**Mishy Harman:** So Telma, where are we?

**Telma Schultz:** We are in the recycling workshop at the Israel Museum. This is the Youth Wing, and it’s a wonderful place.

**Mishy Harman (narration):** That’s Telma Schultz, who’s been running the workshop for the last thirty years.

**Telma Schultz:** I’m an artist, and I’m working especially with recycling materials.

**Mishy Harman:** Is your necklace also from recycled materials?

**Telma Schultz:** Yes! This is from cereal box, and this is from tea.

**Mishy Harman:** Tea bags?

**Telma Schultz:** Yes, yes.

**Mishy Harman:** Oh wow.

**Telma Schultz:** And my ring is from the…

**Mishy Harman:** It’s a computer key.

**Telma Schultz:** Computer key, yes.

**Mishy Harman:** Oh, that’s so nice.

**Mishy Harman (narration):** On the second day of the Hanukkah vacation, I visited Telma in her kingdom, which is packed with jars and barrels and containers full of all kinds of repurposed objects.

**Telma Schultz:** The idea is that children, very young children, arrive with their parents, and there’s a lot of materials that I collect from factories, and they can pick up whatever they want - fabric, wools, buttons, plastic leftovers - and they could build their own art projects.

**Mishy Harman (narration):** Telma gave me the tour.

**Telma Schultz:** We have toothbrush without the hair, we have…

**Mishy Harman:** String, I see here. Fabric.

**Telma Schultz:** String. We have scotch for making the dishes.

**Mishy Harman:** Oh yeah.

**Telma Schultz:** Cleaning the dishes. We have slides, nobodoy use anymore slides.

**Mishy Harman:** I see here you have...

**Telma Schultz:** Corks, caps.

**Mishy Harman:** You have some soda bottle caps.

**Telma Schultz:** Bottle caps.

**Mishy Harman:** Oh, old floppy disks.

**Telma Schultz:** CDs. Music disks. And roll toilet paper.

**Mishy Harman:** So it’s really like a laboratory for… for dreaming with materials.

**Telma Schultz:** Yes *[laughs]*. Yes, it’s a great place to sit with the parents or with grandfather, grandmother, and make things from recycling material.

**Mishy Harman (narration):** I agree. I used to come here *all the time* with my mom when I was a little kid.

**Telma Schultz:** The idea came from the children museum in Boston.

**Mishy Harman (narration):** The themes and activities in the recycling workshop are tied into the exhibits that are going on in the museum.

**Mishy Harman:** So the kids walk around the exhibit with their parents and then they come here and they create things that are inspired by what they’ve seen in the exhibit?

**Telma Schultz:** Yes, yes. Exactly.

**Mishy Harman:** What kind of things do kids make? Dolls and masks and...

**Telma Schultz:** Yeah, usually they like to make cars and robot and dolls. Flowers. Miniature things. It doesn’t matter, because the kids that arrive they see that instead of going and buying new stuff, new things, they can use again stuff that nobody needs.

**Mishy Harman:** Hi!

**Stephanie De Louya:** *[In Hebrew]* Hello, how are you?

**Mishy Harman:** Hi, how are you doing? What’s your name?

**Natan De Louya:** Natan.

**Mishy Harman:** Natan. How old are you?

**Natan De Louya:** Ten years old.

**Mishy Harman:** And what grade are you in, Natan?

**Natan De Louya:** Grade five.

**Mishy Harman:** And, what are you doing?

**Natan De Louya:** I do a ninja.

**Mishy Harman:** Is he going to have a sword, this ninja?

**Natan De Louya:** Emmm… I don’t know.

**Mishy Harman:** Can you tell me what… what you used to make this?

**Natan De Louya:** Emmm…

**Mishy Harman:** Mom, you can also participate if you want.

**Stephanie De Louya:** OK, so Natan…

**Mishy Harman:** What’s your name?

**Stephanie De Louya:** My name is Stephanie. So Natan is using lots of… how do you say… fabrics, old fabrics. And he’s trying to build, you know because the subject of today, the exhibition, is concerning the Indians in South America. So we building little dolls with little pieces of fabrics. And he tries to build a ninja, which is really nice, you know? It’s a nice time together.

