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REPORT
|
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AI, Robotics, and the Future of Jobs

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BY**AARON SMITH**AND**JANNA ANDERSON**

Key Findings

The vast majority of respondents to the 2014 Future of the Internet canvassing anticipate that robotics and artificial intelligence will permeate wide segments of daily life by 2025, with huge implications for a range of industries such as health care, transport and logistics, customer service, and home maintenance. But even as they are largely consistent in their predictions for the evolution of technology itself, they are deeply divided on how advances in AI and robotics will impact the economic and employment picture over the next decade.

We call this a canvassing because it is not a representative, randomized survey. Its findings emerge from an "opt in" invitation to experts who have been identified by researching those who are widely quoted as technology builders and analysts and those

who have made insightful predictions to our previous queries about the future of the Internet. (For more details, please see the section "About this Report and Survey.")

Key themes: reasons to be hopeful

1. Advances in technology may displace certain types of work, but historically they have been a net creator of jobs.
2. We will adapt to these changes by inventing entirely new types of work, and by taking advantage of uniquely human capabilities.
3. Technology will free us from day-to-day drudgery, and allow us to define our relationship with "work" in a more positive and socially beneficial way.
4. Ultimately, we as a society control our own destiny through the choices we make.

Key themes: reasons to be concerned

1. Impacts from automation have thus far impacted mostly blue-collar employment; the coming wave of innovation threatens to upend white-collar work as well.
2. Certain highly-skilled workers will succeed wildly in this new environment—but far more may be displaced into lower paying service industry jobs at best, or permanent unemployment at worst.
3. Our educational system is not adequately preparing us for work of the future, and our political and economic institutions are poorly equipped to handle these hard choices.

Some 1,896 experts responded to the following question:

The economic impact of robotic advances and AI—Self-driving cars, intelligent digital agents that can act for you, and robots are advancing rapidly. Will networked, automated, artificial intelligence (AI) applications and robotic devices have displaced more jobs than they have created by 2025?

Half of these experts (48%) envision a future in which robots and digital agents have displaced significant numbers of both blue- and white-collar workers—with many expressing concern that this will lead to vast increases in income inequality, masses of people who are effectively unemployable, and breakdowns in the social order.

The other half of the experts who responded to this survey (52%) expect that technology will *not* displace more jobs than it creates by 2025. To be sure, this group anticipates that many jobs currently performed by humans will be substantially taken over by robots or digital agents by 2025. But they have faith that human ingenuity will create new jobs, industries, and ways to make a living, just as it has been doing since the dawn of the Industrial Revolution.

These two groups also share certain hopes and concerns about the impact of technology on employment. For instance, many are concerned that our existing social structures—and especially our educational institutions—are not adequately preparing people for the skills that will be needed in the job market of the future. Conversely, others have hope that the coming changes will be an opportunity to reassess our society's relationship to employment itself—by returning to a focus on small-scale or artisanal modes of production, or by giving people more time to spend on leisure, self-improvement, or time with loved ones.

A number of themes ran through the responses to this question: those that are unique to either group, and those that were mentioned by members of both groups.

The view from those who expect AI and robotics to have a positive or neutral impact on jobs by 2025

JP Rangaswami, chief scientist for Salesforce.com, offered a number of reasons for his belief that automation will *not* be a net displacer of jobs in the next decade: "The effects will be different in different economies (which themselves may look different from today's political boundaries). Driven by revolutions in education and in technology, the very nature of work will have changed radically—but only in economies that have chosen to invest in education, technology, and related infrastructure. Some classes of jobs will be handed over to the 'immigrants' of AI and Robotics, but more will have been generated in creative and curating activities as demand for their services grows exponentially while barriers to entry continue to fall. For many classes of jobs, robots will continue to be poor labor substitutes."

Rangaswami's prediction incorporates a number of arguments made by those in this canvassing who took his side of this question.

Argument #1: Throughout history, technology has been a job creator—not a job destroyer

Jonathan Grudin, principal researcher for Microsoft, concurred: "Technology will continue to disrupt jobs, but more jobs seem likely to be created. When the world population was a few hundred million people there were hundreds of millions of jobs. Although there have always been unemployed people, when we reached a few billion people there were billions of jobs. There is no shortage of things that need to be done and that will not change."

