

## AI Horizon

From certain angles, the factory on the hill melts right into the sky and, on a clear day at around noon, will vanish altogether. Those that give the site a half-glance might get the impression that the building is being torn down instead of built up. If the company, iRobotics, were to advertise—which it does not, because I've searched for details on what's being manufactured and can find nothing—it would say that it's the most advanced robotics factory in the world. I know the company's name only because of where I work: AI Transports, the country's largest driverless transport company.

On the days I go to the market for the week's food supply, my self-driving transport takes me past the site. For six months, I've watched the excavation, the frame's construction, and now the finishing touches on the exterior. The building is art in architecture. The security fence encloses an area downslope from the building with the same silver sheen. The road to the entrance is a switchback with concrete barricades at each turn shaped like large, oblong pills. I've watched robotic personnel cover the concrete pills with a mirrored coating. It's as if they're painting them into the surroundings. An unseen lethal weapon?

Three short beeps interrupt my study of this hologram on the hill. The onboard display turns a translucent red and flashes the message, *Undetectable Hazard in the Area*, over my identity.

*Name: Jeremy Watson, Age: 22, Height: 6' 0". Weight: 175 lbs. Hair color: brown. Eye color: brown.*

*Undetectable?* What does that mean? I tap the display. Unresponsive. The message continues to flash and warn me of something I can't see.

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Through the upper corner of the windshield, I spot something—a flicker of light, like a twinkling star. The flashes are bright against the broad daylight, forcing me to shade my eyes. There's a distinct wobble back and forth, and a scent of ozone penetrates past the transport's ventilators. Are they related? Why is it hovering over my transport? There are hundreds of transports. Was this one picked at random? I try to gauge the size of what might be a drone, but it winks out of existence.

Another series of beeps. The red warning message on the onboard display disappears. Below my personal information, another line says, *Destination: Food Mart. Arrival Time: 2 minutes. Credit Deduction: 5 digital dollars.* I settle back in my seat and look out the side window toward the facility, but all I see is the horizon. The rest of the trip is uneventful.

The transport stops at the front gate. As I step onto the unpaved drive that leads to our farm, a cloud of dust greets me. The 100 acres have been in the family for almost 200 years and have been my home for the last 15. After my parents were killed in a car accident, I moved in with my grandparents.

I watch as the transport moves in reverse, then forward, and then up onto the asphalt road. I keep my eyes focused on the driverless vehicle until it shrinks into the horizon, leaving me alone in this endless expanse of wilderness.

Bags in hand, I turn toward the farm. The facial recognition software pops the lock, and the rusted metal gate swings open. My grandfather had internet-enabled the entire farm, and it drove my grandmother crazy. She died in her sleep five years ago. Her unexpected death was hard on both of us, a shocking reminder that people we love can be gone in an instant. After my parents' sudden death, I'd wake up in the middle of the night, yelling their names, hoping

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through my half-awake state that one of them would step into the bedroom and assure me everything was alright. It was usually my grandfather that walked in, and he'd sit on the edge of the bed until I fell asleep.

On one occasion, after my grandmother's passing, I heard her voice. I was wide awake and two steps into the living room before coming to a stumbling halt and scuffling back into the hallway. My grandfather was sitting in his recliner, head between his knees, sobbing. He was listening to my grandmother's last voicemail. Her voice, and my grandfather's anguish, kept me pressed against the wall, choking back my tears. It was the first and last time I ever saw my grandfather cry.

The golf cart arrives for pickup. This is another of my grandfather's projects. He was way into AI and IoT technologies. As the cart comes to a stop, a voice says, "Welcome to the Watson wilderness complex."

I place the bags in the rack, slide into the seat, and take a deep breath before pressing down on the peddle. "Thank you, Grandpa."

The driverless cart turns and heads to the house, which stands silhouetted against a sinking, deep orange sun. How many times have I let this sight go unnoticed? Too many, my grandfather would say. On similar evenings, he would stand at the open barn doors and watch this wonder of nature, whereas, I would be laser-focused on our latest project. The cart makes a half-turn and stops in front of the log cabin. "Enjoy your stay."

I hop out and grab the bags of food from the back rack. "I'll do my best, Grandpa."

