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Hack4Purpose


Enabling innovation with purpose for minds of the future

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Hack from Us

Sometimes when we go to Google Goddess, we feel like everyone has done everything. No ideas seem to click ! Well not to worry you can hack from our Idea Bank with over 200+ ideas in store for you. For each SDG Goal we have looked into the target indicators and put together some inspiration with facts. Have a look at these data that can drive you to innovate for purpose.

Idea Bank of 17 SDG goals



END POVERTY IN ALL ITS FORMS EVERYWHERE

Problem Statements	Idea/potential solution
Approximately 1.7 billion adults worldwide still lack access to basic financial services, hindering their ability to escape poverty and build sustainable livelihoods	Microfinance Transformation is essential for financial inclusion and apps to support safe secure financing for jobs like plumbers, electricians, handicrafts, food outlets etc. are key
With agriculture consuming around 70% of the world's freshwater, conventional farming practices significantly contribute to water waste.	Smart agriculture practices, technologies or machines for various crops. Using equipments to conserve and use water efficiently
An estimated 20 million urban households were predicted to be living in slums as of 2021, underscoring the severe lack of options for reasonably priced, suitable housing.	Affordable Housing/Slum upgrading through low-cost sustainable design, materials and platforms to give awareness to people on Housing for All schemes. Upskill people in slums and provide them jobs and houses.
Despite advancements, 49.7% of the global population lacks access to essential health services; particularly in remote and under-resourced areas.	Technologies that improve reach of healthcare with electronic records, telemedicine, tools or machines to be used in large health camps, affordable wearable devices, language and geography specific digital assistants' based on data analytics



Problem Statements

Integrating nutrient-rich crops into diverse, culturally-relevant recipes, for addressing global malnutrition which affects 2.37 billion people as of 2021 (UN FAO).

WHO study indicates HIV/AIDS, malaria, and tuberculosis have a significant financial impact on India, leading to lower productivity and higher healthcare expenses.

Nearly 2.2 billion people globally lack safely managed drinking water services, underscoring the urgent need for enhanced infrastructure and resource management.

The global spending on these sectors reached approximately \$500 billion in 2021 but still left significant gaps in meeting the needs of the impoverished population.

43% of the world's agricultural labor force comprises women, yet they often lack access to skill development opportunities in their own geographic locations

Despite safety regulations, India's manufacturing sector recorded over 1,000 fatal accidents annually.

There is a growing incidence of sophisticated false documents and frauds, which impacted over 25 million individuals worldwide in 2023.

Idea/potential solution

Crops that improve nutrition and nutritious receipts or instant mixes that can be distributed to children who are malnourished. Looking into your native crops or protein rich crops converting it into power form or looking into sustainable ways of growing these crops

Point of care testing instruments help greatly to address diseases in early stages. Look into some diseases that have great impact on finance and health status of our country and think of affordable tools for easy and early detection

Quality drinking water affordable technologies like desalination, nanofiltration, sustainable adsorbents, solar filters, etc.

Tools to analyze Govt spend on poverty programs like education, health and social protection

Upskilling rural women based on businesses in their own geographic location for example into agriculture, textile or manufacturing etc.

For specific industries identify safety hazards and design machines or sensors to avoid workplace deaths in manufacturing units

Tools to analyze fake documents or scams for all class of people



Problem Statements	Idea/potential solution
<p>India is fourth top country in world as per INFORM Natural Hazard Risk Index, with a score of 7.7. It has very high exposure to flooding, tropical cyclones and drought, among other natural disasters</p>	<p>Design instruments and tools for national disaster strategies and frameworks for it</p>
<p>More than 1 billion people worldwide suffer from a disability, but very few public areas and transit networks are completely accessible, which restricts their mobility and capacity to engage in daily life.</p>	<p>Many buildings and tourist spots are largely not accessible for people with disability, look into retrofitting designs and easy fit ramps to existing buildings</p>
<p>Only 30% of natural disasters are effectively predicted with actionable lead times on a global average due to difficulties in precisely predicting events in enough time.</p>	<p>Disaster prediction softwares can be worked for specific disasters with data analytics (Disasters such as drought, tsunami, earthquakes etc. either one can be chosen and specialised softwares can be designed</p>
<p>In India, there are an estimated 1.8 million homeless individuals, with 52 percent living in cities. A further 73 million families live in substandard homes</p>	<p>We come across homeless people on a daily basis why not gather them in a place and use their skills for a business think of creative ways of using their manpower</p>



2 ZERO HUNGER



END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

Problem Statements

About 690 million people, still suffer from undernourishment, highlighting the pressing need to address food insecurity and its underlying causes.

Malnutrition affects over 149 million children under five, while obesity rates in adults and children continue to rise.

Anemia affects approximately 1.62 billion people worldwide, with pregnant women and children being the most vulnerable groups

In India, it is estimated that approximately 30-40% of agricultural produce is lost annually due to post-harvest losses.

Over 80% of the world's 500 million smallholder farms face challenges in accessing resources and technology (World Bank)

In India, Agriculture employs about 80 percent of rural women. Empowering and mainstreaming rural women workforce in agriculture can bring paradigm shift towards economic growth.

Idea/potential solution

Warning instruments and tools for mapping food insecurity and undernourishment

Prevention of stunting and malnutrition, obesity through creative restaurant models, food recipes, alternatives for junk food, nutritious crop cultivation in urban and rural setting

Mitigate anemia in women 15 to 49 ages foods, products that indicate the level of iron in the food, come up with recipe drinks or shakes that improve iron intake

Increased output efficiency of farms (seed sowing drones, harvester machines, balancing climate and weather changes, cold storage etc.)

Improved productivity of farmers by reduced losses or giving value to wastes, precision agriculture, protection from crop damage etc.

More female in farming both cultivation and business side via upskill programs through agri-education apps and marketplaces



Problem Statements	Idea/potential solution
<p>Global food demand is projected to increase by 60% by 2050, yet current agricultural practices contribute to 24% of greenhouse gas emissions,</p>	<p>Sustainable agriculture practices and techniques, such as precision agriculture and rainwater harvesting, is crucial to conserve water resources and ensure long-term agricultural sustainability in India.</p>
<p>Given that 75% of the world's food is generated from only 12 plants and 5 animal species, with the global maize (corn) diversity at risk.</p>	<p>Develop a Genetic Modification Plan (GMP) to safeguard the genetic diversity of species against extinction.</p>
<p>Despite a 3% annual increase in global agriculture production, 30% of developing countries face challenges in accessing international markets due to inefficient supply chains and lack of export avenues, impacting their economic growth potential.</p>	<p>Agriculture export avenues and access to markets (simulation, supply chain modelling) for small-scale farmers on the export avenues of a developing country's primary crop sector.</p>
<p>85% of smallholder farmers lack access to fair pricing and ethical labor practices, impacting their livelihoods and sustainability.</p>	<p>Food fair price ethical labour prediction programs for farmers by analyzing market trends, production costs, and labor rates from data spanning the past 5 years.</p>





ENSURE HEALTHY LIVES AND PROMOTE WELL BEING FOR ALL AT ALL AGES

Problem Statements	Idea/potential solution
<p>The global maternal mortality ratio, which stood at approximately 211 deaths per 100,000 live births in 2017, by detecting and alerting healthcare providers to critical conditions early.</p>	<p>Develop a wearable device solution to reduce maternal mortality, which affects approximately 295,000 women worldwide each year.</p>
<p>Increasing complexity in prenatal and childbirth care demands upskilled birth professionals, yet 75% of such professionals report inadequate training in the latest practices and technologies.</p>	<p>Upskilling birth professionals could reduce maternal and neonatal mortality rates by up to 30% in underserved areas.</p>
<p>Despite global progress, neonatal mortality accounts for approximately 47% of all under-5 deaths, with the highest rates found in sub-Saharan Africa and South Asia</p>	<p>Neonatal mortality reduction. Develop strategies to address neonatal mortality by analyzing data to identify key factors.</p>
<p>The collective death rate of approximately 2 million annually is occurring from HIV, Tuberculosis, Malaria, and Hepatitis B</p>	<p>Develop a cost-effective solution to diagnose, prevent, and cure HIV, Tuberculosis, Malaria, and Hepatitis B with accuracy</p>
<p>Accessibility is limited by individual genetic, environmental, and lifestyle factors as well as the high costs of genome sequencing and data analysis.</p>	<p>Precision medicine model with 95% accuracy using cost-effective retrofit techniques for widespread implementation in healthcare.</p>
<p>By 2024, an estimated 38 million people worldwide were living with HIV, 10 million were afflicted with tuberculosis, and 296 million had chronic Hepatitis B infections.</p>	<p>Tracking prediction AI clusters of HIV, Tuberculosis Hep B with a 95% accuracy rate, based on the analysis of 10 years of global health data.</p>



