rob Nederhorst: Yeah.



Alex Nice: It was really cool. It was cool, also in the VR thing, is that I set up for the cinematographer on the VR controller, the vibe controller?

Chris Nichols: Yeah?

Alex Nice: I placed the LED lights how he wanted it, so he came and sat at my desk and told me how he wanted the lights. I plugged that in in blueprint, and in real engine, so you hit a button and it would turn the lights on and off.

Chris Nichols: So he could see what it would look like.

Alex Nice: Yeah, so he'd walk around in there, and he basically turned the lights on and off, and he was deciding if he wanted horizontal lines on the floor versus vertical ones on the pillars and everything. So that was really cool to give that interactivity on the controller for him to be able to do that too.

Chris Nichols: Right.

Alex Nice: So yeah, that was really neat to be able to do the different lighting scenarios too.

Chris Nichols: Okay. You worked on the design of that for like a year you said?

Alex Nice: Yeah, with other sets also. I was in there doing the glass house VR development at the same time as doing the Sushi restaurant in Chinatown and then the ... I did a bunch of sets in the place. So I was kind of bouncing around, doing everything.

Chris Nichols: How long did it take them to build that set?

Rob Nederhorst: The glass office set?

Chris Nichols: Yeah.

Rob Nederhorst: Two-and-a-half months, 10 weeks?

Alex Nice: That sounds about right.

Rob Nederhorst: Yeah. Right around 10 weeks.

Chris Nichols: Okay.

Alex Nice: It was always up in the air.

Chris Nichols: They built it on a sound stage.

Rob Nederhorst: Yeah, they built it on a sound stage.

Alex Nice: It was up in the air, because of the tariffs on steel that were going up and down during that time also, if you remember.

Chris Nichols: Yes.

Alex Nice: So the budget would constantly change, which was part of the thing too.

Rob Nederhorst: Crazy.

Alex Nice: Yeah.

Rob Nederhorst: Yeah.

Chris Nichols: Okay. Okay. All right, all right. How many days on set, for that? That's going to be a big one.

Rob Nederhorst: We were supposed to spend three days on set.

Chris Nichols: No. No.

Rob Nederhorst: However, we shot there for nine.

Chris Nichols: Yeah. Ooh, that still seems low. Because there's a lot of shit that goes on in that thing.

Rob Nederhorst: Yeah. And there's about two minutes, fifteen seconds of a fight scene that has been cut out of that scene.

Chris Nichols: Ah, right.

Rob Nederhorst: That you don't see. There's a lot of fighting that happens in there.

Chris Nichols: Yeah, there is.

Rob Nederhorst: Like a lot. But there's way more than the audience has ever seen in the movie, because it was cut out. Because after a while it's like, okay, we get it. You're fighting people in a glass thing and you can't see people.

Chris Nichols: Right.

Rob Nederhorst: Yeah.

Chris Nichols: Yeah.

Rob Nederhorst: Yeah, there's a lot more lower-level fighting before he goes upstairs.

Chris Nichols: Interesting. All right, well that is amazing. Okay, so we're kind of rounding up about an hour, but I want to say, is there any other interesting stories that you guys want to talk about that you guys worked on together on this film, that we can share with our audiences?

## **The bike chase**

Alex Nice: I don't have anything that I worked on him with, but I do want to hear about some of the bridge sequence, because that was such an incredible sequence.

Chris Nichols: Oh, the motorcycle?

Rob Nederhorst: Yeah.

Chris Nichols: Yeah, the bike chase was-

Rob Nederhorst: Yeah, that thing was pretty cool. There was a couple of things that we did, and I'll talk about that in a second. But I just want to go over one thing. There's a lot of things that visual effects does that nobody ever notices, which I love. I love when people don't know.

Chris Nichols: That's the point of our jobs.

Rob Nederhorst: That is exactly the idea, right. If I see-

Chris Nichols: That's the problem I have, is like, if no one knows that we didn't do anything, then we've succeeded and therefore no one knows that we did anything.

Rob Nederhorst: And the irony of all of that is, that's why a lot of times the visual effects department doesn't get as much credit on set, and as much respect on set, only because people don't know what we do, and everything we do is

so black boxy and weird, that it's only a very small subset of the film-making population that does any of the work and actually understands it.