Argument #2: Advances in technology create new jobs and industries even as they displace some of the older ones

Amy Webb, CEO of strategy firm Webbmedia Group, wrote, "There is a general concern that the robots are taking over. I disagree that our emerging technologies will permanently displace most of the workforce, though I'd argue that jobs will shift into other sectors. Now more than ever, an army of talented coders is needed to help our technology advance. But we will still need folks to do packaging, assembly, sales, and outreach. The collar of the future is a hoodie."

Argument #3: There are certain jobs that only humans have the capacity to do

A number of respondents argued that many jobs require uniquely human characteristics such as empathy, creativity, judgment, or critical thinking—and that jobs of this nature will never succumb to widespread automation.

Michael Glassman, associate professor at the Ohio State University, wrote, "I think AI will do a few more things, but people are going to be surprised how limited it is. There will be greater differentiation between what AI does and what humans do, but also much more realization that AI will not be able to engage the critical tasks that humans do."

Argument #4: The technology will not advance enough in the next decade to substantially impact the job market

Another group of experts feels that the impact on employment is likely to be minimal for the simple reason that 10 years is too short a timeframe for automation to move substantially beyond the factory floor. **David Clark**, a senior research scientist at MIT's Computer Science and Artificial Intelligence Laboratory, noted, "The larger trend to consider is the penetration of automation into service jobs. This trend will require new skills for the service industry, which may challenge some of the lower-tier workers, but in 12 years I do not think autonomous devices will be truly autonomous. I think they will allow us to deliver a higher level of service with the same level of human involvement."

Christopher Wilkinson, a retired European Union official, board member for EURid.eu, and Internet Society leader said, "The vast majority of the population will be untouched by these technologies for the foreseeable future. AI and robotics will be a niche, with a few leading applications such as banking, retailing, and transport. The risks of error and the imputation of liability remain major constraints to the application of these technologies to the ordinary landscape."

Argument #5: Our social, legal, and regulatory structures will minimize the impact on employment

A final group suspects that economic, political, and social concerns will prevent the widespread displacement of jobs. **Glenn Edens**, a director of research in networking, security, and distributed systems within the Computer Science Laboratory at PARC, a Xerox Company, wrote, "There are significant technical and policy issues yet to resolve, however there is a relentless march on the part of commercial interests (businesses) to increase productivity so if the technical advances are reliable and have a positive ROI then there is a risk that workers will be displaced. Ultimately we need a broad and large base of employed population, otherwise there will be no one to pay for all of this new world."

Andrew Rens, chief council at the Shuttleworth Foundation, wrote, "A fundamental insight of economics is that an entrepreneur will only supply goods or services if there is a demand, and those who demand the good can pay. Therefore any country that wants a competitive economy will ensure that most of its citizens are employed so that in turn they can pay for goods and services. If a country doesn't ensure employment driven demand it will become increasingly less competitive."

> **" I see the movement towards AI and robotics as evolutionary, in large part because it is such a sociological leap. The technology may be ready, but we are not—at least, not yet. "**
>
> — GEOFF LIVINGSTON, AUTHOR AND PRESIDENT OF TENACITY5 MEDIA

The view from those who expect AI and robotics to displace more jobs than they create by 2025

An equally large group of experts takes a diametrically opposed view of technology's impact on employment. In their reading of history, job displacement as a result of technological advancement is clearly in evidence today, and can only be expected to get worse as automation comes to the white-collar world.

Argument #1: Displacement of workers from automation is already happening—and about to get much worse

> **" Automation is Voldemort: the terrifying force nobody is willing to name. "**
>
> — JERRY MICHALSKI, FOUNDER OF REX, THE RELATIONSHIP ECONOMY EXPEDITION

[also]

Argument #2: The consequences for income inequality will be profound

For those who expect AI and robotics to significantly displace human employment, these displacements seem certain to lead to an increase in income inequality, a continued hollowing out of the middle class, and even riots, social unrest, and/or the creation of a permanent, unemployable "underclass".