Problem Statements	Idea/potential solution
<p>In 2021, over 200 million cases of malaria were reported worldwide, with a need for improved tracking, prevention, and cure strategies in tropical regions to reduce this burden.</p>	<p>Tropical diseases tracking and prevention and cure leveraging real-time analytics and predictive modeling strategies.</p>
<p>Approximately 1.5 billion people globally are affected by Neglected Tropical Diseases (NTDs), yet diagnostic methods are often costly and not easily accessible in low-resource settings.</p>	<p>Develop a cost-effective diagnostic method for detecting tropical diseases with a target sensitivity of at least 95% and a specificity of 90%, considering a budget constraint of \$5 per test.</p>
<p>Research indicates, 20% of suicides are linked to social media use; where 800,000 individuals die annually worldwide.</p>	<p>Suicide prevention prediction AI algorithms from social media behaviour and helplines in phones.</p>
<p>Producing one liter of traditional beer can consume up to 10 liters of water; a sustainable beer brand can reduce water usage by 50% and lower carbon emissions by 30% in its brewing process."</p>	<p>Create a sustainable beer formula that reduces water usage by 50% and carbon footprint by 30% compared to traditional brewing methods or carbon neutral spirits</p>
<p>Approximately 34% of global deaths in 2021 were attributed to cardiovascular diseases, with unhealthy diets and sedentary lifestyles being major contributors.</p>	<p>Integrate specific foods or lifestyle apps, methods, or products designed to reduce the incidence of cardiovascular diseases, cancer, diabetes, or chronic respiratory conditions, using data from studies showing quantifiable health improvements or risk reductions.</p>
<p>Over 269 million people worldwide suffer from drug abuse, emphasizing the urgent need for innovative solutions to combat this global health issue.</p>	<p>Develop a system/product to reduce substance use by 50% in a population of 1,000 individuals using alternative therapies and wear-off frameworks within 12 months.</p>
<p>Predict the coverage expansion needed in health services for 30% more exposed workers in corporate environments within the next year.</p>	<p>Work coverage of health services for more exposed workers prediction programs to be implemented in corporate to ensure optimal health support.</p>



Problem Statements	Idea/potential solution
<p>In 2023, there were 1.3 million road traffic fatalities globally, with an additional 20-50 million suffering non-fatal injuries.</p>	<p>Products avoiding road traffic injury or prediction softwares that reduces road traffic injuries by 20% through real-time analysis of traffic patterns and driver behavior data.</p>
<p>Globally, 214 million women of reproductive age in developing regions who want to avoid pregnancy are not using a modern contraceptive method.</p>	<p>Women access to family planning services to address global reproductive health needs and promote gender equality.</p>
<p>Vaccines development efforts involved over 300 research projects, with approximately \$100 billion invested in research and manufacturing.</p>	<p>The substantial challenges in resource allocation, as the global demand for effective immunizations against emerging infectious diseases often outpaces the available research and production resources. Building platforms for the same can be a huge bridge</p>
<p>As of 2023, the global health sector faces a shortfall of 18 million health workers, primarily in low- and middle-income countries, exacerbating healthcare delivery challenges.</p>	<p>Digital education and upskilling platforms for healthcare professionals are underutilized, with less than 30%.</p>
<p>By 2050, antimicrobial resistance (AMR) could cause 10 million deaths annually worldwide if current trends continue.</p>	<p>Antimicrobial resistance solutions specific to different strains can be developed to reduce the global number of antibiotic-resistant infections</p>
<p>The global market for wearable biosensors was valued at \$14 billion, but 40% of users reported issues with sensor size and portability.</p>	<p>Portable miniature biosensors for various healthcare predictions and diagnosis</p>
<p>Approximately 89% of healthcare organizations experienced a data breach in the past two years, leading to an average cost of \$7.13 million per incident.</p>	<p>Cybersecurity services and tools in medical field specific to various domains can be crafted to avert any data breach</p>



Problem Statements	Idea/potential solution
<p>Personalized medicine platforms currently only address approximately 10% of the over 7,000 known rare diseases, leaving a significant gap in treatment options.</p>	<p>Personalized medicine platforms need to be built at a much larger scale with more efficient means of data</p>
<p>Over 70% of people with common sexually transmitted diseases (STDs) do not show symptoms, increasing the risk of undiagnosed infections.</p>	<p>Test at home instruments and kits for STDs can be developed would be extremely useful</p>
<p>Approximately 214 million women in developing countries who want to avoid pregnancy are not using modern contraceptives, highlighting the ongoing global challenge in ensuring access to sexual health.</p>	<p>Platforms to create awareness of sexual health, family planning methods and information on contraceptives where how and what dosage needs to be taken etc.</p>





ENSURE INCLUSIVE AND QUALITY EDUCATION FOR ALL AND PROMOTE LIFELONG LEARNING

Problem Statements	Idea/potential solution
<p>Only 53% of third graders in rural areas can read at a first-grade level, highlighting the need for enhanced primary education literacy programs.</p>	<p>Primary education improvement through interactive and game-based learning methods to enhance engagement and retention among primary students.</p>
<p>Research indicates that only 15% of early childhood development programs have integrated evidence-based psychosocial assessment tools for children aged 24-59 months.</p>	<p>Interactive psychosocial estimation practices and devices in 24-59 months in age like brief parent-report questionnaires like the Ages and Stages Questionnaires.</p>
<p>Despite the rapid growth of the digital economy, 65% of young people in emerging economies still lack adequate ICT skills.</p>	<p>ICT skill analysis - Skill analysis meters and methods in youth designed to evaluate specific skills, with performance tracked via an intuitive dashboard. Similar such standards can be created too.</p>
<p>Despite significant progress, gender, rural-urban divide, economic disparities, and disability status continue to influence access to education, employment, and healthcare, underscoring the need for a comprehensive data-driven analysis to map parity indices across Indian states.</p>	<p>Mapping parity indices male/female, rural/urban, bottom/top and all disability status in your state and in India</p>
<p>In a region with a population of 500,000, only 60% were literate in 2020. By 2025, a focused educational initiative aims to increase the literacy rate to 85%.</p>	<p>Improved literacy status by a launch of mobile library service to bring books and digital learning tools to underserved communities.</p>



Problem Statements	Idea/potential solution
<p>Currently, 40% of government schools in rural areas lack basic facilities such as clean drinking water and sanitation, impacting the health and attendance of approximately 1.2 million students.</p>	<p>Basic service development and maintenance services for Govt schools.</p>
<p>Only 10% of deaf and mute children in developing countries have access to education of sign language or other forms of communication adapted to their needs.</p>	<p>Inclusive learning for deaf and mute with AI-based sign language translation tools in every classroom to bridge communication gaps.</p>
<p>In a survey of 1,000 parents, only 30% reported feeling fully included and actively involved in their child's education.</p>	<p>Parent inclusiveness in education such as creating a shared digital newsletter that features classroom activities, student achievements, and ways for parents to support learning at home.</p>
<p>Over 70% of students believe that excessive reliance on AI in education is hampering their creative critical thinking skills.</p>	<p>Means or tools to enhance creativity without electronics. Traditional brain enhancement techniques in the form of toys can be explored</p>
<p>Traditional laboratory education methods show a 30-40% lesser retention rate in students compared to interactive lab experiences.</p>	<p>Interactive labs with a digital electronics lab where users can build and test circuits with drag-and-drop components.</p>
<p>75% of gamified education programs fail to meet their objectives due to inadequate design and a lack of understanding of the target audience's motivational triggers.</p>	<p>Gamification for learning - eg: Implement achievement badges for mastering specific skills or completing educational modules.</p>



Problem Statements	Idea/potential solution
<p>Many students struggle to find and secure suitable funding due to a lack of centralized and comprehensive databases.</p>	<p>Database of scholarships available and means to receive more scholarships for different types of study.</p>
<p>Despite increasing educational funding, 32% of teachers in low-income regions still lack adequate professional development.</p>	<p>Improving quality of teachers, training and upskilling methods through AI-driven personalized training programs.</p>
<p>Over 60% of professionals report dissatisfaction in their careers, highlighting the need for effective, personalized career guidance.</p>	<p>Personalised career guidance by designing a brief, engaging quiz that matches individuals to careers based on their interests, skills, and values.</p>
<p>Only 30% of students feel engaged in traditional learning environments, highlighting the need for creative immersive learning tools.</p>	<p>Creative immersive learning techniques or tools both online and offline.</p>
<p>Only 53% of countries globally have included sustainable development in their national education policies, despite the growing urgency for environmental and sustainability education in the face of climate change and resource depletion.</p>	<p>Methods to improve national educational policies curriculum and education for sustainable development.</p>



5 GENDER EQUALITY



ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

Problem Statements

Many women lack awareness of their legal rights, a gap that a multilingual, simplified information system could address.