Chris Nichols: Right.

Rob Nederhorst: And knows what we need. That is like a whole other situation. But, for example, the horse chase, so when the motorcycle's chasing the horse, the horses are not allowed to run on concrete. It's not good for them.

Chris Nichols: No. Yeah, I can imagine.

Rob Nederhorst: So as a result, horse mats you would use in a barn were placed all along the street.

Chris Nichols: Kind of ... Okay.

Rob Nederhorst: So we had to replace the horse mats with actual street. Luckily, we scanned it, we photogrammetried it, we took photography. We did everything. We did the usual thing.

Chris Nichols: Right.

Rob Nederhorst: I was a real scumbag about it, where our guys would go in and scan everything. I said, "Scan everything. If a camera is going to drop in there, I want you to scan it."

Chris Nichols: Sure.

Rob Nederhorst: "I want to be able to build this thing to within a half centimetre of accuracy. So I had a LIDAR guy who was excellent, who came and just scanned everything. So there were a lot of times when somebody said, "Oh, we've got this problem." I said, "Don't worry. I've got a scan. I can solve everything with scans." Because I can. I can literally solve any problem, just about any problem, if I have enough scan data and HDRI and photogrammetry.

Chris Nichols: Right.

Rob Nederhorst: So we ended up recreating. Once again, Method Australia came in and they recreated the entire street of that whole thing, including reflections of motorcycles, reflections of the horse, reflections of cars with lights on, people, the whole thing. They recreated that from nothing, and one of the first shots we ever got back from them was a kind of a test of that, and

you're talking about a glossy, reflective surface that has to be kind of wet, kind of dry. It's actually a difficult shader to pull off well.

Rob Nederhorst: Challenging, that's one of those hard things to make look real. Not photo-real, actually real. And they did a damn good job. I was showing it, I remember I was in Morocco, and I was talking to Halle Berry about something, and she was like, "Oh, visual effects," et cetera, et cetera, and I said, "Let me show you something that you would never think about doing with visual effects, and I showed her one of the shots, and she goes, "Show it again." I did, and she goes, "Wow. I would never think that you guys would have to do that." And I said, "Here's why." She goes, "Oh, well I wouldn't think about the horse. It's just not something I think about, but that's ..."

Rob Nederhorst: I said, "Well my goal is that you don't know that we're there. My goal is that you know that I'm there on set to help you. You as a film maker, when you do your first project, whatever it is, my goal is to help you as a film maker. I'm a crayon inside the art tools that you have at your disposal, and let me just help, along with the other crayons. I'm not the only crayon. There's a lot of crayons, right? But anyway.

Chris Nichols: But isn't that a little bit the dilemma? Because the whole point is that people don't know, but at the same time people keep bashing CG for being the reason why a movie sucks, is because of CG and this is better because they don't use CG, and they don't realise when they say that, it's all CG that they're looking at? Do you know what I mean?

Rob Nederhorst: Yeah. There's definitely a lot of that, and some of that is just purely based on time. At some point, if you give an incredibly talented visual effects team four weeks to do a certain thing, it's just not going to look good, because they don't have the time they need to execute properly.

Chris Nichols: Okay.

Rob Nederhorst: For example, let's talk about the motorcycle chase. It's a little dovetailing here. The motorcycle chase, we turned that over to our vendor, Image Engine, in August of 2018, and we delivered it in March of 2019. You're talking two total minutes of footage. Approximately, 2:15, somewhere around there. It took them "a long time". It's the hardest thing I've ever worked on, without question.

Chris Nichols: The motorcycle chase.

Rob Nederhorst: Yeah.

Chris Nichols: Yeah, I'm sure.

Rob Nederhorst: Because if it doesn't look photographic. Again, not photo-real. If it doesn't look photographic, the audience, the John Wick audience, which is expecting photography for the whole movie, as I am as an audience member, I expect photography. And if we don't give them that, they get pulled out of the film, and the first thing they'll do is go on Reddit and complain about it. As they should, by the way.

Chris Nichols: As they should, yes.