**Mishy Harman:** Nice. And is this your brother?

**Natan De Louya:** Yes.

**Mishy Harman:** How old is he?

**Natan De Louya:** Seven years old.

**Mishy Harman:** Seven. What’s your name?

**Stephanie De Louya:** What’s your name? *[In Hebrew]* What’s your name?

**Elisha De Louya:** Elisha.

**Stephanie De Louya:** Elisha *[laughs]*.

**Mishy Harman:** And how many kids do you have?

**Stephanie De Louya:** I have three kids.

**Mishy Harman:** So where’s the third? The third didn’t get to come?

**Stephanie De Louya:** It’s my teenager girl, so she prefers, you know, to eat waffles with her girlfriends and to play together with her friends. So… *bon*, I say, “OK, for this year, don’t come with us if you want. If you prefer.”

**Mishy Harman:** So what do you prefer, to do DIY art or to eat waffles with your friends?

**Natan De Louya:** Emmm… DI what? *[Natan and Mishy laugh]*.

**Stephanie De Louya:** GDY. How do you say it?

**Mishy Harman:** DIY.

**Stephanie De Louya:** DIY. OK, sorry.

**Mishy Harman (narration):** Hey, I’m Mishy Harman, and this is Israel Story. Israel Story is brought to you by Tablet Magazine and the Jerusalem Foundation. Our episode today - **DIY**. Now, people often say that there’s something about the concept of DIY, something about the confidence or *chutzpah* or engenuity or hubris of doing it yourself, that stands at the very core of Israel. And that might be true. But our episode today tells the story of what I think is the most inspiring, the most audacious, and most famous, example of Israeli DIY in recent years. It’s a story I’m sure many of you followed in real time, but perhaps, never quite heard from this perspective.

Alright, **Act One - Yehud, We Have A Problem.** Back in September 2007, Google announced a once-in-a-lifetime challenge - the Lunar XPrize. In what was often referred to as Moon 2.0, Google and the XPrize Foundation offered twenty million dollars to the first privately funded group that would successfully land an unmanned rover on the moon, have it travel five hundred meters on the lunar surface and transmit images and videos back to Earth. There were prizes for the runners up and a bunch of smaller incentives, all geared towards getting a non-governmental spaceship to the moon ASAP. It had been thirty-five years since humans had last walked around the lunar surface, and Google hoped the Lunar X contest would spark the development of innovative and cost-effective technologies and inspire a new wave of private investment in space exploration.

Teams started lining up for the challenge. They came from the US, Brazil, Canada, Japan, India, Chile, Germany, Italy, Hungary, Malaysia, Russia, Romania and Spain. By December 31st 2010, the last day to enter this new ‘race to the moon,’ thirty-one teams had registered. But with hours left to join the competition, there was still one more team that would throw its hat in the ring. Judah Kauffman brings us their story, which is narrated by Adina Karpuj.

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**Adina Karpuj (narration):** Thirty-nine-year old Kfir Damari wrote his first computer code at age six, and his first virus at eleven. Coding, he says, is all about imagining ways to turn the impossible into the possible.

# **Kfir Damari:** It’s like meditation. Trying to think about a challenge and then finding a way to solve that. And I think that was, for me, a lot of fun.

**Adina Karpuj (narration):** He served as a cyber officer in *shmone maataim*, the IDF’s famous eighty-two-hundred intelligence unit, and studied telecommunications engineering in Be’er Sheva. Upon graduation, he moved to Tel Aviv and started teaching in a local college. But really, he was searching for a challenge. And on a chilly night in November 2010, that challenge fell right into his lap. He was alone in his apartment and procrastinating on social media.

# **Kfir Damari:** Then I saw a Facebook post by someone called Yariv Bash. We were like Facebook friends, we didn’t know each other too much.

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**Adina Karpuj (narration):** The post began with a simple question, which immediately drew him in.

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# **Kfir Damari:** “Who wants to go to the moon?”

