

A LANDSCAPE REPORT ON

DEFENSE TECHNOLOGIES



SYNOPSIS

The global defense sector is at a critical juncture, with technologies like AI, robotics, blockchain, IoT, and quantum computing reshaping security strategies. For India, modernizing defense capabilities is urgent to counter evolving threats. This report analyzes emerging technologies such as unmanned systems, hypersonic weapons, advanced materials, and AI in defense, highlighting their potential to enhance operational efficiency and national security. It also explores challenges in implementation and the need for indigenous innovation.

The insights are drawn from the Tech Talk event, “Emerging Technologies Shaping Modern Defence,” organized by IP Bazaar and RIPA, on January 24, 2025, in New Delhi. The event featured experts like Cmde. Manish Tripathi (Retd), Ex Deputy Asst. Chief of Integrated Defence Staff, Indian Navy; Mr. Sumit Chauhan, CEO, Datopic Technologies; Major General (Dr.) Ashok Kumar (Retd), VSM, Director General, Centre for Joint Warfare Studies (CENJOWS); and Prof. Prabhat Ranjan, Vice Chancellor, D Y Patil International University, AVM Rajiva Ranjan VM (Retd), Ex Asst. Chief of Integrated Defence Staff, Indian Air Force; Cmde. (Dr.) Arun Pratap Golaya (Retd), VSM, Indian Navy; Brigadier Rajeev Ohri (Retd), VSM, Indian Army; and Mr. Vivek Venugopal, Executive Director, PwC, who discussed strategic collaborations, supply chain security, and the role of academia. Key topics included AI-powered systems, autonomous robotics, and blockchain for secure communication, emphasizing the need for a future-proof defense infrastructure.

The report concludes with a Tech Zone section, showcasing patented technologies available for licensing, offering opportunities for collaboration. It underscores the importance of academia-industry partnerships, government involvement, and R&D to address challenges like cybersecurity and skilled manpower. This report serves as a roadmap for stakeholders to leverage emerging technologies, ensuring India’s defense readiness in a complex global landscape.

Table Of Contents

01 Tech Talk

02 Discussion highlights

03 Suggestion for Academia

04 Industry challenges requiring R&D

05 Delegates of event

06 Patent landscape report on “Emerging Technologies in Def-Tech”

- Underwater and Maritime Technologies
- Robotics and Swarm Technologies
- Advanced Armored Vehicles
- Soldier Systems and Wearable Technologies
- Small Arms and Precision Munitions
- Mine Countermeasures and Explosive Detection
- Logistics and Supply Chain Technologies
- Advanced Medical Support Systems
- Camouflage and Stealth Technologies
- Blockchain Technology
- Directed Energy Weapons
- Unmanned and Autonomous System
- Artificial Intelligence (AI) in Defense
- Cybersecurity and Quantum Computing
- Hypersonic Technology
- Advanced Materials and Manufacturing
- Smart Connectivity and Internet of Military Things

07 Tech Zone

- Patented Technologies available for licensing



Reaching beyond...

Beyond the usual, beyond boundaries, beyond thought.

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TECH TALK

The **Defence** sector worldwide is at a critical juncture, where technological advancements are reshaping how nations approach security. For India, the need to modernize its defence capabilities has become increasingly urgent as global threats evolve. Advanced technologies like artificial intelligence (AI), robotics, blockchain, the Internet of Things (IoT), and quantum computing are not only transforming how defence forces operate but also influencing global military dynamics. As India aspires to become a technological powerhouse, addressing the challenges posed by these rapidly evolving technologies and adapting them for national security is paramount.

IP Bazaar, in collaboration with Reinforce Intellectual Property Association (RIPA) and NEBULA, organized an impactful roundtable discussion titled “Emerging Technologies Shaping Modern Defence” on January 24, 2025, at the National Productivity Council, Lodhi Road, New Delhi. The roundtable brought together experts from various fields, including industry leaders, policymakers, defence officials, and academia, to discuss how India can harness the transformative power of emerging technologies to enhance its defence capabilities.

The Growing Role of Technology in Defence as geopolitical tensions rise and security challenges become more complex, India is looking to modernize its defence systems through technology-driven solutions. The introduction of AI-powered systems, autonomous robotics, blockchain for secure communication, and IoT for enhanced surveillance and real-time data collection is vital to ensuring India's military is prepared to respond to evolving threats. These advancements are not only focused on improving existing systems but are essential in building a future-proof defence infrastructure capable of withstanding cyber threats, geopolitical conflicts, and technological warfare.



Naveen Coomar moderated the Panel discussions with distinguished panellists with Panel I titled Strategy Field, the panellists included: Cmde. Manish Tripathi (Retd), Ex Deputy Asst. Chief of Integrated Defence Staff, Indian Navy; Sumit Chauhan, CEO, Datopic Technologies; Major General (Dr) Ashok Kumar (Retd), VSM, Director General, Centre for Joint Warfare Studies (CENJOWS); and Prof. Prabhat Ranjan, Vice Chancellor, D Y Patil International University. For Panel II titled Battlefield, the panellists included: AVM Rajiva Ranjan (Retd), Ex Asst. Chief of Integrated Defence Staff, Indian Air Force; Cmde. Arun Pratap Golaya (Retd), VSM, Indian Navy; Brigadier Rajeev Ohri (Retd), VSM, Indian Army; and Vivek Venugopal, Executive Director, PwC.

Prof. Prabath Ranjan's highlighted on India's challenges & opportunities such as : Heavy reliance on foreign defense technology, gaps in R&D and organizational inefficiencies to innovate. He also suggested that we should take into consideration ethical & policy frameworks such as regulating autonomous weapons to prevent conflicts, ensuring the ethical use of dual-use technologies like quantum computing, addressing job displacement driven by automation, and strengthening global security frameworks.