As of 2023, India reported approximately 32,000 cases of rape annually, translating to an alarming rate of about 88 cases per day.

40% of Indian women reported experiencing domestic violence by family members, yet only 10% of these cases were formally reported to authorities.

Research indicates that women typically spend up to three times more hours per week on unpaid domestic care work compared to men.

As of 2023, women hold only 25% of managerial positions globally and just 24% of parliamentary seats worldwide.

Despite 70% of adolescents expressing a need for sexual and reproductive health information, only 15% have access to comprehensive resources.

Despite constituting 49.6% of the global population, women receive only 24% of public funding for entrepreneurial ventures.

Idea/potential solution

System that make women aware of their legal rights in their local native language in easy to understandable forms.

Rape prevention, addressing the rape victims relief and rehabilitation. Anonymous tracing softwares from social media tool for the police to track.

The rape and abuse by family members and close known people are a lot, how to prevent it awareness from young age, no fear programs, parent training tools for this can be developed

Domestic care work tools and monitoring as means for both men and women.

Getting more women into manager position and into government (upskill make them aware of the oppurtunities and open seats)

Information on sexual relations, contraceptive use and reproductive health care - apps to give information and tools for it.

Track women empowerment and gender equality and public funding for women exclusively.



Problem Statements	Idea/potential solution
<p>In 2022, women earned 82 cents for every dollar earned by men, highlighting a persistent gender pay gap issue.</p>	<p>Creation of job portals with unbiased salary and further progress tracking for growth and equality in pay throughout the tenure in any corporate. Tools to analyze, compare and distinguish gender pay gap in various levels in an organization</p>
<p>Only 28% of the workforce in science, technology, engineering, and math (STEM) fields are women, highlighting a significant gender gap in these crucial areas.</p>	<p>Implement mentorship programs pairing young women with experienced female STEM professionals to inspire and guide them.</p>
<p>In a study on digital gender divide, it was found that only 65% of women in a certain region have access to the internet compared to 80% of men, revealing a persistent 15% gap.</p>	<p>No gap in digital gender divide - Implement community-based digital literacy workshops focusing on empowering women and girls with tech skills.</p>
<p>In a country where 35% of women report experiencing physical or sexual violence, a proposal is being considered to mandate self-defense training in schools and colleges, with incentives for participation and skill proficiency.</p>	<p>Training centres for self defense making self defense compulsory for women in curriculum and in school and colleges giving them rewards for it.</p>
<p>In 2023, 60% of employees reported experiencing some form of workplace harassment, yet only 10% of these incidents were formally reported to HR departments.</p>	<p>Develop an anonymous reporting platform for employees to safely disclose workplace harassment incidents, facilitating third-party investigation and resolution.</p>





ENSURE ACCESS TO WATER AND SANITATION FOR ALL

Problem Statements

Globally, over 2 billion people lack access to safely managed drinking water, leading to preventable diseases and deaths, particularly in developing countries.

In a study, only 40% of a population in a developing country reported regular use of proper handwashing techniques, even though 80% had access to basic handwashing facilities.

The global market for eco-friendly detergents and cleansing products is expected to grow from \$22 billion in 2022 to \$30 billion by 2027, yet only 10% of current detergent products meet sustainability standards.

In 2023, over 80% of domestic wastewater globally was discharged without adequate treatment, contributing to environmental pollution and public health issues.

In an industrial setting, approximately 10,000 liters of effluent containing 5% heavy metals and acids require treatment daily; the challenge is optimizing adsorbent materials for maximum contaminant removal.

Nearly 80% of wastewater globally is discharged without treatment, leading to significant freshwater contamination.

Idea/potential solution

Technologies for safe drinking water by implementing IoT-based water quality monitoring systems that provide real-time data on water safety, alerting communities to contamination issues instantly.

Hand washing facility and techniques and awareness campaigns. Eg: Deploy touchless, solar-powered handwashing stations equipped with IoT sensors for real-time usage monitoring and maintenance alerts.

Sustainable detergent products soaps, sanitizers, handwash liquid by utilizing plant-based, non-toxic ingredients to ensure eco-friendliness and safety for aquatic life.

Effluent treatment domestic - Deploy smart nanotechnology-based filters that selectively remove contaminants and pathogens from domestic wastewater, enhancing water quality with minimal energy use.

Leverage selective adsorbents for efficient industrial effluent treatment, simultaneously neutralizing harmful acids and trapping toxic heavy metals.

Freshwater contamination removal by analyzing the water to understand the specific threat, then tailor treatment methods.



Problem Statements	Idea/potential solution
<p>In rural areas, 60% of households lack access to clean sanitation facilities; the goal is to identify these regions on a map for targeted assistance and improvement programs.</p>	<p>Sanitation assistance in villages map areas of clean sanitation and look into areas which need support.</p>
<p>In urban areas, 75% of households use chemical-based cleaning agents, contributing to environmental pollution.</p>	<p>Maintenance of sanitation through easy and safe methods that provide eco-friendly chemical free solutions.</p>
<p>Increase in nitrate levels by 20% over the past year in a local water reservoir prompts the need for enhanced water quality monitoring strategies.</p>	<p>Water quality monitoring to identify potential pollution sources and track changes in algal blooms and other harmful pollutants.</p>
<p>Globally, approximately 30% of water is lost due to leaks in distribution systems, leading to significant wastage of this vital resource and increased operational costs for water utilities.</p>	<p>Smart leakage detection to avoid leakage or loss of water in distribution.</p>
<p>Nearly 70% of freshwater is used for agriculture worldwide, yet inefficient irrigation systems lead to significant water wastage.</p>	<p>Water conservation tools with efficient aerators and low-flow models, then catch rainwater for plants and reduce shower time.</p>
<p>In 2023, 70% of global freshwater bodies failed to meet minimum water quality standards, highlighting an urgent need for accessible water quality testing tools.</p>	<p>Water quality testing tools like smartphone-linked sensors to measure a wider range of pollutants in real-time.</p>
<p>Over 22% of global industrial water use is estimated to be inefficient, leading to significant wastage.</p>	<p>Sustainable water consumption detection in industries and real-time monitoring for pinpointing waste and optimizing processes across industries.</p>



Problem Statements	Idea/potential solution
Reverse osmosis systems typically waste about 80% of water, posing a significant challenge in ensuring zero water wastage in filtration processes.	Zero wastage of filtration systems through high-efficiency membranes with pre-filtering to purify 80% for drinking, while utilizing "reject" water for non-potable tasks like plant irrigation or toilet flushing.
In 2023, industries reported a 20% efficiency loss in heat exchangers due to fouling, resulting in an estimated global economic impact of \$15 billion.	Non fouling - Coat with lubricious materials like hydrogels, creating a slippery shield against clinging invaders.
In 2023, a city of 500,000 people reported an annual loss of 30% of its water due to leaks and inefficiencies in its distribution system.	Smart water distribution sensors with data analytics.
Global groundwater levels are declining at an alarming rate of 2.37 cubic kilometers per year, posing a severe threat to agricultural sustainability and potable water availability.	To stop groundwater depletion by capturing rainwater, replenish aquifers, etc.
Globally, 97.5% of water is saline, yet more than 2 billion people face water scarcity; sustainable desalination processes could provide a vital solution to this crisis.	Sustainable desalination with advanced membranes reducing carbon footprint and making it accessible to remote areas.
Bioremediation processes currently account for only 15% of the total soil contamination treatment market, with a cost range of \$30 to \$100 per cubic yard of soil treated, presenting an opportunity for cost-effective advancements.	Cost effective bioremediation with low-maintenance approach that can be effective for many pollutants.





ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

Problem Statements	Idea/potential solution
<p>Nearly 1.2 billion people globally lack access to electricity, while waste-to-energy processes could potentially contribute up to 10% of the global electricity demand.</p>	<p>Energy from waste to grid or villages without access to electricity.</p>
<p>Globally, over 2 billion tons of municipal solid waste are generated annually, yet less than 10% is converted into energy through waste-to-energy technologies.</p>	<p>Renewable energy sources and clean energy through innovative technologies like gasification or pyrolysis, creating a sustainable future, one recycled watt at a time.</p>
<p>The global demand for clean fuels is projected to reach 13.1 million barrels per day by 2030, highlighting the increasing shift towards sustainable energy sources.</p>	<p>Clean fuels on reducing reliance on fossil fuels and cutting emissions.</p>
<p>In 2023, India's clean tech sector saw a 30% increase in renewable energy adoption, yet 60% of potential users remain without access to efficient integration solutions."</p>	<p>Prediction and execution data analytics softwares for clean tech integration for India and gap assesment app.</p>
<p>In 2023, commercial buildings consumed an average of 20 kWh per square foot, yet energy efficiency tools have the potential to reduce this consumption by up to 30%.</p>	<p>Energy efficiency tools that turn energy-saving actions into engaging challenges with real-time feedback, rewards, and social leaderboards.</p>
<p>By 2030, global energy storage capacity is projected to increase to 741 GWh, yet 80% of this growth is expected in just five countries, posing challenges for balancing global energy needs and sustainability.</p>	<p>Energy storage - Create solid-state batteries with enhanced safety and longevity profiles.</p>
<p>Global industrial processes annually waste approximately 50 exajoules of heat, a potential source for generating up to 10,000 TWh of electricity.</p>	<p>Excess heat to energy using thermoelectric generators that directly convert temperature differences into electrical voltage.</p>



Problem Statements	Idea/potential solution
<p>Approximately 14 out of the 20 most polluted cities in the world located in India, as per the World Health Organization's data.</p>	<p>Clean transport - Implement city-wide electric bike-sharing programs to reduce emissions and traffic congestion.</p>
<p>Approximately 2 billion tons of municipal solid waste (MSW) are generated annually globally, yet only about 16% is utilized for energy recovery.</p>	<p>Explore advanced incineration technologies, implement widespread anaerobic digestion systems, and incentivize community-based waste-to-energy projects for sustainable MSW management.</p>
<p>According to the Central Electricity Authority (CEA) data, India's peak power demand is consistently rising, reaching over 200 GW in recent years.</p>	<p>Smart energy at homes - Implement AI-driven energy management systems for real-time optimization of home energy usage.</p>
<p>Off-grid renewable power in India is that a significant portion of the country's population, particularly in rural areas, still lacks access to reliable electricity.</p>	<p>Off grid renewable power in a cost-effective, scalable power solutions tailored to remote communities' needs.</p>
<p>Microgrids can enhance energy efficiency, with studies showing a potential 15-30% reduction in energy losses compared to traditional centralized power systems.</p>	<p>How can we reduce the cost of microgrid deployment by 30% while ensuring reliability and sustainability?</p>
<p>Indian government has set an ambitious target to achieve 20% blending of ethanol in petrol and 5% blending of biodiesel in diesel by 2030.</p>	<p>Biofuels - identify scalable solutions to achieve this without compromising food security.</p>
<p>Implementing a bottling process for excess gas utilization in energy production could potentially reduce greenhouse gas emissions by 20% in industrial settings.</p>	<p>Design a system for bottling and utilizing 1.5 million cubic meters of excess gas annually for sustainable energy production.</p>
<p>By 2050, it's estimated that solar panel waste could reach 78 million tonnes globally, creating an urgent need for effective recycling solutions.</p>	<p>Develop an efficient solar recycling process that could reclaim up to 90% of materials.</p>



Problem Statements	Idea/potential solution
<p>Approximately 50,000 tons of wind turbine blades are expected to reach the end of their lifespan by 2030, highlighting the urgent need for effective and sustainable recycling solutions in the wind energy industry.</p>	<p>Wind blade recycling - develop efficient recycling solutions to handle this waste.</p>
<p>Converting 1 liter of used cooking oil into biodiesel reduces greenhouse gas emissions by approximately 3.5 kg, contributing to environmental sustainability.</p>	<p>Cooking oil waste to biodiesel achieving a conversion efficiency of 90%.</p>
<p>In rural areas, over 2.8 billion people globally lack access to clean cooking methods, leading to health and environmental challenges.</p>	<p>Clean cooking methods rurally - propose scalable solutions for sustainable, healthier alternatives.</p>
<p>According to data from the Department of Biotechnology (DBT) in India, it is estimated that the annual lignin production from agro-residues and other biomass sources in the country exceeds 100 million tons.</p>	<p>Catalytic pyrolysis of lignin into bio-oils for renewable fuel production and chemical feedstocks.</p>
<p>CO serves as a precursor for the production of various chemicals, including methanol, which has applications in industries such as pharmaceuticals, plastics, and fuel production.</p>	<p>Use solar energy to power electrochemical reduction of CO₂ to CO at a copper catalyst surface.</p>
<p>According to the Ministry of Petroleum and Natural Gas, a significant amount of hydrocarbon vapors, including volatile organic compounds (VOCs), are released into the atmosphere during the refueling process at petrol pumps.</p>	<p>Implement a simple, cost-effective pressure-swing adsorption system to capture and recycle fuel vapors during refueling operations.</p>



Problem Statements	Idea/potential solution
<p>In India, the demand for lubricating oils is rising steadily, leading to an increase in used oil generation.</p>	<p>Integrate enzyme-based treatment processes that specifically target and break down pollutants in used oils, offering an eco-friendly and highly effective re-refining solution.</p>
<p>Hydrogen is seen as a key element in this transition, especially for sectors that are difficult to decarbonize directly, such as heavy industries and transportation.</p>	<p>Developing novel catalysts for water splitting processes to reduce the overall cost of hydrogen production.</p>
<p>A low-cost, high-accuracy lubricant testing kit would be beneficial for industries in India, especially for small and medium-sized enterprises (SMEs).</p>	<p>Develop ways to face budget constraints and reliable ways to assess the condition of their lubricants.</p>
<p>E-waste contains hazardous materials like lead, mercury, and cadmium, with improper disposal contributing to environmental pollution and health risks, as reported by the United Nations Environment Programme (UNEP) to address this explore the integration of microbial consortia.</p>	<p>Enzyme-engineered solutions for targeted degradation of electronic waste, converting hazardous materials into harmless substances.</p>
<p>The use of plugs between different petroleum products during storage and transportation is crucial in India to prevent intermixing, ensuring the integrity and quality of each product.</p>	<p>Implement RFID-tagged connectors and receivers on the plugs and tanks that automatically verify and authorize product compatibility before allowing connections.</p>





PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

Problem Statements	Idea/potential solution
<p>Unemployment rates remain high at 7.5% globally, largely attributed to a skills mismatch.</p>	<p>Unemployment main reason is lack of skills so create upskilling platforms and connecting job platforms.</p>
<p>Over 200 million people worldwide are unemployed, including diverse groups such as youth, the elderly, and those with disabilities.</p>	<p>Unemployment registries open for all male, female, aged and disabilities post their background and match with upskilling and jobs.</p>
<p>In 2023, the global youth unemployment rate stood at 13.6%, translating to approximately 73 million young people unemployed worldwides.</p>	<p>Youth unemployment platforms to connect young people globally, facilitating connections between youth and employers.</p>
<p>Over 150 million children are engaged in child labor worldwide, posing significant challenges for corporates in ensuring labor rights compliance in their supply chains.</p>	<p>Child labour and labour rights compliance tracking for corporates by designing a solution to monitor and reduce child labor incidents by 50%</p>
<p>In 2023, a manufacturing company reported that 30% of its workplace accidents were due to inadequate safety training, resulting in an average of 5 accidents per month.</p>	<p>Safe work place - Implementing safety protocols reduced workplace accidents, emphasizing the crucial role of a secure work environment.</p>
<p>Only 40% of adults globally maintain a budget for their finances, leading to potential mismanagement of bank accounts and financial instability.</p>	<p>Financial knowledge and maintaining bank accounts for all and keep close track of their spending, impacting financial stability and savings potential.</p>
<p>Only 20% of conservancy and drainage workers have access to proper, comfortable work clothing and tools, impacting their safety and efficiency.</p>	<p>Decent comfortable work attire, equipments or tools for conservancy workers and drainage workers.</p>