**Adina Karpuj (narration):** “Who wants to go to the moon?” ‘Me,’ Kfir immediately thought to himself.

On the other side of that post was Yariv Bash, a thirty-year-old electrical engineer looking for his next big idea. Yariv ran a camp called *Machanet* - an annual three-day event for what he calls “crazy people” - members from all branches of Israel’s security and intelligence forces who gather to simply have fun. *Machanet*’s one rule? You have to work on a project that’s smart and... useless. Each year, he tried to outdo himself. President Shimon Peres had headlined the 2010 camp, which was a big hit, but left Yariv with a serious problem - expectations for the 2011 conference were sky high.

# **Yariv Bash:** Then we said, ‘OK, what can we do next year that’s gonna be as amazing as bringing the president to visit us?’

**Adina Karpuj (narration):** Yariv went over to a friend’s house to brainstorm some ideas.

# **Yariv Bash:** Then he told me, “well, you’re not thinking big enough. What about the Google Lunar XPrize Prize?”

**Adina Karpuj (narration):** Google’s Lunar XPrize race-to-the-moon was already well underway. In fact, it had been announced three years earlier.

# **Yariv Bash:** And I told him, “ah, you’re crazy, sending a spacecraft to the moon, that’s… that’s, you know, ten orders of magnitude bigger than what I had in mind.”

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**Adina Karpuj (narration):** But a seed of an idea was planted in his brain.

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# **Yariv Bash:** And as I was strolling the streets of Tel Aviv back home, I asked myself, ‘well if I’d open an Israeli team, how should I name it?' And that night I registered the spaceIL.com domain name. And I also posted on my Facebook wall, “who wants to go to the moon?”

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**Adina Karpuj (narration):** That’s the post Kfir came across. Excited, he decided to message Yariv.

# **Kfir Damari:** And I just told him, you know, “if you’re serious, I’m in.”

**Adina Karpuj (narration):** In many ways,Kfir and Yariv were cut from the same cloth. They both had that essential mix of intelligence, ambition, and just enough delusion to think they could face impossible odds. I mean, after all, they were talking about entering…

# **Kfir Damari:** A competition, building something that was never done before, not in Israel, and not anywhere in the world.

**Adina Karpuj (narration):** A few days later, Kfir got into his car and drove to a small bar in Holon, for the inaugural meeting of SpaceIL.

# **Kfir Damari:** We sat outside. In a small table, three chairs the three of us.

**Adina Karpuj (narration):** Yariv promptly introduced Kfir to the third musketeer - Yonatan - who looked like he might be too young to be in a bar at all.

# **Yonatan Winetraub:** I’m Yonatan Winetraub, PhD candidate at Stanford.

**Adina Karpuj (narration):** That’s now, but back in 2010, long before he went to Stanford, Yonatan was a twenty-two-year-old intern at the Israeli Aerospace Institute.

The three of them quickly assigned roles.

# **Kfir Damari:** Yonatan is our space engineer, Yariv is an electronic engineer, I’m the communication systems engineer.

**Adina Karpuj (narration):** With that out of the way, the entire team planning to launch Israel into outer space got to work.

# **Kfir Damari:** And so although we were in a bar we are still engineers and we had graph paper and we took it out and we started drawing a plan.

# **Yonatan Winetraub:** As the alcohol level in our blood basically rose, we became more and more determined to actually execute this mission.

**Adina Karpuj (narration):** Pushing aside empty pint glasses and soggy coasters, they started scribbling down some rocket science equations.

# **Kfir Damari:** Then I think we moved really quickly to understanding the challenge that we’re talking about.

**Adina Karpuj (narration):** They completed some initial calculations, and - as people do in a bar - discussed the big questions. How big would the rover be? How much fuel would it need? Was any of this even remotely possible? Slowly, an idea began to take shape. They envisioned a spaceship that was less Millennium Falcon and more R2D2. Well, even smaller really.

# **Yonatan Winetraub:** About the size of a Coca Cola bottle.

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**Adina Karpuj (narration):** The size of a Coke bottle.

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# **Yonatan Winetraub:** Very cheap and very easy to make, instead of a billion dollar mission.