The discussion concluded with a shared commitment to accelerate efforts to modernize India's defence infrastructure through innovation and strategic collaboration, ensuring the country's security and resilience in the face of evolving global dynamics. An innovative presentations related to the Def tech domain were also presented during the event by Mr. Dhruv Patel, Managing Director of Shivay Fire & Life Safety (India) Pvt. Ltd, & Founder of VFF India and Polaris Solutions Limited, a Def tech company from Israel. Hence, together, through innovation, collaboration, and strategic planning, India can significantly enhance its defence capabilities and ensure national security in an evolving global landscape.



DISCUSSION HIGHLIGHTS

Role of Emerging Technologies: Emerging technologies such as AI, robotics, blockchain, IoT, cybersecurity, and quantum technologies are essential to transforming defense capabilities and ensuring national security.

Challenges in Implementation: Despite the availability of advanced technologies, effective execution remains a challenge due to the lack of skilled manpower and the need for robust infrastructure.

Strategic Collaborations: Strong partnerships between industry, academia, and regulatory bodies are crucial for developing innovative defense solutions tailored to Indian unique challenges.

Focus on Indigenous Development: Emphasizing the importance of homegrown technological solutions to reduce dependency on foreign technology and enhance self-reliance.

Government Involvement: Continuous communication and collaboration between stakeholders and governmental departments are essential to address policy and implementation challenges.

Supply Chain Security: Ensuring a robust and secure supply chain is vital to safeguarding defense technologies and maintaining vulnerabilities.

Industry-Academia Partnerships: Encouraging deeper collaboration between industry and academia to drive research, development, and innovation in the defense sector.

Role of Academia: Academia should focus on developing cutting-edge technologies, fostering innovation through dedicated research programs, and enhancing collaboration with industry partners.

Continuous Awareness: Raising awareness about the importance of advanced defense technologies and their role in national security among the general public.



SUGGESTIONS FOR ACADEMIA

The industry raised the demand for R&D in the defence technology domain and highlighted the following problem areas in which they wish to collaborate with the academic community:

- Academic institutions should focus on developing innovative technologies that enhance defence capabilities and infrastructure. Technologies such as AI, robotics, blockchain, IoT, and quantum computing can be leveraged to create advanced defence systems and solutions.
- Academic institutions should design user-friendly and effective defence systems that can be easily integrated into existing defence infrastructure. This can raise awareness about the importance of advanced technologies and create a stronger defence against emerging threats.
- Research how to build secure, transparent, and resilient defence supply chains that prevent vulnerabilities and ensure the integrity of defence systems. This involves enhancing traceability and accountability at every point in the supply chain.
- Academic institutions can contribute to the legal and regulatory framework by conducting research on existing defence policies, identifying gaps, and suggesting new policies that address the modern challenges of defence technology.
- Academic institutions should create collaborative research platforms where academia, industry, and government work together to tackle defence technology challenges from multiple perspectives, pooling expertise to create more comprehensive solutions.
- Academic institutions can develop AI-based models that help predict and mitigate defence risks by analyzing patterns and data across various domains. These models can also help prevent potential threats by identifying vulnerabilities.
- Develop academic programs and curricula that focus on teaching students the technologies and strategies needed to enhance defence capabilities and ensure national security, preparing the next generation of professionals for this critical sector.



INDUSTRY CHALLENGES REQUIRING R&D

United Indigenous Technology Development

There is a significant reliance on imported technologies, making it imperative to develop home-grown solutions tailored to India's unique defense needs.

Advanced Cybersecurity Measures

As cyber threats continue to evolve, there is an urgent need for advanced cybersecurity solutions that can protect defense infrastructure and sensitive data from sophisticated attacks.

Integration of AI and Robotics

The integration of artificial intelligence (AI) robotics into defense operations presents both opportunities and challenges. R&D is needed to develop AI-powered systems that can enhance operational efficiency and decision-making.

Development of Quantum Technologies

Quantum computing and communication technologies hold the potential to revolutionize defense systems. However, substantial R&D efforts are required for developing and implementing these technologies effectively.

Supply Chain Security

Ensuring a robust and secure supply chain is critical to mitigate any defense technology and manufacturing vulnerabilities. This involves developing indigenous capabilities that enhance reliability and accountability.

Infrastructure for Advanced Technologies

Building the necessary infrastructure to support the development and integration of advanced technologies, such as AI and robotics, is essential for modernizing defense capabilities.

United Indigenous Technology Development

There is a significant reliance on imported technologies, making it imperative to develop home-grown solutions tailored to India's unique defense needs.

Talent Development

There is a pressing need to address the shortage of skilled manpower in the defense technology sector. R&D efforts should focus on developing training programs and initiatives to build a talent workforce capable of handling advanced technologies.



DELEGATES OF THE EVENT

1. Commodore (Dr) R K Rana, IIT Delhi
2. Dhruv Patel, Shivay Fire & Life Safety India
3. Sharad J Taank, Kridi Enterprises Pvt Ltd
4. Aryan Garg, Aska Equipment Pvt. Ltd.
5. Arun Agarwal, Track Pack Innovations Pvt Ltd
6. Chander S Jeena, Reconnaissance International Ltd
7. Col Prem Rajpurohit, Veteran, Thar Mizu LLP
8. Safaa Mehboob, Livingstone institute of future technologies
9. Rakesh Kumar, HOPE
10. Saumya Rawat, Johnnette technologies Pvt Ltd
11. Mukesh Malik, G K Consulting
12. Col. Virender Kumar, Ex Indian Army
13. Priyank Garg, IAN Alpha Fund
14. Sanjeev Singh, PR Mantra
15. Aishwarya Parikh, Strat News Global
16. Pravash Dey, NEBULA Accelerator
17. Vikas Kumar, Times of India
18. Sanket Rastogi, Times of India
19. Vimal Kumar Varun, DSIR
20. Rishabh Kaushik, Indyhaat
21. Dr. Shashwat Sharad, Exom Biopharma
22. Dr. Pankaj Kumar, NLU Assam
23. Dr. K Prabhu, Sree Balaji Medical
24. Praveen Sasidharan Nair, Deloitte