DIGITAL LIFE IN 2025

" The central question of 2025 will be: What are people for in a world that does not need their labor, and where only a minority are needed to guide the 'bot-based economy? "

— STOWE BOYD,
LEAD RESEARCHER AT GIGAOM RESEARCH

[said that he]

Alex Howard, a writer and editor based in Washington, D.C., said, "I expect that automation and AI will have had a substantial impact on white-collar jobs, particularly back-office functions in clinics, in law firms, like medical secretaries, transcriptionists, or paralegals. Governments will have to collaborate effectively with technology companies and academic institutions to provide massive retraining efforts over the next decade to prevent massive social disruption from these changes."

Point of agreement: The educational system is doing a poor job of preparing the next generation of workers

A consistent theme among both groups is that our existing social institutions—especially the educational system—are not up to the challenge of preparing workers for the technology- and robotics-centric nature of employment in the future.

Point of agreement: The concept of "work" may change significantly in the coming decade

On a more hopeful note, a number of experts expressed a belief that the coming changes will allow us to renegotiate the existing social compact around work and employment.

Possibility #1: We will experience less drudgery and more leisure time

Francois-Dominique Armingaud, retired computer software engineer from IBM and now giving security courses to major engineering schools, responded, "The main purpose of progress now is to allow people to spend more life with their loved ones instead of spoiling it with overtime while others are struggling in order to access work."

Possibility #2: It will free us from the industrial age notion of what a "job" is

A notable number of experts take it for granted that many of tomorrow's jobs will be held by robots or digital agents—and express hope that this will inspire us as a society to completely redefine our notions of work and employment.

Peter and Trudy Johnson-Lenz, founders of the online community Awakening Technology, based in Portland, Oregon, wrote, "Many things need to be done to care for, teach, feed, and heal others that are difficult to monetize. If technologies replace people in some jobs and roles, what kinds of social support or safety nets will make it possible for them to contribute to the common good through other means? Think outside the job."

Bob Frankston, an Internet pioneer and technology innovator whose work helped allow people to have control of the networking (internet) within their homes, wrote, "We'll need to evolve the concept of a job as a means of wealth distribution as we did in response to the invention of the sewing machine displacing seamstressing as welfare."

Jim Hendler, an architect of the evolution of the World Wide Web and professor of computer science at Rensselaer Polytechnic Institute, wrote, "The notion of work as a necessity for life cannot be sustained if the great bulk of manufacturing and such moves to machines—but humans will adapt by finding new models of payment as they did in the industrial revolution (after much upheaval)."

Tim Bray, an active participant in the IETF and technology industry veteran, wrote, "It seems inevitable to me that the proportion of the population that needs to engage in traditional full-time employment, in order to keep us fed, supplied, healthy, and safe,

will decrease. I hope this leads to a humane restructuring of the general social contract around employment."

Possibility #3: We will see a return to uniquely "human" forms of production

Another group of experts anticipates that pushback against expanding automation will lead to a revolution in small-scale, artisanal, and handmade modes of production.

Kevin Carson, a senior fellow at the Center for a Stateless Society and contributor to the P2P Foundation blog, wrote, "I believe the concept of 'jobs' and 'employment' will be far less meaningful, because the main direction of technological advance is toward cheap production tools (e.g., desktop information processing tools or open-source CNC garage machine tools) that undermine the material basis of the wage system. The real change will not be the stereotypical model of 'technological unemployment,' with robots displacing workers in the factories, but increased employment in small shops, increased project-based work on the construction industry model, and increased provisioning in the informal and household economies and production for gift, sharing, and barter."

[efforts]

A network scientist for BBN Technologies wrote, "To some degree, this is already happening. In terms of the large-scale, mass-produced economy, the utility of low-skill human workers is rapidly diminishing, as many blue-collar jobs (e.g., in manufacturing) and white-collar jobs (e.g., processing insurance paperwork) can be handled much more cheaply by automated systems. And we can already see some hints of reaction to this trend in the current economy: entrepreneurially-minded unemployed and underemployed people are taking advantages of sites like Etsy and TaskRabbit to market quintessentially human skills. And in response, there is increasing demand for 'artisanal' or 'hand-crafted' products that were made by a human. In the long run this trend will actually push toward the re-localization and re-humanization of the economy, with the 19th- and 20th-century economies of scale exploited where they make sense (cheap, identical, disposable goods), and human-oriented techniques (both older and newer) increasingly accounting for goods and services that are valuable, customized, or long-lasting."