The next morning, I go through the ritual of waving hello to the security guard in the lobby as I walk to the elevators. The doors glide open. I walk in and turn. The panel scans my

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badge as the doors close. “Welcome, Jeremy.” I don’t reply. AI Transport’s private elevator will order breakfast, lunch, and dinner at your request and deliver according to your predetermined break schedule. On the way down, the in-panel AI will call a transport to wait on the tarmac outside the lobby before you step off the elevator. After a 10-second pause with no voice command, AI displays the day’s headlines and weather.

The elevator dings when it reaches the tenth floor. The doors slide open to a large auditorium designed like a university classroom with several levels of long, curved tabletops. My work area is on the third level. My friend and lunch partner Angela, who sits on the deck behind me, gives me a half wave as I drop my backpack next to my workstation. I nod, slide into my seat, and pop on my headphones. I flip on the bank of monitors and settle in for another day of—  
*I’d rather be doing anything else but this.*

The job is mundane, but it’s a job, and they’re getting harder to find. AI is the reason. My grandfather, who never lost interest in programming and considered himself fortunate to turn it into a career, always pored over the latest developments. He rumbled about rumors that someone had made the breakthrough from AI to AGI. Artificial General Intelligence—a computer intelligence that surpasses human intelligence. If the stories are true, the next step will be ASI, Artificial Super Intelligence. A computer intelligence greater than AGI by a factor of ten, then a hundred, and then a thousand times smarter than any human on the planet. The consensus among the computer science community is that the hop from AGI to ASI will be short, a matter of days, hours, or even minutes. Some in the AI community believe that somewhere from AI to AGI to ASI, computers will become self-aware. Sentient beings.

For a while, Grandpa questioned some of his contacts about the rumors of the advancement from AI to AGI. I remember it well. At first, he said AGI was a stretch and ASI

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would never happen. He'd quip that the genius who could write the algorithm for consciousness would be the first gazillionaire. He told me robots that dream only exist in science fiction. And then, out of the blue, he went dark on the subject. It was complete radio silence—an odd thing for my grandfather, who loved to talk. I would ask, and he would wave me off. A week after he classified the subject on AGI, he went to the doctor to receive treatment for his allergies. A week later, he was dead.

I gaze at the monitors in front of me but see nothing. The screens covering the auditorium walls, monitoring all AI Transport activities across the country, are one giant blur. The 10:15 morning break alarm rattles everyone in the room out of their coma. I walk into the break room, pour a cup of coffee, and sit across from Angela.

“Hey, Jeremy.”

I twirl my cup and look past her. My brain does another deep dive into what my grandfather knew about AGI.

“Hello, world to Jeremy?”

I take a sip of coffee.

“Jeremy? Look at me. What's going on?”

The coffee is stale as usual, but I take another sip before giving her a reply. “How 'bout I start with a boring weekend, followed by a return to a boring job, followed by another boring evening, to be followed by another day at a boring job?”

“So, you're bored. Am I getting that right?”

I give her a hard, blank stare and no reply.

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Angela puts her hand across the table, “Jeremy, we miss you. When are you coming back to game night?”

I take another sip of coffee and regret it. The only thing worse than stale coffee is lukewarm, stale coffee. “Maybe this Friday.”

She sits back and shakes her head, “You’ve been saying that for the last three months. It’s been six months, Jeremy. I miss him too.” She leans forward. “Your grandfather treated me like his own granddaughter. I loved him too. It’s time to move on. Let your friends help you move on. Promise me you’ll be there this Friday.”

The last gulp of coffee almost makes me gag. I nod. Angela gives me a quick hug before she leaves to get back to work. I wait to create a buffer so I can wallow alone back at my desk and dwell on my grandfather’s theory about AGI, as I have for the last six months. It doesn’t help that this Friday will be six months to the day since his passing. I do miss him, but she’s right; it’s time to move on.

Angela smiles a sad smile as I walk past. *I’ll be there*, I mouth at her. I sit down and hit the keyboard to wake up the screens. Three monitors—three rigs—are all showing a green ETA. All is good. I scan the big screens on the wall and see only one ETA is yellow. A traffic jam has added five minutes to delivery, which is well within the margin. I lean back in my seat and think about this coming Friday. It’s the third Friday of the month. Classic board games. My favorite. My grandpa introduced me to board games at an early age. He often said that socializing is a lost art, and there’s no better way to get to know someone than facing off over a good board game. I agree. He let me win a lot when I was young, but as I developed the skills, he had no problem

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gloating over his victories. I choke down laughter, thinking about his goofy victory dance. What better way to honor his memory than to show up this Friday and win? But no dancing.