Organizing Team

Naveen Coomar

Keshav Kr. Jha

Vishnu Saini

Gaurav Tiwari

Lalit Ambastha

Sana Saifi

Ankit Kumar

Rahul Gupta

Shruthi Kaushik

Rahila Khan

Sidhatri Gauba

Barti Kumar

Dr. Medha Kaushik

Sarfaraz Afzal

Prashant K Haldar

Jyoti Bisht





TECH TALK™

(A Roundtable Discussion)



EMERGING TECHNOLOGIES SHAPING MODERN DEFENCE

Friday, 24th January 2025
New Delhi

Industry Partners



Association Partner



Knowledge Partner



Academia Partners



D Y PATIL
INTERNATIONAL
UNIVERSITY
AKURDI PUNE



Legacy Partner



COMMON MYTHS

Whether the recipes are available easily/free of cost?

If free whether this is ethical to copy?

Can we make indigenous version without taking approval?

If recipes are already available, why start from scratch?

Can we file patent application for existing technology?

Is it right to say a **"Problem Area"** which already developed and patented in another jurisdiction?



iDEX Innovations for
Defence Excellence
PM Awardee

INNOVATIONS FOR DEFENCE EXCELLENCE (iDEX)

DEFENCE INNOVATION ORGANISATION (DIO)

LAUNCHES

ADITI 3.0

Search



Timeline

03 December, 2024 17:00 PM



Detailed Description of
Challenges

[Click here to download pdf](#)



Grants Upto

Up to Rs.25 crore

Challenge

Challenge #1

Design and Development of High-Power



CHALLENGE

Design and Development of High-Power Microwave Weapon System capable of neutralizing swarm of Autonomous Aerial Vehicles (AAVs), Autonomous Combat Aerial Vehicles (ACAVs) and Autonomous Surface Vehicles (ASVs) at range of ≥ 5 km.

The High-Power Microwave weapon system should enable scalable power output, without significant change in architecture, thereby ensuring engagement at varying ranges.

HACKATHON

MARATHON

IDEX
CHALLENGE

OUTREACH

LENS.ORG English - EN Our Apps Pricing About Guest Work Area Register / Sign in Support

High-Power Microwave Weapon System ? Search

Patent Search Results [Hide Query Details](#) [Edit Search](#) [Search School](#)

Patents (7,888) = High-Power AND (Microwave AND (Weapon AND System))

Filters: No filters applied

Patent Records	Simple Families	Extended Families	Cites Patents	Cited By Patents
7,888	3,255	2,651	6,495	5,950

Patents Explore Citations [Table](#) [List](#) [Analysis](#)

[Expand](#) [Customise List](#) [Save as Query](#) [Share](#) [Export](#) [Family Options](#) [Hide Analysis](#) [Sort by Relevance](#)

High power microwave weapon system

US 10295313 B2 Granted Patent Family: 3s / 4ex Family Jurisdictions: US
Legal Status: Active

Applicants

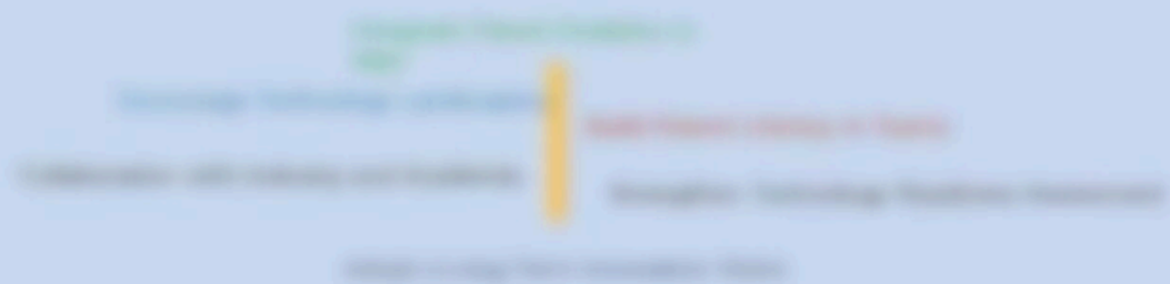
MYTH

Indigenous innovation can be achieved by developing cost-effective products without engaging existing patents.

REALITY

The indigenous innovation requires thorough patent analysis to ensure originality, avoid infringement, and create an adequately valuable cost-effective solution.