**Adina Karpuj (narration):** Chalk it up to it being late at night, or - more likely - to the beer, but...

# **Kfir Damari:** We realized, ‘OK, so we think it’s doable, it’s crazy but it’s doable.

**Adina Karpuj (narration):** As the trio folded up their graph paper and closed out their tab at the Holon bar, teams around the world were already busy building prototypes. It’d be wrong to say SpaceIL was late to the party. It was dead last to the party. Chairs-on-the-tables-the-barman-mopping-the-floor-under-your-feet kind of late. But *that* - they quickly learned - wasn’t even their greatest problem. See, to even *register* for the contest, teams had to submit fifty thousand dollars and a full set of blueprints by midnight, December 31st, 2010. Kfir, Yonatan, and Yariv had exactly six weeks.

It took 400,000 people and 12% of the national budget for America to get to the moon. Yonatan, Yariv and Kfir, on the other hand, were trying to squeeze it in after their day jobs.

# **Kfir Damari:** I was working as a lecturer in a college in Israel and the rest of the week, beside my girlfriend, was about working on the spacecraft.

**Adina Karpuj (narration):** They didn’t have enough time to draw up full blueprints. So, in good old Israeli fashion, they winged it, bringing the *chutzpah* and ‘can do’ attitude of the pioneers and kibbutzniks into the realm of astrophysics and space exploration.

# **Kfir Damari:** We needed the graphic designer to do like a mockup of the idea that we came up in the bar. Like, we needed to make it as tangible as possible although we didn’t have a lot.

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**Adina Karpuj (narration):** And, of course, there was the thorny issue of the fifty grand.

# **Kfir Damari:** So we started meeting people and talking about funding.

**Adina Karpuj (narration):** It was long before the days of online crowdfunding campaigns, so they approached friends, family, anyone they could think of, and asked for money. Something about their naivete, their hubris and their passion, was apparently irresistible.

# **Kfir Damari:** Eventually we got people that were excited.

**Adina Karpuj (narration):** Donations started coming in, but - as the submission deadline approached - they didn’t know if they’d be able to raise enough cash. On December 30th, they had…

# **Yariv Bash:** Something like $30,000 in the account and lots of promises and even faxes from the different donors claiming that they’ve sent us the money and it should appear in the bank.

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**Adina Karpuj (narration):** Faxed promises on December 30th… Not the most *reassuring* of things.

# **Yariv Bash:** December 31st, it was a Friday morning, we rushed to the bank and banks are... most branches aren't opened on Friday morning and ours… we just, you know, set up a bank account like a week before, and we got to the bank and there were like $52,000 in the account.

**Adina Karpuj (narration):** Che ching… The moon never seemed closer.

# **Kfir Damari:** After we just wire transferred that, we went to the restaurant outside. Like we sat the three of us, it was ‘whoa this just happened’ *[laughs]*.

**Adina Karpuj (narration):** But if raising the money had been a giant leap, now there was just one small step separating the founders from the twenty million dollar prize. You know, actually building a spaceship that could fly to the moon.

**Mishy Harman (narration):** We’ll be right back.

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**Mishy Harman (narration):** And now, back to our episode. We’re hearing the story of SpaceIL, who - in the absolute last moment - managed to get their act together and enter the Lunar XPrize contest. But if drawing up some blueprints and raising fifty grand were a surmountable challenge, now they actually had to get to the moon. OK, back to Adina.

**Adina Karpuj (narration):** Once SpaceIL was officially registered in the competition, Kfir, Yonatan and Yariv quickly assembled a small team of lovable nerds. Most of whom were amateurs and hobbyists - to help them build a rocket ship.

# **Yoav Orot:** We thought, you know, ‘why not?’

**Adina Karpuj (narration):** That’s Yoav Orot, a software engineer, and one of the first recruits to the SpaceIL team. Other early team members were engineering students, or had entry-level jobs in high-tech companies. But what they lacked in experience, they *more* than made up for with an almost childlike enthusiasm.