Problem Statements	Idea/potential solution
<p>Smart ATMs globally processed over 200 billion transactions in 2023, showcasing a 15% year-on-year increase in user adoption.</p>	<p>Smart ATMs that reduces average transaction time from 90 seconds to under 30 seconds for at least 95% of transactions, while increasing transaction security by 50%. Sensors and indicators for showing customers money is unavailable.</p>
<p>Only 30% of developing countries have access to comprehensive data on Aid for Trade disbursements, hindering efficient allocation and utilization of these resources.</p>	<p>Knowledge Platforms providing trade details and disbursements, ensuring transparency and impactful allocation to developing nations.</p>
<p>In 2023, studies revealed that 40% of workers exceeding 50 hours per week reported significantly higher rates of occupational accidents compared to those working standard hours.</p>	<p>Work hours management and safety by analyzing the impact of reducing weekly work hours from 45 to 40 on employee safety incidents in a manufacturing plant.</p>
<p>Currently, a manufacturing company procures 100,000 tons of raw materials annually but lacks a robust monitoring system; this results in a 15% material wastage rate and unpredictable procurement needs.</p>	<p>Material procurement monitoring and consumption database for prediction and sustainable reduction in need to channelise.</p>





BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

Problem Statements

By 2025, the global smart manufacturing market is expected to reach \$480 billion, growing at a CAGR of 12-15%; however, 70% of manufacturing companies lack comprehensive, data-driven tools for predictive maintenance and infrastructure optimization.

Manufacturing industries are currently experiencing a 25% increase in production costs due to supply chain disruptions and raw material shortages, significantly impacting their profit margins and operational efficiency.

In the past decade, the manufacturing sector has seen a steady decline in employment, with a loss of 1.5 million jobs, representing approximately 10% of its workforce.

Despite contributing to 33% of global GDP, MSMEs (Micro, Small, and Medium Enterprises) face a sustainability challenge, with over 70% lacking access to green technologies and sustainable practices.

Despite the presence of 63.4 million micro, small, and medium enterprises (MSMEs) in the economy, only 16% have access to formal credit, leading to a credit gap of approximately \$240 billion.

Idea/potential solution

Smart Infrastructure prediction and design tools that analyzes urbanization data, aiming to reduce energy consumption by 15% through optimal placement of IoT devices and efficient city planning.

Smart creative and affordable automation for MSMEs sectors.

Improve methods of learning to manufacture, simulation techniques or simplified frameworks to reverse trend of lower manufacturing capabilities.

Integrate sustainability in MSMEs by analyzing the impact of adopting sustainable practices on reducing operational costs.

Loans and line of credit for small scale industries transparent and authenticated access, incorporating key metrics such as credit scores, financial histories, and transaction records.



Problem Statements	Idea/potential solution
<p>In 2023, only 15% of small and medium-sized enterprises (SMEs) successfully integrated cutting-edge R&D innovations into their business models.</p>	<p>R and D development innovation inclusive platforms to increase collaboration by 50% among R&D teams globally.</p>
<p>Global construction industry contributes approximately 39% of the world's carbon emissions, with traditional bricks being a significant part of this impact.</p>	<p>CO2 emissions reductions in infrastructure development. 1 million algae bricks reduces CO2 emissions by 2,000 tons compared to traditional brick manufacturing; how can this be optimized in large-scale infrastructure projects?</p>
<p>Over 75% of PhD graduates struggle to find relevant job opportunities within 6 months of completing their degrees.</p>	<p>Researchers job finding platforms to address the 2.5 million academic researchers worldwide facing challenges in securing employment opportunities in their fields.</p>
<p>In the past decade, the high-tech industry has experienced an annual growth rate of 8.3%, reaching a market size of \$3.5 trillion in 2022.</p>	<p>Analyze the requirement of high tech industries and direct to increase skilled capacity and manpower in these industries</p>
<p>India generates approximately 150 million tons of construction and demolition waste annually, yet less than 1% is recycled for use in new construction.</p>	<p>Fabricate recycled sustainable materials for construction by analyzing the impact of recycling and on reducing landfill waste and carbon emissions annually.</p>
<p>By 2024, only 20% of biomanufacturing facilities have adopted advanced automation and AI technologies, hindering progress towards SDG Goal 9's target for sustainable industrialization.</p>	<p>Cost-effective machines for biomanufacturing testing and scaleup processes</p>
<p>Global demand for green chemicals is expected to reach \$100 billion by 2025, yet currently, only 12% of chemical manufacturing processes are considered environmentally friendly.</p>	<p>Manufacturing green chemicals for various industries with a target of reducing carbon emissions by 30% compared to traditional methods.</p>



Problem Statements	Idea/potential solution
Optical sensor manufacturing currently faces a 15% yield loss due to precision alignment issues in the assembly process.	Optical sensor manufacturing design that reduces manufacturing costs by 20% while maintaining a defect rate of less than 0.5%.
Creative fashion manufacturing faces the challenge of producing 1 million adaptive clothing items by 2025, accommodating a diverse range of disabilities and body types while maintaining style and comfort.	Creative fashion manufacturing adaptive clothing through innovative manufacturing processes and incorporates smart textiles for enhanced user comfort.
Implement Logistics smart robots to reduce warehouse operational costs by 20% and increase order processing speed by 30%.	Design a logistics smart robot system capable of sorting and transporting 10,000 parcels of varying sizes across a 100,000 square foot warehouse facility within a 12-hour shift.
Optimizing delivery logistics with drones can reduce transportation costs by up to 80%, while in agriculture, drone-based monitoring improves crop yields by 25% through precision agriculture techniques.	Affordable easy to operate drones for delivery logistics and medical and agriculture even manufacturing monitoring in industries.
In a city with 5 million residents, traffic congestion results in an average of 50% increased commute time, potentially improved through the implementation of aerial traffic monitoring systems.	Traffic mitigation tools like aerial traffic monitoring for a city with a population of 5 million.
Approximately 15% of the global population, or over 1 billion people, experience some form of disability, making accessibility a significant challenge in multi-story buildings without elevators.	Stair climbing robot that can ascend and descend stairs with a maximum height of 8 inches and a depth of 10 inches, carrying a load of up to 15 pounds.
Globally, road traffic accidents cause approximately 1.35 million deaths and between 20 and 50 million injuries each year.	Road accident detection and prevention - develop a solution to detect and prevent accidents in real-time.



Problem Statements

Global electric vehicle market is projected to grow to 233 million units by 2027, yet less than 5% of motor controllers are open source, limiting innovation and customization in this rapidly expanding field.

The global toy industry produces over 40 million tons of CO2 emissions annually, highlighting the urgent need for sustainable manufacturing practices.

Every year, approximately 92 million tons of textile waste is generated globally, yet less than 1% is recycled into new clothing.

Despite contributing 40% to the global economy, local industries lag in innovation, with only 10% adopting new technologies compared to 70% in international markets.

Idea/potential solution

Open source motor controller that can improve efficiency by 20% while reducing production costs by 30%.

Toys sustainable manufacturing process that reduces plastic use by 50% while maintaining current production levels of 100,000 units per month.

Textile waste to new textiles manufacturing, presenting an opportunity to revolutionize the industry.

Assessing innovation in native industries: Identify key performance indicators (KPIs) and quantify R&D investment, with a focus in technological adoption.



10 REDUCED INEQUALITIES



REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

Problem Statements

Despite a median income of \$34,103, 78% of individuals lack access to diverse income streams and upskilling programs necessary to enhance their earning potential.

Studies show that 60% of employees experience workplace harassment, yet less than 30% report it due to lack of effective forums and tools.

Highlighting the significance of financial indicators, companies with effective financial reporting see a 30% higher investor confidence and a 25% increase in access to capital.

In a survey of 10,000 workers, 78% expressed a need for a comprehensive platform providing information on labor finance, voting rights, civil duties, and tariff-related policies, including zero-tariff initiatives.

Over 82.4 million people worldwide are forcibly displaced, highlighting the urgent need for effective migration policies and support for refugees.

Idea/potential solution

Knowledge transfer platforms for upskilling median income groups on multiple income generation

Harassment forums and tools through one-click reporting system that allows users to quickly report harassment incidents, making the process simple and accessible.

Financial indicators - Create a real-time dashboard displaying key metrics: P/E ratio, EPS growth, and market cap comparisons easy to track and trace

Build labour, finance, civil rights infotainment sort of platform information on tariffs and zero-tariffs.