BETTER APPROACH





PATENT LANDSCAPE REPORT ON

EMERGING TECHNOLOGIES IN DEF-TECH

Data Source: Questel Orbit
Date Range: Since 01/01/2020



UNDERWATER AND MARITIME TECHNOLOGIES

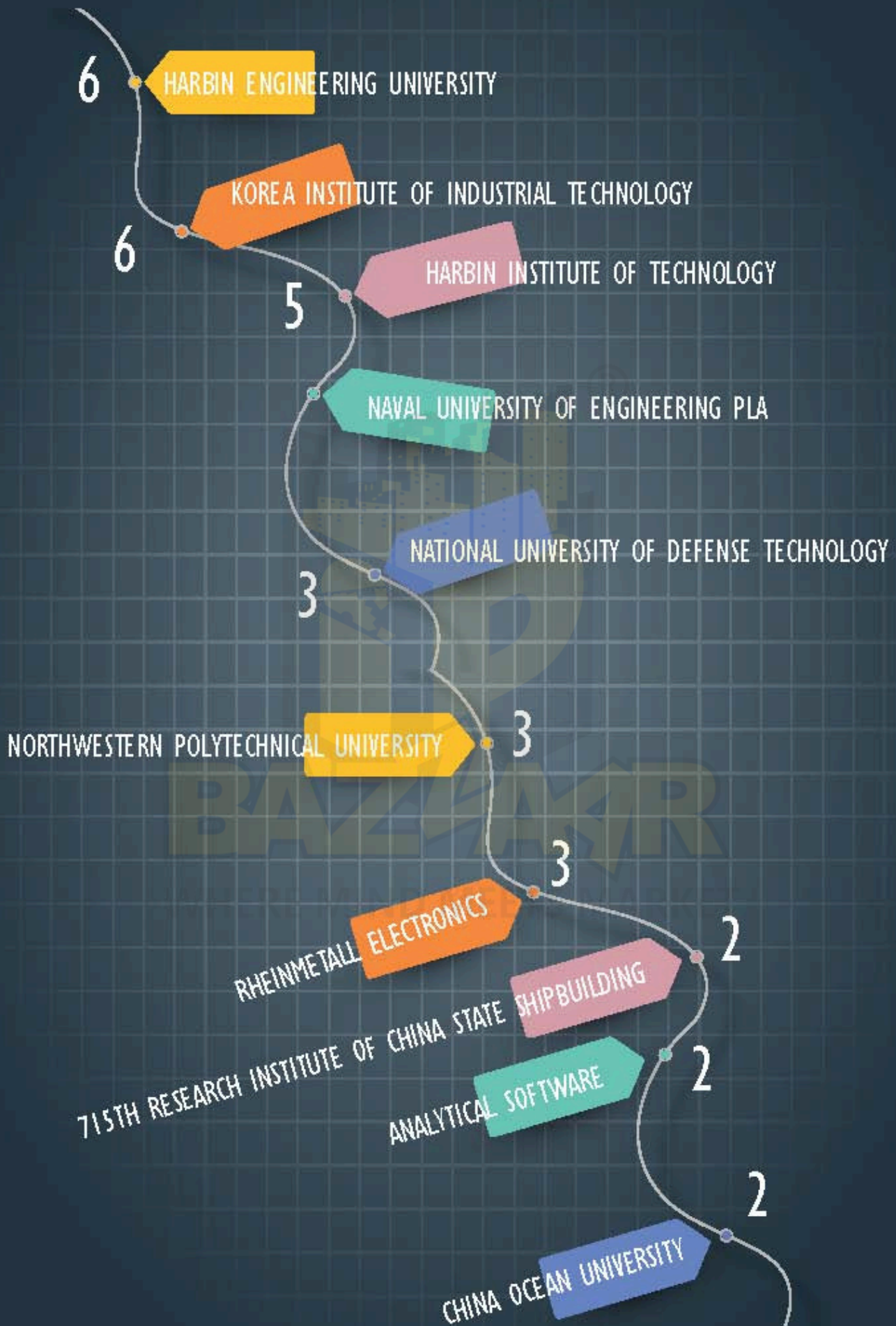
Underwater and Maritime Technologies are crucial in modern defense strategies, enhancing security in oceans and waterways. **Submarine stealth** advancements, such as soundproof coatings and ultra-quiet engines, make submarines almost invisible to detection systems, providing a significant edge in underwater missions. **Autonomous underwater systems**, including drones and robotic vehicles, are revolutionizing tasks like surveillance, reconnaissance, and mine detection, reducing risks to human operators. Meanwhile, **advanced sonar technologies** enable precise detection and tracking of underwater objects and threats, ensuring improved situational awareness and quicker response times. These technologies not only strengthen naval capabilities but also play a crucial role in protecting trade routes and coastal regions. By combining innovation and automation, underwater and maritime technologies are shaping the future of global defense, ensuring safety and preparedness in an increasingly complex security landscape.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