# **Yoav Orot:** You know, it’s like…it’s fucking being in space. I mean, it was… for me it was mind-blowing.

**Adina Karpuj (narration):** Sure. They were talking about the moon after all.

# **Kfir Damari:** You see it almost every night, but it feels in a way so close and yet so far.

**Adina Karpuj (narration):** Meanwhile, the SpaceIL volunteer team continued to grow. Their meetings moved from living rooms to coffee shops to bars to garages. Ideas came and went, and the Coke-sized spaceship-design changed daily.

# **Yonatan Winetraub:** We couldn’t make it as small as a Coca-Cola bottle and one of the reason is you require a lot of fuel to get to the moon.

**Adina Karpuj (narration):** They needed to add more fuel tanks, so back they went to the drawing board.

# **Kfir Damari:** And we moved from one tank to two tanks.

**Adina Karpuj (narration):** And then again.

# **Kfir Damari:** To four tanks.

**Adina Karpuj (narration):** And again.

# **Kfir Damari:** To bigger four tanks. We had to find each and every time the leanest way to solve the problems. And we needed to be creative.

**Adina Karpuj (narration):** Slowly but surely, the outlines of the ship emerged. It would sort of look like a water boiler welded onto a tripod. Not the most elegant of spaceships perhaps, but simple and functional. Or at least, that was the hope.

# **Kfir Damari:** When you're getting into the details, it becomes more and more complicated.

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# **Adina Karpuj (narration):** There were all types of design challenges, and technical challenges, and computational challenges. And - looming above it all - funding challenges. Yariv spent much of his time meeting with private investors.

**Yariv Bash:** When you have to spend roughly a hundred million dollars to get to the moon, a reasonable investor would ask you, “OK, but what do I get in return for those one hundred million dollars?”

**Adina Karpuj (narration):** From the investors’ point of view, he heard again and again, going to the moon is just bad business. So the heads of SpaceIL decided to reframe the ask. Instead of focusing on how exploring the moon could be *profitable*, they began asking, “how can exploring the moon be *valuable*?” The short answer - education.

# **Kfir Damari:** There’s something much bigger than landing on the moon, and that thing is to use that moment in order to show kids that science is exciting, that they can do amazing things with it.

**Adina Karpuj (narration):** The founders imagined using the competition as a way of igniting an Israeli space craze, much like NASA’s Gemini and Apollo programs had done for a generation of young Americans in the 50s and 60s. They began a massive educational blitz.

# **Kfir Damari:** And you can see the spark in their eyes. Both of the kids but also for the Holocaust survivor. And it's amazing, Israel is going to get to the moon and going to land there.

**Adina Karpuj (narration):** This inspirational and educational message seemed to land with investors, but the question still remained - could their spaceship?

In July 2011, after months and months of revised blueprints and scratched prototypes, everyone felt it was time to test the components of what would eventually fly to the moon.

**Yoav Orot:** So what we decided to do was shoot a missile.

**Adina Karpuj (narration):** In order to simulate a lunar landing, they needed to shoot the prototype high up into the air and see if it could withstand the fall.

**Yoav Orot:** We said to ourselves, “OK, cool so how do we build a missile?”

**Adina Karpuj (narration):** Except that shooting a missile in Israel, well... you have to be careful not to inadvertently start a war.

# **Yoav Orot:** I said missile, yes. And, yes, in Israel shooting a missile, it's... well not something that you will want to do unless you want, you know, to mess with the IDF or something. So, in order to shoot a missile, you need all kinds of, like, permits.

**Adina Karpuj (narration):** Countless forms and mind-numbing meetings later, they got permission to attempt a single “launch.” One place, one time. It would be SpaceIL’s only chance to experiment. This was yet another example of just how *behind* SpaceIL really was. By this point, other teams around the world had worked for years with experienced rocket scientists and launched several tests.

Now, no one on the team knew how to do everything. So the launch experiment became kind of a missile... ‘potluck.’

Some *engineering* students volunteered to make the engines. Someone else pitched in to cook up the fuel.