I turn and wait for Angela to look in my direction. *I'll be there. I promise.* She nods and blows me a kiss before turning her attention back to her bank of monitors. I do the same. There's a blink of a white flash on my center monitor. A couple of seconds pass, and another blink. I look at the bottom of the screen and check the longitude and latitude. The rig is passing by the facility. It's being droned. I tap the keys and bring the transport's top cabin cameras online. I zoom in on the location of the last flash, but there's nothing there. Missed it! But no worries. The rig slows down, takes the exit, and turns onto the switchback that leads to the invisible robot factory.

On the way up the hill, I activate all the cameras and have a split view of six camera angles on the monitors. The front view is approaching the first checkpoint. I zoom in and can barely see an outline of the pill-shaped barricade. Thin red lines flash from the center pillar and scan the rig, giving me time to study the construction. It appears that the mirrored sheen I saw being applied last weekend is a reflector, or a screen, displaying an image of what is behind, which makes it close to invisible. That's brilliant. The barrier lowers, the rig pulls forward, and the process is repeated three more times. The rig reaches the dock area, makes a wide turn, and backs up to the loading docks.

When the rig hits the rubber padding, I cut all the cameras but the one on the back so I can scan the inside of this mystery facility. The bay door rises. I zoom in and am met with a glaring yellow light. I jerk back and almost fall out of my chair. What *is* this? I zoom out, but the yellow light overwhelms the monitor, making it impossible to see inside. I switch to a camera on the top of the rig and angle it down. The bay door is open, but I still can't see inside. There's no

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hint of any light around the bay door. It must come from inside the warehouse. How are they doing this?

When the truck door opens, and the unloading starts, I switch to an inside camera. The yellow light shines even brighter. I try another inside camera—same effect. I change the aperture, and the screen doesn't change in color or intensity. After the cargo is unloaded, a black bar moves down the screen as if wiping away reality. The bay door is closing. I turn on a light and see stacks of cargo, minus a space nearest the rig's now closed door. I make a note to check the itinerary to see what was delivered.

After I clock out, Angela and I walk together to the elevators. I listen to her describe the options for Friday night.

“The three games we'll be playing are Battleship, Risk, and the board game version of Civilization.”

A punch on the shoulder knocks me off my stride. “Hey, I'm listening.”

“Are you?”

We stop in front of the elevator. “Yeah, just thinking about something work-related.”

“What's that?”

“One of the rigs I was tracking made a delivery to that new robot factory off of 45.” I look over at her as we enter the elevator. “Do you know which one I'm talking about?”

“Yeah, I do. It's that factory built with state-of-the-art technology.”

“Yes. We made a delivery there today. I tried to take a peek inside and was met with a blast of light. Couldn't see anything.”



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“Maybe the facility is classified.”

“Maybe. Probably. That would explain the manifest. I pulled it up to see what was being delivered, but it was encrypted.”

We step out of the elevator, and Angela grabs my arm. “Jeremy, that’s not our area. We make sure the transports get where they’re going on time and make their delivery. That’s it. Remember our training?” She faces me with her hands on her hips. “If you have a concern outside your area of expertise, take it to your supervisor. Stay in your lane,” she says in the low voice of our trainer.

I put my arm around her as we walk through the lobby. “You’re right. I’ll stay in my lane.” My impersonation is not as good as hers, but it makes her laugh.

Two transports are waiting outside. One for me, one for Angela.

“So, I’ll see you Friday, then?”

“Yeah, you’ll see me Friday.”

“Good, I look forward to sinking your battleship,” she says as she slides into the backseat of her transport.

*When are you going to ask that girl out?* my grandfather’s voice says inside my head.

Angela’s transport rolls away as I slide into mine.

“Maybe this Friday, grandpa, maybe this Friday.”

“Would you like me to make an appointment for this Friday?”

“No,” I tell the transport’s AI. “I’m just talking out loud.”