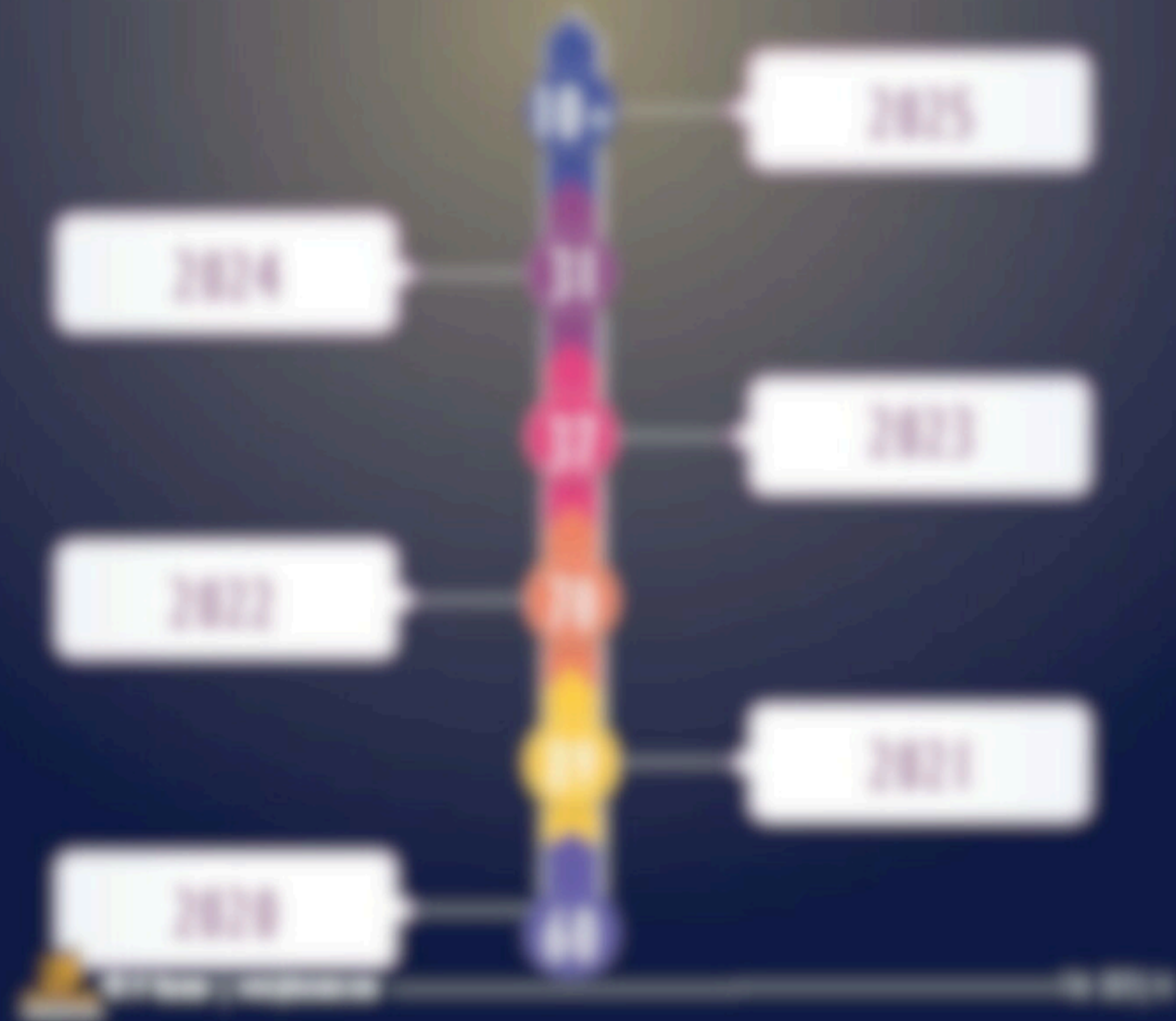
Patent Application	Priority Date	Title	Assignee
IN202441035054	2024-05-03	Detection Of Underwater Mines From Sensor Data using IoT,ML And Web Technology	Vidyavardhaka College of Engineering
IN202441063668	2024-08-23	Homeostatic Flying Hovercraft: Efficient And Durable Solutions for Military and Rescue Mission	Sri Sairam Engineering College
CN118520627	2023-02-17	Underwater Combat Effectiveness Evaluation Method Based on Complex Sound Propagation Environment	Harbin University of Science & Technology
DE102023002571	2023-06-24	Apparatus And Method for Controlling Autonomous Underwater Vehides	Bundesrepublik Deutschland Bundesamt Fuer Ausruestung Informationstechnik & Nutzung Der Bundeswehr
CN115598648	2022-11-01	Sonar Defense Alarm System Suitable for Seabed Bottom-Supported Detection Equipment	Beijing Startest Tec

ROBOTICS AND SWARM TECHNOLOGIES

Robotic and Swarm Technologies are revolutionizing modern defense by enabling faster, smarter, and more efficient operations. **Coordinated autonomous operations** allow swarms of drones or robots to work together seamlessly, sharing information and executing complex missions. The simplicity of each individual is not the key. **Logistics** is being revolutionized as robotic systems and drone swarms streamline supply delivery, medical evacuations, and equipment transport, even in hostile or remote areas. **In combat roles**, swarms of robots and drones can monitor threats, perform precision strikes, or provide real-time intelligence with increasing rates to human soldiers. These advancements are not only enhancing operational efficiency but also reducing logistical burdens, offering unprecedented levels of adaptability and effectiveness in modern warfare. By integrating robotic and swarm technologies, defense systems are becoming smarter, faster, and more responsive to the challenges of the future.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Inventor
202210100000	2021-11-20	Method for Generating Images with the Ability of Image Feature Enhancement	Shanghai Institute of Intelligent Science and Technology
202210100001	2021-11-20	Image Feature Enhancement Method	Shanghai Institute of Intelligent Science and Technology
202210100002	2021-11-20	High-Fidelity Image Feature Extraction for Image Feature Enhancement	Shanghai Institute of Intelligent Science and Technology
202210100003	2021-11-20	Image Feature Enhancement Method Based on Feature Image Extraction	Shanghai Institute of Intelligent Science and Technology
202210100004	2021-11-20	Image Feature Enhancement Method	Shanghai Institute of Intelligent Science and Technology