Point of agreement: Technology is not destiny … we control the future we will inhabit

In the end, a number of these experts took pains to note that none of these potential outcomes—from the most utopian to most dystopian—are etched in stone. Although

technological advancement often seems to take on a mind of its own, humans are in control of the political, social, and economic systems that will ultimately determine whether the coming wave of technological change has a positive or negative impact on jobs and employment.

Seth Finkelstein, a programmer, consultant and EFF Pioneer of the Electronic Frontier Award winner, responded, "The technodeterminist-negative view, that automation means jobs loss, end of story, versus the technodeterminist-positive view, that more and better jobs will result, both seem to me to make the error of confusing potential outcomes with inevitability. Thus, a technological advance *by itself* can either be positive or negative for jobs, depending on the social structure as a whole....this is not a technological consequence; rather it's a political choice."

Jason Pontin, editor in chief and publisher of the MIT Technology Review, responded, "There's no economic law that says the jobs eliminated by new technologies will inevitably be replaced by new jobs in new markets... All of this is manageable by states and economies: but it will require wrestling with ideologically fraught solutions, such as a guaranteed minimum income, and a broadening of our social sense of what is valuable work."
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MindtheAIDivide.pdf

Foreword

The uneven adoption of Artificial Intelligence (AI) is a critical issue that goes beyond economic growth. It impacts global equity, fairness and the social contract that is at the heart of social justice. Disparities in access to robust infrastructure, advanced technology, quality education and training are deepening existing inequalities. As the global economy increasingly shifts towards AI-driven production and innovation, less developed countries risk being left further behind, exacerbating economic and social divides. Without targeted and concerted efforts to bridge this digital divide, AI's potential to foster sustainable development and alleviate poverty will remain unrealized, leaving significant portions of the global population disadvantaged in the rapidly evolving technological landscape. During the consultations held by the Secretary-General's High-level Advisory Body on Artificial Intelligence, it has become clear that the world of work is at the heart of the adoption of AI. It is thus critical to understand the potential for AI to affect labour demand and transform occupations. It is at the workplace where the potential for productivity gains and improved working conditions for the benefit of workers, their families, and societies at large, can be realized. But such benefits will not happen on their own; they will only be achieved if the right conditions are in place, including the availability of digital infrastructure and skills, but also a culture of social dialogue that fosters a positive integration of technology. Promoting inclusive growth requires proactive strategies to support AI development in countries on the wrong side of the AI divide. This involves enhancing digital infrastructure, promoting technology transfer, building AI skills, and ensuring that all jobs along the AI value chain are of good quality and improve the lives of working people. By prioritizing international collaboration in AI capacity building, we can create a more equitable and resilient AI ecosystem, unlocking opportunities for shared prosperity and human advancement worldwide. We look forward to continuing our collaborative efforts to shape the global governance of AI, uphold human dignity and labor standards, and expand economic opportunity for all.