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“ETA is 20 minutes.”

“Thank you.” I lean my head back against the headrest and close my eyes. I *do* have plans, but it has nothing to do with this Friday.

After dinner, I head out to the barn. In the corner is the last project I worked on with my grandfather. It’s time to finish it for both of us. Our resident AI robot, iRobbie (I just call him Robbie), rolls up beside me. We designed him after the model B-9 robot starring in the classic sci-fi tv series, *Lost in Space*, but with modifications. The self-contained AI unit took most of our time. The other modifications were hardware related. Instead of metal claws, Robbie has a pair of pressure-sensitive, metallic hands. We also added a set of enhanced eye-vision cameras to the headgear. Still, we didn’t dare change the distinctive, mechanical voice. He extends an accordion arm to hand me a screwdriver—time to get to work. I wipe away a layer of dust that’s collected over the last six months and then pull off the vinyl tarp.

It’s Wednesday. The rig is on my center monitor, and I watch as the transport rolls up the switchback, stops at each barrier checkpoint, makes the slow turnaround, and backs up to the dock. After making contact with the rubber padding, the rig’s cameras shut off. I wait. The manifest scrolls along the bottom of the screen. The maintenance droid is the only item to be unloaded. The package I hacked onto the manifest has been delivered just like that.

Back in the day, my grandfather was called a white hatter. These were the good-guy hackers. There was another group of people, back in the day, called black hatters. The bad guy hackers who wreaked havoc on computers and networks by planting every form of destructive cyberware their evil minds could conjure up. They did it for the money. My grandfather, along

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with other white hatters, did what they did not for the money but to stop the black hatters and their evil schemes.

Stuxnet is legendary. A software virus designed to bring down a rogue nation's uranium enrichment facility, which prevented the country's ability to produce nuclear weapons. A white hatter victory against an evil empire.

The benefit of being the grandson of a white hatter is acquiring his unique set of skills. I asked him once, while we tinkered on one of our projects, why he did it. "Because we have to," was his reply. He told me nothing is worth doing unless it's the right thing to do. I can only hope and pray, grandpa, that what I'm doing is right.

Our last project, the droid my grandfather and I were working on, doesn't have the agility and dexterity that most of today's androids have. It's old school, modeled after the small maintenance droids from the Star Wars movies, darting here and there, doing what they do unnoticed. It's the perfect spy. The camera inside the droid is on a timer. It's programmed to activate 10 minutes after delivery inside the factory. The camera is hard-wired, and the droid is air-gapped. There are no wireless connections, so it can avoid detection by whatever or whoever may be watching or listening, such as the warehouse's near-invisible, flying drones. Two hours after delivery, the droid will simulate a malfunction. iRobotics, as is the pattern, will send a wireless communique to "A Droids Unlimited" and schedule a pickup. An "A Droids Unlimited" transport will just happen to be in the area and notify iRobotics of its ETA. How convenient is that?

It's Thursday night, and I'm back in the barn. On the way home, I stopped at our storage warehouse unit, which doubles as the storefront and address for "A Droids Unlimited." The

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maintenance droid sits on the workbench. I remove the side panel, set it aside, and reach in and pull out the thumb drive that contains the recording from inside the warehouse of iRobotics. There's no evidence of tampering or damage. I put the thumb drive back in place and reattach the panel. "Robbie, let's get the droid down to the lab and see what we got."

His treads whir as he tracks closer to the bench. "Affirmative," he says in his classic robotic voice as he picks up the droid. He turns and moves toward the center area of the barn. Thunder rolls outside. I don't recall the onboard elevator display calling for rain this evening. In fact, I'm sure it informed me the drought is to continue well into next week. I follow Robbie as another rumble lets loose even louder than the last. It must be one of those pop-up, fast-moving storms.

Just as Robbie stretches an arm downward, there is a loud bang. The barn rattles so hard that dirt and hay fall from the loft. Another boom swells the wood floor and knocks me to the ground. I roll over, and my gut twists into a knot. I'm outside. How am I outside? My ears are ringing, and dark spots float across my vision. Burning debris slams down around us. Half of the barn has been wiped away. Robbie is spinning in circles, his arms flailing up and down, and his programmed, mechanical voice blaring, "Danger, danger," over and over.