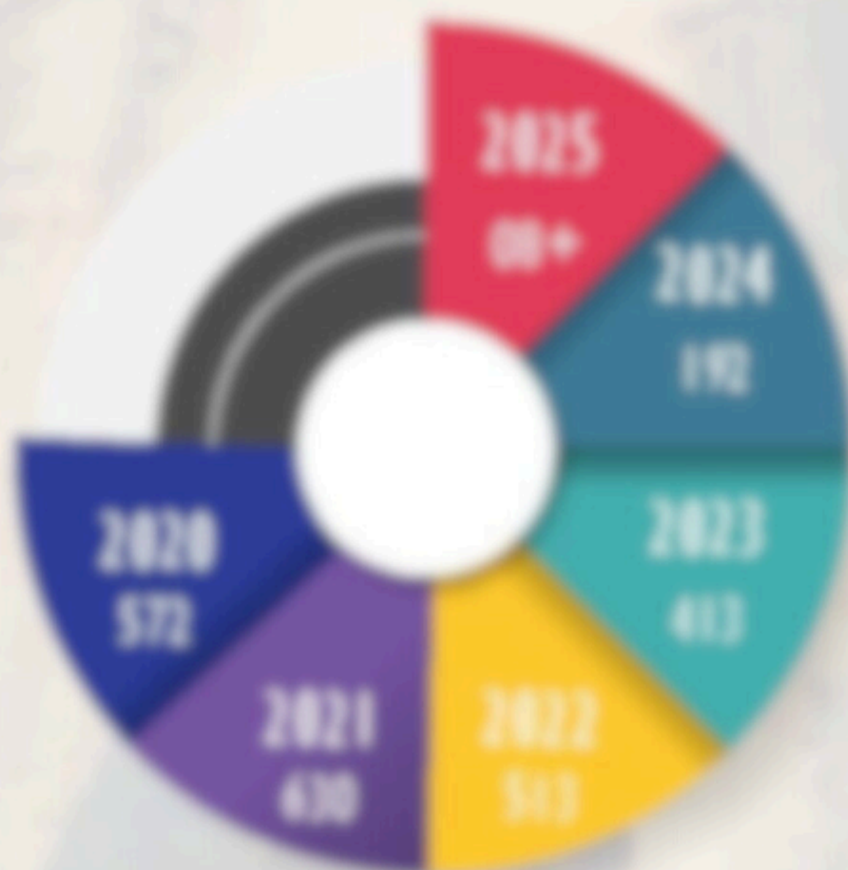


ADVANCED ARMORED VEHICLES

Advanced Armored Vehicles are redefining modern warfare with cutting-edge technology and superior protection. Tanks now feature next-generation composite armor and advanced firepower, making them as dominant as the battlefield with enhanced durability and precision. Infantry Fighting Vehicles (IFVs) combine mobility and firepower, providing infantry troops with robust support while engaging in combat. They are equipped with advanced sensors and weapons, ensuring effectiveness in diverse scenarios. Armored Personnel Carriers (APCs) focus on troop transport, offering next-generation armor and active protection systems to shield soldiers from explosive threats and attacks. Active Protection Systems (APS) are vital in these vehicles, designed to detect and neutralize incoming projectiles like rockets or anti-tank missiles. These systems significantly enhance vehicle survivability. Together, these vehicles bring increased mobility, protection, and firepower to modern militaries, ensuring dominance in ever-evolving combat scenarios. Their integration into defense strategies represents a leap forward in ground-based operations.

PATENT STATISTICS

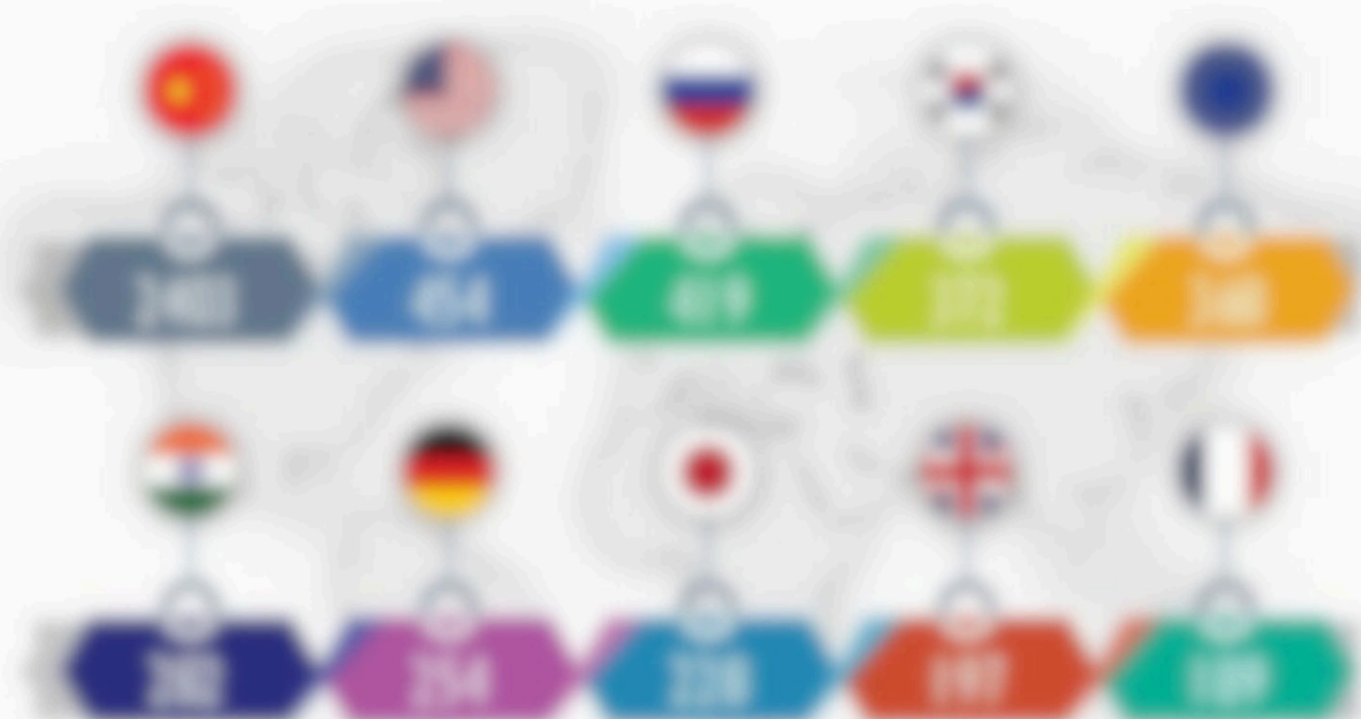
WORLDWIDE PATENT FILING TIME-LINE



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PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
20170000000	2017-01-01	Linear Motor	East Europe European Patent
20170000000	2017-01-01	System Method for Managing an Array of Linear Motors Under Load	EU Intellectual
20170000000	2017-01-01	A System Method for Managing an Array of Linear Motors Under Load	EU Intellectual
20170000000	2017-01-01	Linear Motor System of the Invention for Linear Motors Under Load	European Patent
20170000000	2017-01-01	Linear Motor System of the Invention for Linear Motors Under Load	European Patent



SOLDIER SYSTEMS AND WEARABLE TECHNOLOGIES

Soldier and Wearable Technologies are revolutionizing the way soldiers operate, enhancing performance, protection, and communication. **Smart helmets** are equipped with advanced sensors, tracking displays, and communication systems, providing soldiers with real-time information and improving situational awareness. **Exoskeletons** are wearable suits that amplify the soldier's strength and endurance, reducing fatigue and allowing the heavier load to be carried with ease. **Body armor** has advanced significantly, with lightweight, yet highly flexible materials offering superior protection from bullets, shrapnel, and explosives, while maintaining mobility and cooling. **Integrated communication systems** enable seamless interaction between soldiers, commanders, and support units, ensuring critical information and force dissemination in the battlefield. These wearable technologies are revolutionizing the soldier into a more capable and efficient force, enhancing both individual performance and overall mission success.