Amandeep Singh Gill United Nations Secretary-General's Envoy on Technology

Gilbert F. Houngbo Director-General of the International Labour Organization

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Contents

4 | Mind the AI Divide: Shaping a Global Perspective on the Future of Work Section 1 Introduction The rapid advancement of Artificial Intelligence (AI) promises widespread transformations for our societies, our economies and the world of work. While such advances offer tremendous opportunities for innovation and productivity, the uneven rates of investment, adoption and use among countries risks exacerbating the already wide disparities in income and quality of life. There is a pronounced "AI divide" emerging, where high income nations disproportionately benefit from AI advancements, while low- and medium income countries, particularly in Africa, lag behind. Worse, this divide will grow unless concerted action is taken to foster international cooperation in support of developing countries. The absence of such policies will not only widen global inequalities, but risks squandering the potential of AI to serve as a catalyst for widespread social and economic progress. While AI will potentially affect many aspects of our daily lives, its impact is likely to be most acute in the workplace. Wealthier countries are more exposed to the potential automating effects of AI in the world of work, but they are also better positioned to realize the productivity gains it offers. Developing countries, on the other hand, may be temporarily buffered because of a lack of digital infrastructure, but this buffer risks turning into a bottleneck for productivity growth, and more importantly, for the future prosperity of their populations. Ensuring inclusive growth in the future requires proactive measures to empower AI development in countries at the disadvantaged receiving end of the digital divide, fostering digital infrastructure as well as AI skills, and promoting technology transfer and absorption. Such digital skills can also enable a more positive integration of AI in the workplace, particularly when combined with social 1 dialogue. Social dialogue on the design, implementation and use of technology at the workplace, as well as in the development of regulations essential for ensuring respect of workers' fundamental rights, is needed. Indeed, whether the integration of technology into work processes spurs productivity growth or improves working conditions in support of social justice depends in large part on the strength of such collaboration and dialogue. Sovereign efforts play a crucial role in shaping AI capacity building as countries assert their autonomy in developing strategies and policies tailored to their unique socio economic contexts. Local processes, driven by cultural values, political economies, and societal needs, can significantly impact the effectiveness and sustainability of AI initiatives. However, disparities in resources and expertise remain and can hinder AI development in the Global South. In response, there is a growing recognition of the responsibility of developed countries to support capacity building efforts in resource scarce countries. As outlined in the recent Interim Report of the United Nations Secretary-General's High-level Advisory Body on AI1, this recognition extends beyond f inancial aid to include knowledge sharing,

skills development, technology transfer, as well as collaborative research and development partnerships. By leveraging their advanced AI ecosystems, the Global North can help bridge the gap and empower countries in the Global South to harness AI for sustainable development, while respecting their sovereignty and promoting local innovation ecosystems. By prioritizing global collaboration for AI capacity building, the international community can nurture a more equitable and resilient global AI ecosystem, unlocking opportunities for shared prosperity and human flourishing across the world. https://www.un.org/ai-advisory-body Mind the AI Divide: Shaping a Global Perspective on the Future of Work | 5 Section 2 Uneven ground Understanding AI's role in reshaping labour markets Research on the possible effects of generative AI on employment across the world suggests that while there are likely to be important transformative effects on some occupations, impacts in terms of job losses are much less than headline figures appearing in the media, and certainly do not point to a jobless future. According to an analysis undertaken by the International Labour Organization on the potential exposure of tasks to generative AI technology, clerical support workers are the most exposed occupational group with 24 per cent of the tasks in these jobs associated with high level of exposure to automation and another 58 per cent with medium-level exposure (see Figure 1).2 Other occupational groups are less exposed, with only 1 to 4 per cent of tasks considered as having high automation potential, and medium-exposed tasks not exceeding 25 per cent. This means that, while certain tasks in these occupations could potentially be automated, most tasks still require human intervention. Such partial automation could enable efficiency gains, by allowing humans to spend more time on other areas of work. Importantly, task automation does not necessarily imply redundancies, as the technology can also complement or augment human labour when only certain tasks are automated. Whether the adoption of the technology leads to automation (job loss) or augmentation (job complementarity) depends on the centrality of the automated task to the occupation, how the technology is integrated Figure 1: Tasks with medium and high-level exposure to generative AI technology by major occupational group (ISCO 1-digit) Source: Gmyrek et al., 2023. 2 The study analyses the potential for automation with the 436 internationally standardized ISCO-08 occupations and then classifies the occupation based on the mean and standard deviation of the score. For more details see [1]. 6 | Mind the AI Divide: Shaping a Global Perspective on the Future of Work into work processes and management's desire to retain humans to perform or oversee some of the tasks, despite the potential of automation. The ILO analysis uses occupational exposure scores (the mean exposure of each of the tasks within an occupation) and applies these scores to employment data from labour force surveys of more than 140 countries to assess potential employment impact at the global and regional level. With respect to automation, the share of employment that is exposed is highest in Europe and Northern America, reflecting the