I crawl toward him. "Robbie, get the hatch open, now!"

He stops swirling, reaches down, and pops open the iron hatch. I have to resist the temptation to dive inside. I swing a leg down and half slide, half step down the 15-foot ladder. With the droid tucked under one arm, Robbie drops, grips the railing, slides just below the opening, extends an arm, and latches the hatch. He drops beside me right as the next explosion hits. The steel ladder vibrates. I slap at the wall like I'm swatting a fly and find the switch. The

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lights flicker on. The string of bulbs sways back and forth between the railroad ties framing the tunnel, casting strange shadows down the dimly lit, dust-fogged passageway.

Another explosion above us. I stumble down the tunnel like a patron leaving happy hour. Clumps of dirt strike me on the head and shoulders. When I reach the door to the shelter, I feel like I've run a marathon. I try to catch my breath as I gaze at the keypad, which is much smaller than I remember. The next blast throws me against the door. I push back, brace myself on the door frame, and press down on the handle, but it doesn't budge. The following detonation vibrates through the tunnel, and chunks of dirt shower down. The sodden scent fills me with claustrophobia. I slam my hand down on the handle and pull. Nothing. What's wrong with the door? I am bumped out of the way, and Robbie punches in the code. The door swings open. I'm shoved inside. Robbie follows, turns, and slams the door shut.

I hear another explosion and what sounds like a waterfall.

Inside the room, I try to focus, but there is something wrong. Why is the room tilted? I'm facing the wall stacked with a year's worth of food and water, but everything is orderly and intact. Other shelves on the same wall contain games, magazines, and books. Why aren't they scattered on the floor? The steel desk in the room's corner shows no signs of dishevelment or disturbance since the last time I was down here. It holds a computer, a worn, leather-bound Bible, and a ham radio.

The radio is silent, but the orange screen is on. I must warn Angela. As I turn, I see Robbie over in the lab area. He's opening drawers, pulling out cables, and hooking up the droid, but his movements appear to be in slow motion. Is he malfunctioning? "No, no, no, Robbie, you can't leave me, not now!"

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My demand spins him around, but his motions are still sluggish. He tracks over, extends both arms, and gives my shoulders a gentle squeeze. “Master Jeremy, please have a seat while I run diagnostics on the droid.” He eases me down onto the couch, fetches me a bottle of water from the supplies, returns to the lab, and gets to work.

The water is refreshing. The computer in the lab area turns on, and lines of information scroll down the monitor. A screen on the wall I’m facing flickers on, and a label appears on the upper left. Barn-Right Corner. The screen is blank. There are taps on the keyboard and the label changes to Cabin-Center. The screen is no longer blank. In the distance, where the barn once stood, is a big, black scar. Beams of light shine down on the scorched earth. Drones. I bolt up off the couch and it feels like my chest is on fire. I jab a finger at the screen. “How did they find us?”

The display changes. Instead of a real-time view from the cabin, it shows the inside of a building—the droid’s recording from inside the iRobotics factory. I take a step forward. Two large silver disks hang in the air as if defying the laws of physics. There are no signs of propulsion or wires. Red lasers shine from their bellies and fan the factory floor. Propeller drones buzz back and forth from workstation to workstation, like supervisors overseeing the androids assembling parts I don’t recognize. I’ll run a search later to see if I can find a match. Robbie switches to a different camera angle, catching two drones flying through the bay doors. The moment they dart outside, they vanish. Those must be the reconnaissance drones I encountered on my last drive-by.

The recording includes some peculiar data. “Robbie, what’s that?” I point to the bottom of the screen.

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He turns, glances at the area of the screen I'm pointing to, and then turns back to the lab monitor. "It is a countdown."

"It's in binary. Show me the numbers."

The numeric equivalent pops on the screen underneath the binary display.

011:0101101:01100.

3:45:12. It continues the countdown. 3:44:05, 3:43:10, 3:42:00.

"It was downloaded to the droid," Robbie says as he taps the keyboard.

"Downloaded? How?"

"Unknown. There is something else." He rotates to face me. "Embedded in the clock is a tracking algorithm. This would explain how they found our location."