PATENT STATISTICS

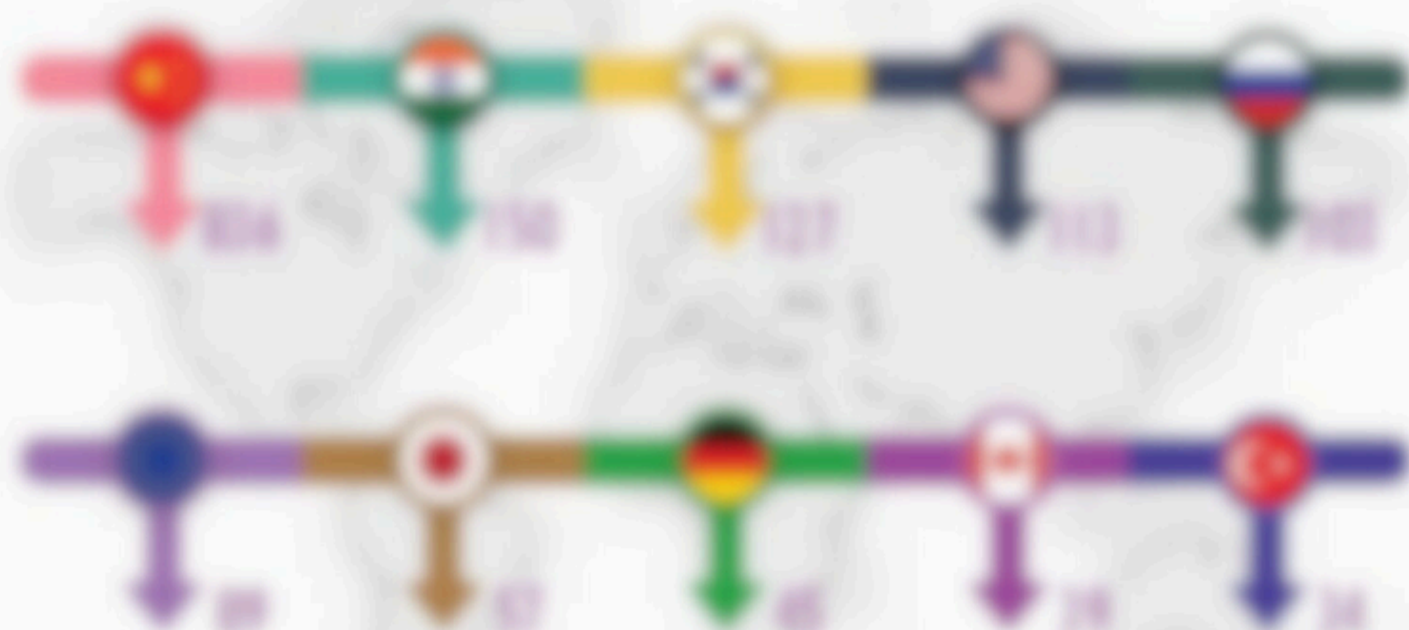
WORLDWIDE PATENT FILING TIME-LINE



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PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
2019-01-01	2019-01-01	System and method for Multi-Platform, Personalized Content Recommendation	Europe, Japan, Korea, Taiwan
2019-01-01	2019-01-01	System and method for Multi-Platform, Personalized Content Recommendation	Europe, Japan, Korea, Taiwan
2019-01-01	2019-01-01	System and method for Multi-Platform, Personalized Content Recommendation	Europe, Japan, Korea, Taiwan
2019-01-01	2019-01-01	System and method for Multi-Platform, Personalized Content Recommendation	Europe, Japan, Korea, Taiwan
2019-01-01	2019-01-01	System and method for Multi-Platform, Personalized Content Recommendation	Europe, Japan, Korea, Taiwan