greater economic and labour market diversification of these regions. In Latin America, Asia and Africa, the share of employment potential exposed to automation is much smaller, due to the greater share of workers employed in occupations that would not be exposed to generative AI technology such as in agriculture, transport or food vending. Nevertheless, women's potential exposure to the automating effects of generative AI technology is much higher, due to their over-representation in clerical occupations (see figure 2). In most regions, the potential exposure of women is more than double that of men's exposure. Some of this employment is in business process outsourcing, such as contact or call center work, which is an important part of the economy of several developing countries, including India and the Philippines. The industry is an important source of formal and relatively well-paid employment, particularly for women. While potential exposure does not necessarily translate to displacement, it is clear that the advances in technology may put some of these jobs at risk.3 Another finding is that a significantly larger share of total employment is in occupations with high augmentation potential, and this holds across regions, from 10.2 percent in Sub-Saharan Africa to 16.1 percent in Southeastern Asia and the Pacific (See figure 3). Thus, the potential for occupations to benefit from the productivity-enhancing effects of the technology is relatively similar across countries. In practice, however, it is less likely Figure 2: Potential exposure to automation by global sub-region 3 'AI Could Kill off Most Call Centres, Says Tata Consultancy Services Head', April 25, 2024. Mind the AI Divide: Shaping a Global Perspective on the Future of Work | 7 Figure 3: Potential exposure to augmentation by global sub-region to be realized due to constraints in physical infrastructure (electricity access, broadband) as well as digital skills. Indeed, subsequent research that incorporates data on computer use at work [2] reveals that many of the occupations with potential for augmentation have relatively low usage of computer at work, suggesting that the conditions are not in place for realizing the potential productivity gains. As can be seen in Figure 4, the share of workers without access to a computer at work ("no computer") exceeds those who use a computer in 9 of the 16 countries listed. As Figure 4: Potential exposure to augmentation and computer use at work Source: Gmyrek, Winkler and Garganta, 2024. 8 | Mind the AI Divide: Shaping a Global Perspective on the Future of Work such, the likelihood to realize productivity gains from generative AI technology will be limited. Figure 5 gives information on the characteristics of those who might be affected by automation from generative AI technology in Latin America. As the data show, it is educated women living in urban areas and belonging to the top fifth of the income distribution that are most exposed. For Latin America, these occupations are overwhelmingly in salaried, formal employment and in the sectors of f inance, professional services and public administration. In short, they are good jobs, whose loss would have negative multiplier effects both economically and socially. The analysis does not address the potential for new job creation. Thus, while middle-

income countries such as India and the Philippines, are more exposed to the automating effects of generative AI technology in their call centre work, their digital infrastructure and skilled workforce can also be an asset for spawning the growth of complementary industries. Harnessing such potential is paramount. Indeed, with the right conditions in place, a new wave of technology could fuel growth opportunities. In the past, technological advancements have spurred new and successful industries in many developing countries. One such example is the M-Pesa money service, which relied on the diffusion of mobile telephones in Kenya. The service, in turn, increased financial inclusion which helped to propel the growth of SMEs and led to creation of a network of 110,000 agents, 40 times the number of bank ATMs in Kenya [3];[4]. Similarly, a study of the diffusion of 3G coverage in Rwanda between 2002 and 2019 found that increased mobile internet coverage Figure 5: Characteristics of persons holding occupations most exposed to automation, Latin America Source: Gmyrek, Winkler and Garganta, 2024 (forthcoming). Mind the AI Divide: Shaping a Global Perspective on the Future of Work | 9 was positively associated with employment growth, increasing both skilled and unskilled occupations [5]. Scholars [6] also find positive employment effects, from the arrival of internet in 12 African countries, albeit with a slight bias towards skilled occupations. These gains are attributed to increases in productivity and growth of markets that followed increased connectivity, underlining the need for such investments, given important multiplier effects on the economy and labour markets. Ensuring job quality under augmentation Another area of concern is about the impact of AI technology on working conditions and job quality when the technology is integrated into the workplace. While such integration into work tasks can potentially promote more engaging work if routine tasks are automated, it can also be implemented in ways that limits workers' agency or accelerates work intensity. Concerns over AI's integration at the workplace has focused on the growth of algorithmic management, essentially work settings in which "human jobs are assigned,

https://youtu.be/Gv3lzkXfk6A

VIDEO:

00:00 the world's tallest skyscraper would be

00:02 suspended upside down from an asteroid

00:05 an asteroid orbiting earth would serve

00:07 as the foundation for the world's

00:08 tallest structure a floating skyscraper

00:11 that never touches the ground hey and

00:13 welcome back to another exciting video

00:14 from our channel in this video we're

00:16 going to tell you everything you need to

00:17 know about the analama tower the world's

00:20 first floating skyscraper

00:22 but first subscribe to our channel click

00:24 the bell icon you never miss another

00:25 video from us you already know that so

00:27 let's get started

00:28 the clown's architecture office in the

00:30 united states designed analemma tower

00:33 but the concept's brilliant but let's

00:35 break it down into simple steps number

00:37 one

00:38 capture an asteroid and place it in

00:39 earth's orbit

00:42 number two attach a cable to the

00:44 asteroid number three construct the

00:46 world's tallest skyscraper around this

00:48 cable

00:49 number four have the skyscraper swing in

00:52 a figure eight pattern around the world

00:54 always returning to new york city it all

00:57 sounds insane but the thing is some

00:59 really smart people are behind the

01:01 technology behind this concept

01:03 so how does one capture an asteroid

01:05 nasa's dart spacecraft is currently

01:07 speeding towards an asteroid called

01:09 dimorphous above our head or your head

01:11 as well

01:12 it will collide with dimorphis diverting

01:14 its path away from earth similar to the

01:16 armageddon plot but you know without

01:18 bruce willis and ben affleck so moving

01:20 asteroids isn't such a crazy idea after

01:23 all but let's get back to the analemma

01:25 tower the asteroid's anchor would be 50

01:28 000 kilometers or 31 068 miles above

01:31 earth's surface all of the cables are

01:33 hidden beneath the ground and the

01:35 skyscraper begins at an elevation of 32

01:38 000 meters or 19 883 miles

01:42 it's negative 40 degrees at that

01:44 elevation when it's that cold both

01:46 celsius and fahrenheit are the same

01:48 number there's only 42 minutes of

01:49 daylight left and the tower descends

01:51 until it reaches

01:53 the bottom section at an elevation of 3

01:55 400 meters or 2.1 miles

01:58 at that elevation the temperature is

02:00 negative 4 degrees celsius or 24.8

02:02 degrees fahrenheit if you were to live

02:04 or work in the analemma tower you'd need

02:06 a drone to get to your balcony which is

02:09 why the bottom tip is reserved for

02:10 office spaces and shopping and

02:12 entertainment zones it also serves as a

02:14 transportation hub the farming and

02:16 agriculture are in the middle section

02:17 and the residential zone is above that

02:20 at the very top is a little depressing

02:22 it's basically a funeral home slash

02:24 graveyard

02:26 the analemma tower is constantly moving

02:29 but the slowest point of it is swung

02:31 over new york every day

02:33 that is technically your primary address

02:35 however you would be able to look out

02:37 the window and find yourself in the

02:38 southern hemisphere perhaps looking down

02:40 at the beaches of brazil masayuki sono

02:43 one of the firm's partners spoke up to

02:45 architectural digest about the concept

02:47 when we took a step back and examined

02:49 the broad sweep of architecture over a

02:51 long period of time even going back to

02:53 its origins we discovered a clear trend

02:55 buildings are becoming taller thinner

02:58 and lighter over time according to sona

03:00 by leaving the surface we can allow our

03:02 planet to heal itself dead concrete

03:04 highways and sprawling concrete urban

03:07 agglomerations that choke the earth's

03:08 surface will no longer be required when

03:10 you consider elon musk's push to

03:12 colonize mars the floaty skyscraper idea

03:15 ain't too far-fetched

03:17 there is a huge push towards space

03:19 travel and it isn't just mega

03:21 billionaires like musk and bezos who are

03:22 looking to the stars the united states