Rob Nederhorst: If it's a problem, complain about it, and people will make adjustments. So we spent a lot of time working with the super talented team at Image Engine to make sure that they had everything we needed, and we shot actual background plates with the whole, an array car-

Chris Nichols: Shut down the bridge.

Rob Nederhorst: We shut down the bridge for three nights, from 9:00 PM to 5:00 AM.

Chris Nichols: Wow, that must've pissed off a lot of New Yorkers.

Rob Nederhorst: Luckily, the Verrazzano Bridge-

Chris Nichols: Is not as busy.

Rob Nederhorst: It's about a two-mile bridge, and it connects Brooklyn and Staten Island. So the good news is, from 9:00 PM to 5:00 AM, there's not that many people travelling between those two parts of those cities.

Chris Nichols: Okay.

Rob Nederhorst: And it has a top level and a lower level. We shot on the lower level, so the top level was open, so people could go through. Maybe there was a little bit of a slow down. It never looked like a problem, when I would see what was going on, like traffic was being diverted, but it's not like there were millions and millions of people trying to cross that bridge.

Rob Nederhorst: The issue with that was that we couldn't set foot on the bridge until 9:00 PM, and we had to be completely off, the entire company gone, ghost, by 5:00 AM.

Chris Nichols: Right.

Rob Nederhorst: But it took an hour to prep, and an hour to strike. So now you don't actually have from 9 to 5. You have from 10 to 4. But then you just want to be safe, so really you have till about 3:30.

Chris Nichols: Right.

Rob Nederhorst: Because you don't want to mess up and all of a sudden they shut the whole production down, because you went over by-

Chris Nichols: So you only have about five hours.

Rob Nederhorst: Five hours, and you have to do wrecks of motorcycles that you're shooting.

Chris Nichols: Right.

Rob Nederhorst: Tricky. Very, very tricky.

Chris Nichols: Right.

Rob Nederhorst: And we have to shoot plates, and we have to do HDRIs, and we have to do LIDAR. We have to do photogrammetry, and we have to do actual photography of different signs, and different bits, and to make-

Chris Nichols: Yep, a lot of planning.

Rob Nederhorst: Tonnes and tonnes and tonnes of planning. We shot that sequence four times before we actually shot it.

Chris Nichols: Right.

Rob Nederhorst: The stunt department, they stunt vis everything. So they did stunt vis the first time, and then I went into the stunt department, where they were rehearsing, near our production offices. I went in there and I took a look, and I said, "Ooh, this is going to be cool." And then we walked through some stuff and had these sleds that they had built with these motorcycles, and they were pushing it around, and dudes were going to be in green suits, and the whole thing.

Rob Nederhorst: I looked at it and I said, "Hey guys. Have you measured out the size of the bridge?" They said, "Yeah, yeah. It's cool." Okay. So they did another one, because they had to make some adjustments. I said, "Well hold on. Have you measured it, and have you actually made the lane lines the right measurements for the bridge?"

Rob Nederhorst: They said, "Well, the standard lane line is X amount of feet." I don't actually know those numbers.

Chris Nichols: Right.

Rob Nederhorst: Let's say nine feet, whatever. And I said, "Okay, but is that the actual size from the Verrazzano Bridge?" Nobody knew, and I said, "Hold on a second." So I called locations, and I had locations bring our LIDAR guy, John Ashby, I had him bring him to the bridge and stand at some point while traffic was going, and scan the bridge, like one little tiny section, just one scan.

Rob Nederhorst: It was enough to get us the distances, because of how accurate those LIDAR kits are. We found out that they were off by about a foot to a foot-and-a-half in certain places, and if you're choreographing six motorcycles that have to intertwine, a foot-and-a-half is a big deal.

Chris Nichols: Yeah.

Rob Nederhorst: So they had to redo it again. So they redid it, and then we said, "Okay, well what happens if we actually ... Let's test it out." So we did a big test where we actually put a big green screen on a much smaller stage, and had the right sizing. We looked at it and went, "Eh, that's not working." Then we shot it again, the next day, same green screen, and then we had somebody actually comp in the background plates from the running footage that we had shot, just to see, does this work.

Rob Nederhorst: Is this even functional? And the answer was like, "Oh that's pretty cool. That looks ... This is going to be rad."