# **Yoav Orot:** He made the fuel in his home bath, OK? He took and mixed like all kinds of like fuels and put it in the fridge or something. I’m happy that I didn’t live in the same neighborhood as he did.

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# **Adina Karpuj (narration):** On launch day, the missile was still in pieces.

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# **Yoav Orot:** And we just then started like putting all the pieces together.

**Adina Karpuj (narration):** That night, they were as ready as a group of Israeli millennials - who cobbled together a rocket from hardware store parts and moonshine rocket fuel - were ever going to be.

It was a clear and cold night. Eleven PM turned to midnight, midnight to one. They were all nervous. But they knew it was time to set out for the site that had been cleared for this homemade blastoff.

# **Yoav Orot:** So we said, “it’s now or never.”

**Adina Karpuj (narration):** They all loaded into their cars (or, in some cases, the cars they borrowed from their parents) and headed towards the Beit Sha’an Valley. Then - as Kfir recalls - they immediately ran into a very SpaceIL kind of problem.

# **Kfir Damari:** On the way, I got a message from Yariv that we're missing one of the batteries.

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**Adina Karpuj (narration):** The entire experiment hinged on one missing battery. But, well, that was nothing a gas station pit stop couldn’t solve.

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# **Kfir Damari:** In the last gas station before the site itself, they actually found there the right battery.

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**Adina Karpuj (narration):** At six am, all was set to go. Everyone got in position, or at least what they *thought* should be their position. Yoav and some others hid behind a car.

# **Yoav Orot:** It was our shelter.

**Adina Karpuj (narration):** Kfir, Yariv and Yonatan - like space force generals - watched from the top of a nearby hill.

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# **Kfir Damari:** And we were communicating with walkie talkies, and counting down.

# **Yoav Orot:** And I heard like this very loud noise.

# **Kfir Damari:** There was the white trail. And eventually you don't see the rocket itself.

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**Adina Karpuj (narration):** In the recording of the launch you can hear a voice that says it all.

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# **Kfir Damari:** In Hebrew, "*lo nachon,"* like, "that's not true."

**Adina Karpuj (narration):** But it *was* true. They had pulled it off and not only was the launch a smashing success, the landing technology they were testing worked perfectly. SpaceIL - they all thought as they drove home - might actually have a chance.

A lot has happened since that night in 2011. The original deadline for the Google Lunar XPrize was the end of 2014. *None* of the teams made that deadline, which was subsequently pushed, first to 2017, and then again, to March 2018.

Most of the teams dropped out of the race at one point or another, others chose to join forces. But throughout it all, SpaceIL, the scrappy new kid on the lunar block, matured.

They got some grownups in the room, hired a CEO, raised tens of millions of dollars, and became the serious operation most of us have heard of. Yonatan left for Stanford in 2014, but Kfir and Yariv stayed on as senior officers. They and the hundreds of SpaceIL volunteers also made good on their educational mission, and spoke at schools all the way from Metula to Eilat.

# **Kfir Damari:** So there was one time that I did a lecture in a school in Raanana, and beside the fact that around forty kids came and told me “good luck” or shook my hand, one of them asked for my autograph. What's amazing about that is not that it was like me personally. It’s about the fact that, you know, I, or anyone else, can stand on stage and say, “hi, I'm an engineer,” and that kid comes and asks for an autograph, this is what we want to do.

**Adina Karpuj (narration):** But autographs will only get you so far. Despite the multiple deadline extensions, by early 2018 no team had claimed victory in the Lunar X contest. On January 23rd, the prize’s directors announced that the prize would go unclaimed. The twenty million were off the table and the XPrize became, essentially, an ex-prize.

With the prize money now gone, the SpaceIL Board of Directors soon voted to abort the mission and wind down its operations. As they said in a brief press release, there was no longer any point in going to the moon. It was a disappointing end to a long and unexpected journey.

Just kidding. I mean, what kind of a story would *that* be? And besides, does that sound like something a team of dreamers set on sending a Coke bottle to the moon would ever do?

Of course not.