03:24 has allocated 24.04 billion to nasa's

03:27 budget for 2022. nasa's main focus is

03:30 the artemis program which aims to return

03:32 humans to the moon following that the

03:35 artemis missions will focus on sending

03:36 humans to mars by 2040 and that's all we

03:39 got for now thanks for your time and

03:41 what are your thoughts on the world's

03:42 first floatable skyscraper tell us in

03:45 the comment section below and if you

03:46 liked it please share it with your

03:48 friends and subscribe to the channel for

03:49 more exciting content like this and

03:51 stuff see in the next one

https://youtu.be/0kz5vEqdaSc

A REVOLUTION IN URBAN LIVING
THE LINE

00:01 for too long humanity has existed within

00:03 dysfunctional and polluted cities that

00:06 ignore nature

00:08 now a revolution in civilization is

00:11 taking place

00:13 imagine a traditional city and

00:15 consolidating its footprint

00:17 designing to protect and enhance nature

00:20 the line will be home to 9 million

00:23 residents and will be built with a

00:24 footprint of just 34 square kilometers

00:28 and we are designing it to provide a

00:30 healthier more sustainable quality of

00:32 life

00:33 the lines communities are organized in

00:36 three dimensions

00:38 residents have access to all their daily

00:40 needs within five-minute walk

00:42 neighborhoods and the line's

00:44 infrastructure makes it possible to

00:46 travel end to end in 20 minutes with no

00:49 need for cars resulting in zero carbon

00:52 emissions

00:54 by leveraging ai technology services are

00:57 autonomous saving you time and effort

01:01 designed by world leading architects the

01:04 line is 500 meters tall

01:07 200 meters wide

01:09 170 kilometers long and housed within an

01:13 elegant mirror glass facade

01:16 intelligent solutions create efficiency

01:19 and year-round temperate micro climate

01:22 with natural ventilation

01:24 energy and water supplies are 100

01:27 renewable

01:29 the line is designed as a series of

01:31 unique communities offering a wealth of

01:34 amenities providing equitable views and

01:36 immediate access to the surrounding

01:38 nature with 40 of the world accessible

01:42 within six hours at the heart of the

01:45 globe's key trade routes a place for

01:47 commerce and communities to thrive like

01:50 nothing on earth seen

01:52 before the line

01:55 the city that delivers new wonders for

01:57 the world

NOw refers to all readings and videos! Use grade 5 english! 1 page long! Use MLA in-text citation only!

7.8 | "The Virtual World" Journal
Due: Sun Dec 7, 2025 11:59pmDue: Sun Dec 7, 2025 11:59pm
Ungraded, 10 Possible Points10 Points Possible
Attempt
In Progress
NEXT UP: Submit Assignment
2 Attempts Allowed

Mentioning references from the reading resources and the videos watched, discuss in your jounal;

1. Examples why you like or do not like Artificial Intelligence (AI).
2. Examples to explain how you think AI will affect your creativity.
3. Create a completely new world. Write using only 250 words:
a. What is the name of the new world?
b. Where will the new world be located?
c. How will we transport ourselves to the new world?
d. What will be the culture of the inhabitants of this new world and which indigenous African cultures will you include in this new world?
e. Will we exist in our human physical forms or or will you create completely new forms of existence? How will the new forms look like?
f. What products (clothing, housing, transportation, communication, etc) will be used in this new world for our day to day existence?
g. Which ammenities will you include in this new world (for example, will you include; educational amenities, entertainment amenities, amenities for socializing, health amenities, etc)?

Journal Rubric - Virtual World

Journal Rubric - Virtual World		
Criteria	**Ratings**	**Pts**
Referring to lived experience view longer description	**2 pts** Full Marks **0 pts** No Marks	/ 2 pts
Referring to class content view longer description	**4 pts** Full Marks **0 pts** No Marks	/ 4 pts
Original work view longer description	**4 pts** Full Marks **0 pts**	/ 4 pts

| | No Marks | |