Migration and refugees - Implement a global digital ID system for refugees to streamline access to services and support.



Problem Statements

Increasing global economic interdependence, with over \$1.3 trillion in Foreign Direct Investment (FDI) and \$161.2 billion in Official Development Assistance (ODA) exchanged annually, underscores the imperative for collaborative economic growth and sustainable development among nations.

"In 2023, over 235 million people worldwide required humanitarian assistance and protection, a 40% increase from 2020, highlighting a critical need for increased international donations."

Idea/potential solution

Building platforms for foreign direct investment and official development support between countries to support joint ventures in technology and renewable energy sectors, enhancing FDI flows.

Donation to other countries to strengthen bonds across borders with contributions to health and sustainability projects worldwide.





MAKE CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

Problem Statements

In 2020, approximately 1 billion people worldwide lived in slums, highlighting the urgent need for effective slum clearance and development initiatives.

Over 50% of urban commuters experience daily delays due to inconsistent public transport schedules.

Annually, over 1.3 billion tons of illegal waste is dumped on land globally, necessitating urgent monitoring and intervention.

Over 50% of World Heritage sites, encompassing both natural and cultural landmarks, are at risk due to neglect, decay, or environmental pressures.

In 2022, urban areas experienced a staggering \$300 billion in infrastructure losses due to disasters.

9. According to a report by the Urban Sustainability Council, 30% of current waste management systems lack efficiency in waste collection and optimization, leading to increased resource consumption.

Idea/potential solution

Devise a scalable slum clearance and development plan to safely relocate and improve the living conditions for at least 50% of this population within the next decade.

Develop a real-time public transport tracking system that provides accurate live updates on buses and trains, ensuring precise arrival times within the app for enhanced commuter convenience.

Illegal land consumption dumping wastes monitoring to reduce illegal land consumption by identifying and quantifying waste dumping activities over 500 square kilometers of vulnerable land areas.

Natural heritage promotion preservation and protection all cultural heritage like buildings by designing a strategy to increase the annual funding for the preservation and protection of 500,000 culturally significant buildings by 30% over the next 5 years.

Disaster prevention rescue and mitigation in cities - Design a scalable, cost-effective solution to reduce infrastructure loss to zero in urban areas.

Municipal solid waste generation is expected to reach 2.2 billion tons annually by 2025; identify a scalable zero landfill technology solution to manage this volume sustainably.



Problem Statements

Despite advancements, over 90% of the global population breathes air exceeding WHO PM2.5 and PM10 guideline limits, necessitating innovative measurement and reduction solutions.

70% of women, people with disabilities, and LGBTQ+ individuals report feeling unsafe in urban areas, highlighting the urgent need for dedicated safety apps.

Every year, natural disasters affect approximately 160 million people worldwide.

In 2023, over 60% of tourists reported the need for a City Information mobile app to access real-time data on public services, events, and local amenities.

Despite a \$1.26 trillion projected global spend on smart city technologies by 2025, the absence of a unified standard metric hinders the efficiency and comparability of smart city initiatives worldwide.

In 2022, smart cities faced over 1,000 cyber-attacks daily, highlighting the urgent need for enhanced security through blockchain integration.

The global annual cost of improper waste management is estimated at \$300 billion, emphasizing the urgent need for waste management systems.

Idea/potential solution

Measurement and reduction of fine particulate matter PM 2.5 PM10. Develop a technology to reduce the levels by 25% in urban areas, where annual average concentrations currently stand at 50 $\mu\text{g}/\text{m}^3$ and 100 $\mu\text{g}/\text{m}^3$, respectively.

Harassment in cities for women, people with disabilities LGBTQ apps for this leveraging AI to identify and report harassment incidents, aiming for a 30% reduction in urban harassment cases

Develop a predictive analytics framework to reduce disaster risk by analyzing historical disaster data from the past 20 years, incorporating real-time environmental sensors, and leveraging AI technology to forecast and manage future disaster events effectively.

City information mobile app that provides real-time data, including population, crime rate, and average income, for user-selected cities.

Standard metric for smart cities with a predictive model that can accurately forecast energy consumption within smart cities, utilizing a dataset of over 1 million data points from various sensors across urban infrastructures.

Security of smart cities with blockchain to secure the 75 billion IoT devices projected by 2025, enhancing data integrity and privacy in smart cities.

Waste management with IoT and AI to reduce landfill waste by 30% within the next 5 years by optimizing collection routes and recycling processes.

Problem Statements	Idea/potential solution
<p>In cities, a single square meter of sidewalk with piezoelectric materials can generate up to 5 kWh per year from pedestrian foot traffic.</p>	<p>Energy harvesting creatively in cities using piezoelectric materials to power streetlights and signage, reducing the urban carbon footprint.</p>
<p>82% of urban commuters face daily delays due to road construction; an app to navigate alternative routes is needed.</p>	<p>Routes to avoid due to construction an app for that by identifying the top 10 congested routes with ongoing construction activities in a city, utilizing real-time data, for efficient navigation in a construction-avoidance app.</p>
<p>In 2023, urban areas accounted for 70% of CO2 emissions from transportation, highlighting the urgent need for safe, reliable, and energy-efficient smart transport systems.</p>	<p>Safe and reliable smart transport systems consuming less energy integration of reliable sensors and AI algorithms for optimized traffic flow and safety.</p>
<p>Urban areas contribute to 70% of global CO2 emissions, highlighting the urgent need for technologies to reduce or convert these emissions into useful products.</p>	<p>Develop technologies that reduce or convert greenhouse gas emissions, aiming for at least a 30% reduction in carbon footprint for cities with historically low pollution levels.</p>





ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

Problem Statements	Idea/potential solution
<p>Analyzing the flow of 2.5 billion tonnes of materials across industries annually reveals inefficiencies, indicating a potential for 30% improvement in resource utilization through data analytics.</p>	<p>Material flows in different domains data analytics to optimize logistics and reduce environmental impact.</p>
<p>Nearly one-third of all food produced globally, amounting to about 1.3 billion tons annually, is wasted.</p>	<p>Food waste avertion and converting food waste to value by developing a scalable solution to reduce this waste by 50%</p>
<p>In 2022, only 13% of hazardous waste globally was treated using advanced disposal technologies.</p>	<p>Hazardous waste reduction, treatment and safe disposal by implementing innovative technologies, aiming for a 25% reduction in disposal volumes within the next five years.</p>
<p>Investigate and propose a technology solution to increase the recycling rate in the electronics industry from 20% to 50% by 2030 to enhance the circular economy.</p>	<p>Technologies to improve recycling in various industries and circular economy to increase global recycling rates, which is currently at 32%.</p>
<p>Despite 90% of S&P 500 companies publishing sustainability reports in 2021, only 30% of small to medium enterprises do.</p>	<p>Automated data collection and sustainability report generation to encourage all to publish sustainability reports</p>
<p>The urgent need for sustainability education is underscored by the fact that only 29% of global universities incorporate dedicated sustainability courses.</p>	<p>Sustainability in curriculum special courses and education tools for all students, professionals and laymen</p>
<p>Global tourism contributes to 8% of carbon emissions, highlighting the urgent need for tools to monitor its economic and environmental impact.</p>	<p>Tools to monitor economic and environment aspect of tourism by analyzing and presenting data on the economic impact of tourism.</p>



Problem Statements

Despite renewable energy's capacity to reduce carbon emissions by 45%, over 770 million people globally lack access to electricity.

India generates over 26,000 tons of plastic waste daily, with a substantial portion being single-use packaging materials.

According to a report by the Ministry of Textiles, Government of India, the textile industry is one of the largest contributors to water pollution in the country, releasing harmful chemicals into water bodies.

Idea/potential solution

Renewable energy uses affordable to ease installation or retrofit by implementing a solution to reduce the cost of renewable energy installations by 40%.

Sustainable packaging solutions could be using biodegradable packaging made from plant-based materials like cornstarch for food containers.

Sustainable fashion approaches using materials or process or machineries, switching to materials like organic cotton can reduce water usage by 91% per t-shirt produced. Similar alternatives can be looked





TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

Problem Statements

Urban and industrial areas contribute to 70% of global greenhouse gas emissions, necessitating precise emissions estimation to target reduction strategies effectively.

To ensure accountability, a transparent database is needed to track the allocation and utilization of the \$100 billion committed annually for global sustainability efforts.