Chris Nichols: Right.

Rob Nederhorst: You know, what happens when Keanu Reeves gets out a sword and starts kicking butt? Taking names all over the place. But then yeah, we ended up, or Image Engine rather, Image Engine ended up rebuilding the entire bridge as a digital asset.

Chris Nichols: It had to be.

Rob Nederhorst: An incredibly detailed-

Chris Nichols: And it looked it. It had to be. Only logistically speaking, it looked photographic as you say.



Rob Nederhorst: Yeah, and for a long time everybody said, "Oh, we're going to photograph the bridge," and I said, "Yes. We're going to get a camera. We're going to do an array," and I set up the array thing.

Alex Nice: We will have photography.

Rob Nederhorst: We will have photography of this. We will do it at multiple speeds, we will do it at this, and multiple lanes, the whole thing. And in the back of my head, and I remember telling my producer, I was like, "We will never use this photography. It will never be in the movie."

Chris Nichols: Right, yeah.

Rob Nederhorst: He's like, "Bobbo, come on man, we're going to use the photography." I said, "Have you heard of parallax? Because there's no way this will ever work."

Chris Nichols: Right.

Rob Nederhorst: There's no way to take a 12-array camera array and project it onto the geometry of a bridge and then re-film it. It's just, it cannot work. Best case scenario, we're replacing the ground. Well if we're replacing the ground, we replace the whole damn thing. Because at that point everything has to lock together. Well that's not going to work if you're doing projections. You're going to miss a spot and it's going to be weird. So Image Engine had to build that bridge.

Chris Nichols: So they build all of it.

Rob Nederhorst: They built all of it, and then we saw a bridge turntable, or a driving ... They took one of our shots that we had a test of a guy on a motorcycle, with the black suit on, the black helmet, actually riding down at about 15-20 miles an hour, riding on the bridge.

Chris Nichols: Right.

Rob Nederhorst: They took that exact shot and they recreated a digital version of it.

Chris Nichols: And it was to show that you couldn't tell the difference, right?

Rob Nederhorst: Yes. And at that point, when we saw it, we're like, okay. Yeah, there's some shade or stuff on the helmet, et cetera, et cetera, and sadly for them, I knew too much about shading, with my background. So I was giving very specific, detailed notes about how a shader's supposed to work. Probably

to everybody's chagrin on that show. At any rate, they ended up nailing it, and the bridge came out fantastically good, and even though everybody knows it's digital, because you just can't ...

Chris Nichols: There's no other way.

Rob Nederhorst: Nobody's fighting dudes on motorcycles on a freaking bridge. Nobody would do that. It doesn't bump for anybody.

Chris Nichols: No, it doesn't.

Rob Nederhorst: And that's the other part of my job is I've got to keep the audience engaged.

Alex Nice: Where it bumps is that they make it to the bridge from the New York Public Library in five frames.

Rob Nederhorst: That's right, yeah. And anybody who sees what's going on and realises what bridge it is, knows that there's no ... Wait a minute, that's not the Brooklyn Bridge.

Alex Nice: Right.

Rob Nederhorst: That's the Verrazzano Bridge. This is way too long. What's happening? Why-

Alex Nice: It took half an hour to get there.

Rob Nederhorst: Yeah, easily, easily.

Chris Nichols: Yeah.

Rob Nederhorst: So there's a little bit of geographic issues, but you know what? It's John Wick. Nobody cares.

Chris Nichols: No one cares. It's a different universe anyway.

Rob Nederhorst: Exactly.

Chris Nichols: Well anyway, this has been fascinating, guys. I really appreciate you guys sharing the story and getting to know this world, and being part of it. I can't wait to talk about this on Martini Giant and actually get into the John Wick world a little bit more. But just the making of is really cool. So I really appreciate. You know, I've known you guys for years, and being able to

see your guys' work that looks so cool onscreen was really awesome.  
Really awesome.

Alex Nice: Thanks man.

Rob Nederhorst: Thanks man, yeah.

Chris Nichols: Yeah. I really appreciate it. Thanks a lot for being here.

Alex Nice: Yeah. Thanks for having us.

Rob Nederhorst: Thank you man.