Prize or no prize, there was no turning back for SpaceIL, even after the cash competition ended. On April 12th, 2019, Yariv, Yonatan, Kfir, Prime Minister Bibi Netanyahu, and a gaggle of engineers sat in a control room at the Israeli Aerospace Industry HQ in Yehud. It was close to midnight, and the room quieted down as the lunar lander - christened *Beresheet* -prepared for its final descent.

# **Opher Doron:** We have passed the point of no return. We are in the landing process.

**Adina Karpuj (narration):** The spacecraft they had built and perfected over nearly a decade now beamed its data from just above the lunar surface, through 384,000 kilometers of space and onto the large screens in the control room. The altitude numbers were steadily falling, the engine readings were encouraging.

# **Opher Doron:** So we are in the breaking process. The breaking process is working well. The spacecraft is doing exactly what it’s supposed to do right now.

**Adina Karpuj (narration):** And then - all of a sudden - it wasn’t.

# **Opher Doron:** We seem to have a problem with our main engine. We are resetting the spacecraft to try to enable the engine.

**Adina Karpuj (narration):** The lander’s vertical speed was increasing too quickly. One display was turning from green to yellow to red.

# **Opher Doron:** We have the main engine back on.

**Adina Karpuj (narration):** For a brief moment, it seemed like everything was back on track.

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**Ido Ateby:** No, but it’s not… No, no.

**Adina Karpuj (narration):** Then... nothing.

# **Opher Doron:** The main engine is back on but we’ve lost communication with the spacecraft.

**Adina Karpuj (narration):** Inside the control room, the altitude reading was frozen at 149 meters. The descent at 134 meters per second. Anyone could do the math. SpaceIL’s *Beresheet* had just crashed and exploded onto the surface of the moon.

From the very beginning, the founders knew that failure was a real possibility.

# **Kfir Damari**: When you’re doing something impossible, you need to accept the option of failure. Because if you don’t accept the option of failure, you will never do like the next step.

**Adina Karpuj (narration):** Just before the fateful launch, the SpaceIL team had released a children’s book called “The Little Spacecraft.” Here’s Kfir reading its first page.

# **Kfir Damari:** Dedicated to the little dreamers. The girls and boys who dare, who try, who fail and try again. To the ones who aspire to reach new places far beyond the horizon. And to their parents who instill in them the confidence to know that no matter if they succeed or fail, they will always have a safe place to land.

**Adina Karpuj (narration):** The last transmission *Beersheet* sent back to earth was a selfie. Against the backdrop of the silvery-white lunar soil, then just a few hundred meters away, is a small blue-and-white flag engraved with the words *Am Israel Chai* and another sentence in English - ‘small country, big dreams.’

And that, frankly, is close enough to a moonshot for me.

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**Mishy Harman (narration):** Adina Karpuj. Judah Kauffman reported and wrote that story, which was edited by Joel Shupack.

As I’m sure many of you know, almost immediately after *Beresheet* crashed, SpaceIL announced it would begin working on *Beresheet II*. If all goes according to plan, it’s supposed to land on the moon in 2024.

And that - dear listeners - is our episode. Zev Levi scored and sound designed it with music from Blue Dot Sessions. Sela Waisblum created the mix. Thanks to Naor Meninger and Eytan Weinstein from the ‘Two Nice Jewish Boys’ podcast, who allowed us to use some clips of their interview with Yariv Bash. Thanks also to Ahiad Ovadia and Ronna Cohen-Morad from the Israel Museum in Jerusalem, and to Harry Sultan, Estie Rosen, Ido Anteby, Yigal Harel, Wayne Hoffman, Esther Werdiger, Sheila Lambert, Erica Frederick, Jeff Feig and Joy Levitt.

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Our staff includes Yochai Maital, Zev Levi, Yoshi Fields, Skyler Inman, Naomi Schneider, Adina Karpuj, Elie Bleier, Sharon Rapaport and Rotem Zin. Tanya Huyard and Matthew Litman are our wonderful production interns. Jeff Umbro and Jesse Adler, from The Podglomerate, are our marketing team.

I’m Mishy Harman and we’ll be back next time with a brand new Israel Story episode. So till then, *shalom shalom* and *yalla bye.*

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