Least Developed Countries (LDCs) and Small Island Developing States (SIDS) face a combined annual investment gap of over \$400 billion in achieving Sustainable Development Goals.

Global CO₂ emissions reached 36.3 billion tonnes in 2021, underscoring the urgent need for scalable carbon credit project development.

Changing precipitation patterns and increased frequency of extreme weather events have led to a 2-4% decline in the country's crop yields over the past few decades - Indian Council of Agricultural Research

By 2050, over 1 billion people will be at risk due to sea-level rise and extreme weather events.

Idea/potential solution

Green house gas emissions estimation software for urban and industry setting, providing data on CO₂, methane, and nitrous oxide levels to assess environmental impact.

Develop a transparent database to track the allocation of funds for a 100 billion commitment towards sustainability initiatives.

Economic growth strategies and tools and tech for least developed countries and small island developing states leveraging innovative tools and technologies, aiming for a sustained annual GDP growth rate of at least 5%.

Carbon credit projects can be developed by calculating the number of hectares needed based on an average sequestration rate of 5 tons per hectare per year. Refer databases of Verra.

Climate resilient planning (reforestation, organic fertilizers, biodegradable materials, pollution control, carbon footprint tracking, phytoemediation, EV, etc.)

Climate change action and adaption app to reduce the carbon footprint of 50 million users by 2030, aligning with the 1.5°C global warming limit.



Problem Statements	Idea/potential solution
<p>An estimated 90% of coral reefs are at risk of dying due to climate change by 2050</p>	<p>Climate disaster prediction technologies and adaptation strategies to mitigate the impact of sea-level rise, drought, and other climate-related disasters.</p>
<p>The annual carbon dioxide emissions reached a record high of 42.2 billion metric tons in 2021, necessitating urgent measures to mitigate climate change.</p>	<p>Developing net-zero products and technologies is imperative, as they can contribute to reducing global carbon emissions by an estimated 15 gigatons annually by 2030.</p>





CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES

Problem Statements	Idea/potential solution
Coastal eutrophication has doubled globally over the past 50 years, threatening marine biodiversity and fisheries.	Prevention technology or process for coastal eutrophication by cutting nitrogen and phosphorus runoff by 50% / ocean acidification / ocean warming in the next 5 years.
Around 80% of marine litter in India is composed of plastic.	Removal of plastic debris from oceans and protection of marine life from plastic pollution through devices, robots and machines
According to a study conducted by the Indian Ministry of Agriculture and Farmers Welfare, approximately 40% of the total marine fish catch in Indian waters is believed to be the result of illegal, unreported, and unregulated (IUU) fishing practices.	Unsustainable fishing practices (like overfishing) awareness by designing a digital toolkit to educate fishermen on sustainable practices and tracking to identify illegal fishing activities.
Blue Economy is crucial as the country possesses an extensive coastline of about 7,516 kilometers and an Exclusive Economic Zone (EEZ) spanning over 2.02 million square kilometers.	Marine technology research and development tools to increase the efficiency of underwater resource extraction by 30%, thereby contributing significantly to the blue economy.
By 2025, 90% of the world's coral reefs could be at risk due to climate change, overfishing, and pollution, impacting over 500 million people who rely on them for food, income, and coastal protection.	Conservation of oceans and their resources by developing strategies or tools or machineries
In India, the need for Marine Species Tracking is evident due to the significant decline in the population of the Olive Ridley sea turtles, an endangered species	Develop a solution to accurately track and trace over 2,000 marine species in global aquaculture, enhancing sustainability and biodiversity conservation.

Problem Statements	Idea/potential solution
<p>The country has a coastline of approximately 7,517 kilometers, making it vulnerable to various ocean-related challenges such as cyclones, sea level rise, and marine biodiversity loss.</p>	<p>Ocean data disaster tracking to monitor and predict oceanic disasters, given that over 80% of ocean pollution originates from land-based sources, impacting marine life and human health."</p>
<p>In India, maritime activities contribute significantly to air pollution, with ports and shipping accounting for approximately 18-20% of the country's total air pollution emissions.</p>	<p>Shipping ports pollution reduction, considering current emission levels of major pollutants such as sulfur dioxide (SO₂) and nitrogen oxides (NO_x)."</p>
<p>Over 8 million tons of plastic are dumped into the oceans annually, releasing harmful chemicals and microplastics.</p>	<p>Toxic chemicals pollutants in marine has to be addressed by identifying and developing innovative technologies for the efficient removal of pollutants.</p>



15 LIFE ON LAND



SUSTAINABLY MANAGE FORESTS, COMPAT DESERTIFICATION, HALT AND REVERSE LAND DEGRADATION, HALT BIODIVERSITY LOSS

Problem Statements

Despite covering 31% of the Earth's land area, forests are being lost at an alarming rate of 10 million hectares per year, threatening the circular economy by disrupting biodiversity, water cycles, and carbon storage.

India, with just 2.4% of the world's land area, hosts 8% of its biodiversity but has experienced a 2.6% decline in forest cover.

India faces a 1.9% annual increase in forest cover loss, highlighting the urgent need for sustainable forest management practices to preserve biodiversity and support livelihoods.

Global forest area declined by 178 million hectares between 1990 and 2020.

Over the last decade, the Red List Index, which measures the risk of extinction, has shown a 10% increase in species classified as 'critically endangered'.

In 2022, illegal wildlife trade was estimated to be a \$23 billion industry, emphasizing the urgent need for alternative foods and premium products.

Idea/potential solution

Design a circular economy model to promote forest preservation by reducing paper consumption by 30% in urban areas through the implementation of digital alternatives and sustainable packaging solutions.

Biodiversity preservation freshwater biodiversity, mountain biodiversity monitoring app that tracks and monitors providing real-time data on species diversity, population trends, and ecosystem health.

Sustainable forest management practices to preserve biodiversity, enhance carbon sequestration, and support livelihoods.

Increasing green cover faster ways, drones, capable of planting trees 10 times faster than manual methods, offer a viable solution.

Red list index check species and identify and implement strategic measures to preserve these species.

Promote Alternative foods and premium products instead of animal poaching and illicit trafficking. While also appealing to consumers seeking premium, sustainable options.



Problem Statements	Idea/potential solution
<p>Increasing global demand for food necessitates the use of advanced technologies and frameworks in agriculture, with a projected 70% surge in agricultural production.</p>	<p>Develop a technology-driven framework to optimize agricultural practices, reducing biodiversity loss.</p>
<p>Over 40% of the global economy is based on biological products and processes, yet biodiversity is declining faster than at any time in human history.</p>	<p>Businesses based on biodiversity by integrating biodiversity conservation into their operations and supply chains.</p>
<p>Soil health monitoring is crucial due to the fact that approximately 120 million hectares of agricultural land are experiencing varying degrees of degradation, impacting crop productivity and sustainability.</p>	<p>Soil health monitoring affordable devices to prevent further degradation and promote sustainable agriculture.</p>
<p>In a city with a population of 1.5 million, only 10% of the urban area is allocated to green spaces, falling short of the WHO recommendation of 9 square meters of green space per person.</p>	<p>Increasing urban green spaces by creation of urban parks and community gardens can help alleviate this issue.</p>
<p>The need for Wildlife Corridor Planning is underscored by the fact that over 300 wildlife species are currently endangered due to habitat fragmentation.</p>	<p>Wildlife corridors by developing a strategy to double the coverage of these corridors within the next decade.</p>
<p>Invasive species such as the Water Hyacinth (<i>Eichhornia crassipes</i>) in water bodies and Lantana (<i>Lantana camara</i>) in forests have rapidly spread, outcompeting native species and disrupting ecosystems.</p>	<p>Invasive species tracker to identify and monitor the spread of these species across different ecosystems.</p>



Problem Statements	Idea/potential solution
<p>According to a report by the Global Forest Watch, India lost approximately 63,000 hectares of tree cover in 2020 alone, with a notable portion attributed to illegal logging activities.</p>	<p>Illegal activity detection by analyzing a dataset of financial transactions to identify and suspect, using machine learning algorithms for detection.</p>
<p>According to a report by the Ministry of Tourism in 2020, there has been a noticeable shift in tourist preferences, with an increasing number of travelers seeking eco-friendly destinations.</p>	<p>Eco tourism sustainable model development and environment footprint reduction by at least 20% while ensuring economic growth."</p>
<p>India is the significant increase in the number of forest fires in recent years.</p>	<p>Forest fire prediction and management to optimize firefighting efforts and resource allocation.</p>
<p>With global deforestation leading to the loss of 10 billion trees annually and land degradation affecting over 3.2 billion people.</p>	<p>Afforestation and reversing land degradation technologies and tools with metric-driven analysis to assess the impact of afforestation and quantify the increase in forest cover and improvement in soil health over a specified time period.</p>





PROMOTE JUST, PEACEFUL AND INCLUSIVE SOCIETIES

Problem Statements

In a city with a population of 500,000, there were 150 reported homicides last year, 60% of which remained unsolved due to inadequate forensic technology.