*What are they searching for? What did grandpa know? "What's it counting down to?"*

Robbie punches more keys. The recording stops, and the screen displays a block of binaries.

```
01000011 01101111 01100100 01100101 00100000 01001110 01100001 01101101
01100101 00100000 01010100 01110101 01110010 01101110 01101011 01100101 01111001
00111010 00100000 00001010 01010000 01101000 01100001 01110011 01100101 00100000
00110001 00111010 00100000 01000001 01010011 01001001 00101110 00100000 00101000
01100011 01101111 01101101 01110000 01101100 01100101 01110100 01100101 00101001
00101110 00001010 01010000 01101000 01100001 01110011 01100101 00100000 00110010
00111010 00100000 01010100 01101000 01100101 00100000 01101000 01110101 01101101
01100001 01101110 00100000 01110010 01100001 01100011 01100101 00101110 00100000
00101000 01101001 01101110 01101001 01110100 01101001 01100001 01110100 01100101
00101001 00101110 00001010 01010000 01101000 01100001 01110011 01100101 00100000
00110011 00111010 00100000 01000101 01111000 01110000 01100001 01101110 01110011
01101001 01101111 01101110 00100000 01100001 01101110 01100100 00100000 01000101
```

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01111000 01110000 01101100 01101111 01110010 01100001 01110100 01101001 01101111  
01101110 00101110

“What is this?”

Robbie doesn't turn but answers my question. “It looks like a communique, Master Jeremy.”

“For who?”

“Unknown. The timestamp shows it was downloaded to the droid after it was picked up.”

*After it was picked up? How did they do this?* I watch the segments flip, and just like the binary countdown, it converts to a human-readable format.

Code Name Turnkey:

01010000 01101000 01100001 01110011 01100101 00100000 00110001 00111010  
00100000 01000001 01010011 01001001 00101110 00100000 00101000 01100011 01101111  
01101101 01110000 01101100 01100101 01110100 01100101 00101001 00101110 00001010  
01010000 01101000 01100001 01110011 01100101 00100000 00110010 00111010 00100000  
01010100 01101000 01100101 00100000 01101000 01110101 01101101 01100001 01101110  
00100000 01110010 01100001 01100011 01100101 00101110 00100000 00101000 01101001  
01101110 01101001 01110100 01101001 01100001 01110100 01100101 00101001 00101110  
00001010 01010000 01101000 01100001 01110011 01100101 00100000 00110011 00111010  
00100000 01000101 01111000 01110000 01100001 01101110 01110011 01101001 01101111  
01101110 00100000 01100001 01101110 01100100 00100000 01000101 01111000 01110000  
01101100 01101111 01110010 01100001 01110100 01101001 01101111 01101110 00101110

Code Name Turnkey:

Phase 1: ASI. (complete).

01010000 01101000 01100001 01110011 01100101 00100000 00110010 00111010  
00100000 01010100 01101000 01100101 00100000 01101000 01110101 01101101 01100001  
01101110 00100000 01110010 01100001 01100011 01100101 00101110 00100000 00101000  
01101001 01101110 01101001 01110100 01101001 01100001 01110100 01100101 00101001  
00101110 00001010 01010000 01101000 01100001 01110011 01100101 00100000 00110011  
00111010 00100000 01000101 01111000 01110000 01100001 01101110 01110011 01101001  
01101111 01101110 00100000 01100001 01101110 01100100 00100000 01000101 01111000  
01110000 01101100 01101111 01110010 01100001 01110100 01101001 01101111 01101110  
00101110



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Code Name Turnkey:

Phase 1: ASI. (complete).

Phase 2: The human race. (initiate).

01010000 01101000 01100001 01110011 01100101 00100000 00110011 00111010  
00100000 01000101 01111000 01110000 01100001 01101110 01110011 01101001 01101111  
01101110 00100000 01100001 01101110 01100100 00100000 01000101 01111000 01110000  
01101100 01101111 01110010 01100001 01110100 01101001 01101111 01101110 00101110

Robbie is in front of the desk, doing something with the radio. The last binaries flip to their English equivalent as my knees give way. I reach back, swipe at the air, and tumble onto the couch as my brain struggles to comprehend the complete translation.

Code Name Turnkey:

Phase 1: ASI. (complete).

Phase 2: The human race. (initiate).

Phase 3: Expansion and Exploration.