In 2022, reports showed a 70% increase in social media-related blackmail cases, affecting over 15,000 individuals globally.

According to the National Crime Records Bureau (NCRB) data for 2020, there were over 105,000 cases of crimes against children reported, including offenses like kidnapping, sexual abuse, and trafficking.

Despite extensive awareness campaigns, 1 in 3 children worldwide still experience some form of physical or psychological violence before reaching adulthood.

In 2022, a survey revealed that 60% of respondents felt unsafe walking alone at night in their neighborhood, with a reported 45% increase in nighttime assaults compared to the previous year.

In 2020, the International Labor Organization estimated that 25 million individuals worldwide were victims of forced labor.

Idea/potential solution

Homicide tools and technologies to support finding the culprits by designing a solution to enhance the identification and apprehension of suspects in these cases.

Social media threat and blackmail monitoring by analyzing, identifying suspicious patterns, and providing real-time alerts when unusual activities or coercive language are detected.

Child monitoring tools to safekeep kidnapping or sexual abuse, offering a proactive solution for enhanced safety.

Physical and psychological violence prevention and awareness tools from young age to educate and empower by incorporating interactive tools and resources.

Safety apps or tools to walk in the night that utilizes real-time crime data and street lighting information to calculate the safest route for pedestrians at night.

Human trafficking detection monitoring. Develop a predictive analytics model to identify potential human trafficking hotspots by analyzing a dataset comprising demographic information, travel patterns, and law enforcement records.



Problem Statements	Idea/potential solution
<p>In a recent analysis, it was found that the average time taken to review and process legal cases manually is 500 hours per 100 cases.</p>	<p>Methods or computational tools to speed up sentences for cases in law by implementing advanced natural language processing techniques to expedite sentence analysis and summarization.</p>
<p>In 2019, global illegal financial flows were estimated at \$1.6 trillion, with national and international entities struggling to detect and mitigate these transfers effectively.</p>	<p>Illegal financial flow detection national and international by identifying transactions associated with money laundering, fraud, or other illicit activities.</p>
<p>In 2021, over 25% of citizens in emerging economies reported paying a bribe to access public services.</p>	<p>Bribe detection or forums to anonymously post about bribe paid at various govt institutions and tools to stop bribing in business and for individuals</p>
<p>Over 30% of children under the age of five worldwide do not have their births registered, hindering their access to essential services.</p>	<p>Public documents birth certificate/death certificate or information and forums to help people get these documents easily.</p>
<p>In 2022, over 200 journalists worldwide were kidnapped, and reports of human rights violations against media personnel increased by 30%, underscoring the urgent need for effective reduction tools.</p>	<p>Reduction tools for kidnapping, torture of journalists, media and any human rights violations, while also addressing broader human rights violations affecting media personnel.</p>
<p>Despite progress, over 45% of countries still lack independent human rights institutions, and a 2020 survey revealed that 60% of the global population is not fully aware of their fundamental human rights</p>	<p>Human rights awareness portals (chatbots) and creation of independent human rights institutions</p>
<p>The traditional court system often faces challenges in managing a large backlog of cases.</p>	<p>Digital courtroom through digital innovations can streamline processes, facilitate efficient case management, and reduce delays.</p>



Problem Statements

In India, corruption remains a pervasive challenge, with reports indicating that it hampers economic development and undermines public trust.

In a recent national election, 15% of votes were reported as not accurately counted due to system errors, raising concerns over the integrity of the election process.

Conventional border security methods face challenges in effectively monitoring expansive and diverse terrains, with a 30% increase in reported instances of undetected border breaches, as identified by border patrol agencies.

In a country where the government's annual budget is \$500 billion, only 25% of the revenue sources and spending allocations are transparently disclosed to the public, raising concerns over the effective monitoring and allocation of 75% of the budget.

In 2022, global philanthropic contributions towards developing countries reached \$200 billion, yet only 30% of these funds' allocation and impact are transparently reported.

In India, as of 2023, with consumer debt surpassing ₹43.5 lakh crore and over 30% of small businesses citing cash flow management as their biggest challenge.

Idea/potential solution

Corrupting detection tools data analytics using a dataset that includes 10,000 transactions with 15% flagged as suspicious based on irregular patterns in bidding, pricing, and supplier selection criteria.

Fair election system tools that can handle and authenticate voter data for millions of users, ensuring secure and accurate ballot counting with an error margin of less than 0.1%.

Defense and border security drones - based surveillance system capable of monitoring a 500-mile border area, ensuring less than 2% undetected intrusion rate with a continuous operation capability of 72 hours under diverse weather conditions.

Government budget funds and transparency tools to disclose real-time data on revenue generation and expenditures.

Mobilizing resources (Global philanthropy tracker) transparency for developing countries and showing their use with the impact and effective utilization of funds through quantifiable metrics.

Design an app or service to address debt management challenges for both individual consumers and small businesses.



REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

Problem Statements	Idea/potential solution
As of 2023, 37% of rural populations globally lack access to broadband services, significantly hindering their access to online education, telehealth, and economic opportunities.	Broadband services technologies and speed increase in internet.
Developing countries receive \$50 billion annually for environmental technologies and awareness programs, yet only 40% of the population understands how these funds are allocated and utilized.	Fund allocation for developing countries for environmental technologies and tools to make people aware of who the fund goes to and how it is utilised.
In 2023, only 20% of small and medium-sized enterprises (SMEs) engaged in direct exports, despite the fact that businesses that export typically see a 17% higher revenue growth compared to non-exporting businesses.	Export oriented businesses and promotion of such technologies. Design a solution to increase SME participation in global markets through the use of innovative technologies.
In 2022, the global GDP was estimated at \$94 trillion, but by the end of Q3 2023, international trade volumes decreased by 5%.	Develop a macroeconomic tracking model to predict and measure the impact on global GDP for 2024, incorporating trade volume changes and potential inflation rates.
Despite the announcement of over 2,000 sustainability policies globally in 2022, less than 30% have implemented tracking systems to measure progress.	Tools to track sustainable policy announcements and implementation and sustainable developments.
In India, PPPs are crucial for infrastructure development, as they bring together the resources and expertise of both the public and private sectors to address the challenges of funding and implementing large-scale projects.	Public-private partnership (PPP) model to facilitate the development of a marketplace that bridges the funding gaps and inefficiencies.



Problem Statements

In 2023, over 60% of developing countries lacked comprehensive national statistical legislation, hindering effective data governance.

A global collaboration platform experienced a 40% increase in user engagement but still faced a 25% drop-in user retention rates, signaling a critical need for improved user experience and engagement strategies.

Despite a global digital population of 4.95 billion people, only 10% of socially impactful tech initiatives have access to the data.

A survey revealed that 65% of small to medium enterprises struggle with finding compatible business partners due to the lack of efficient partnership mapping tools.

In 2022, only 15% of small businesses reported participating in cross-sector collaboration forums and platforms, yet those who did saw a 25% increase in innovation output compared to their peers.

Impact investors are struggling to efficiently allocate \$715 billion in capital towards sustainable projects due to a lack of streamlined project matching portals, hindering global progress towards the UN Sustainable Development Goals.

Idea/potential solution

National statistical legislation and plan and strengthening technological infrastructure is imperative to ensure reliable and up-to-date information, fostering evidence-based policy formulation and effective governance.

Global collaboration platform facilitates collaboration among organizations, governments, and individuals to share resources, expertise, and best practices for achieving sustainable development goals.

Data sharing for impact tech for good collaboration to create a secure and transparent system for sharing data among diverse stakeholders.

Partnership mapping tools can be justified by the growing complexity of business ecosystems and the increasing emphasis on collaborations and partnerships.

Cross sector collaboration forums and platforms to address issues like sustainable development, healthcare, and education for effective solutions.

Impact investors and project matching portals that analyzes and matches impact projects with investors based on key metrics, enhancing efficiency and increasing the positive societal and environmental impact.



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