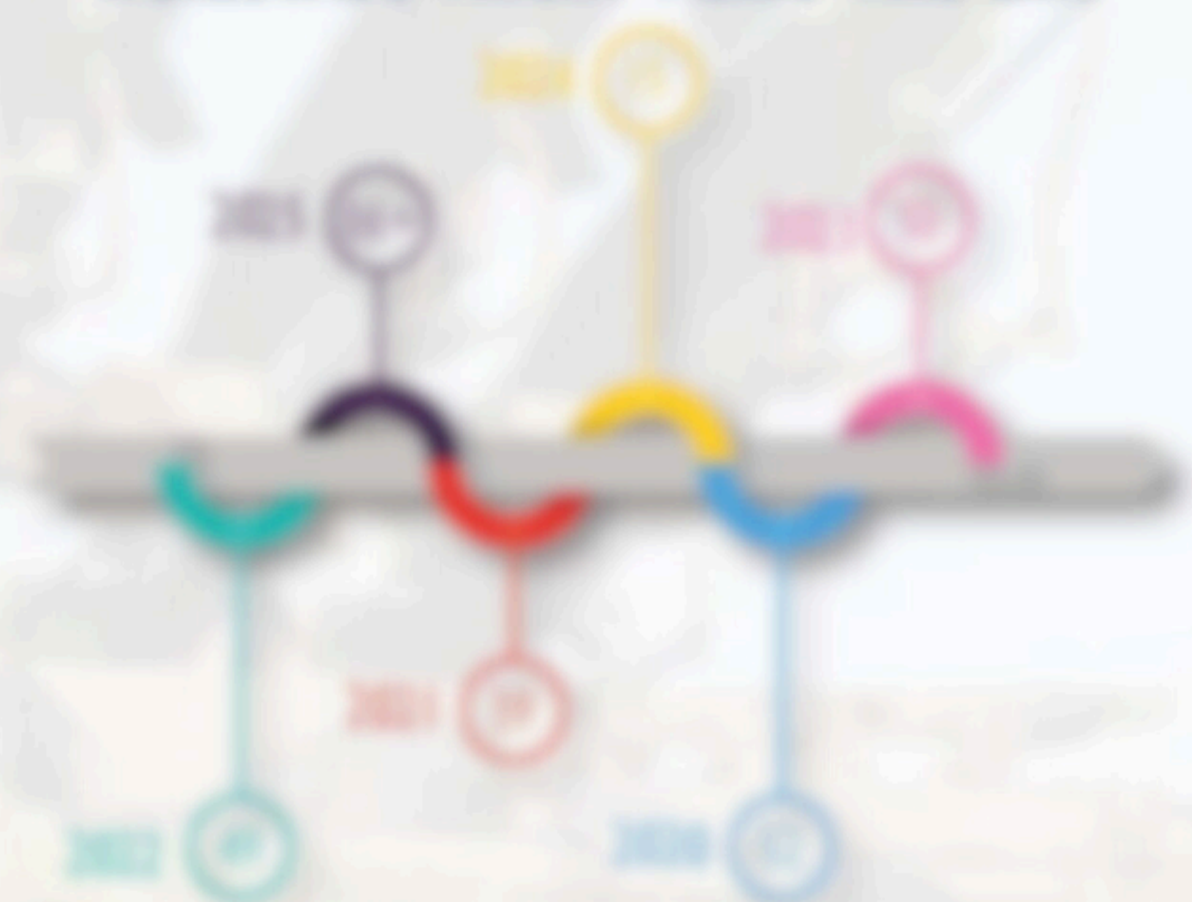


SMALL ARMS AND PRECISION MUNITIONS

Small Arms and Precision Munitions are enhancing the effectiveness of modern ground forces, providing superior firepower and creating **small cells**, including assault cells and sniper cells, that contend with improved capabilities, accuracy, and adaptability, allowing soldiers to engage targets with greater precision in various combat scenarios. **Infantry precision** offers a leap in explosive capabilities, with smart targeting systems that enable more accurate impacts, even against moving or well-protected targets. **Portable assault systems** with precision targeting capabilities allow soldiers with a rifle an increased mobility, stealth, and other high-value targets from a distance, with advanced guidance systems ensuring proper accuracy. These innovations in small arms and munitions allow soldiers to engage targets more effectively, making modern combat more precise and strategic. Together, they enhance operational success and increase soldier safety, providing ground forces with powerful tools for a variety of battlefield scenarios.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
US-2010/0100000	2009-01-01	System for detecting and identifying threats to network security	Region of International Copyright
US-2010/0100000	2009-01-01	System for detecting and identifying threats to network security	Region of International Copyright
US-2010/0100000	2009-01-01	System for detecting and identifying threats to network security	Region of International Copyright
US-2010/0100000	2009-01-01	System for detecting and identifying threats to network security	Region of International Copyright
US-2010/0100000	2009-01-01	System for detecting and identifying threats to network security	Region of International Copyright



MINE COUNTERMEASURES AND EXPLOSIVE DETECTION

New Countermeasures and Explosive Detection technologies are crucial for protecting people in dangerous areas. **Ground Penetrating Radar (GPR)** helps find mines and hidden explosives by sending signals into the ground and detecting objects that reflect them. **Threat Detection** helps find dangerous objects before they can harm people. **Threat ID** (Explosive Detection Equipment) uses sensors designed to detect threats and identifies explosives without putting people in harm's way. These sensors get signals in strong bursts from a distance, helping soldiers and civilians with **Threat ID** get alerted to threat dangers. **Threat ID** is explosive in the air, detecting threats in **Threat ID** for remote sensing in chemical weapons. Together, these technologies make it possible to detect and neutralize threats more safely, reducing the risk of injury and saving lives in areas where explosives are a constant threat.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
US-2008/0100000	2007-12-10	System and Method for Managing Data Flow in a Network and Application of System and Method to Manage a Network Data Flow	Asia-Pacific
US-2008/0100000	2007-12-10	System and Method for Managing Data Flow in a Network and Application of System and Method to Manage a Network Data Flow	Europe
US-2008/0100000	2007-12-10	System and Method for Managing Data Flow in a Network and Application of System and Method to Manage a Network Data Flow	Europe
US-2008/0100000	2007-12-10	System and Method for Managing Data Flow in a Network and Application of System and Method to Manage a Network Data Flow	Europe
US-2008/0100000	2007-12-10	System and Method for Managing Data Flow in a Network and Application of System and Method to Manage a Network Data Flow	Europe



LOGISTICS AND SUPPLY CHAIN TECHNOLOGIES

Logistics and Supply Chain Technologies are revolutionizing the way military forces manage resources and ensure readiness. Autonomous supply vehicles are used to transport supplies, fuel or food, ammunition, and equipment, without the need for human drivers. These vehicles can navigate difficult terrain, delivering goods to troops in remote locations, reducing the risk to personnel. 3D printing of spare parts allows for on-demand production of critical components in the field. This technology reduces the need to carry large inventories, as parts can be printed directly at the point of use, saving time and resources. Mobile repair centers are equipped with tools and equipment to fix damaged vehicles, equipment, or machinery on-site. These centers help maintain readiness and keep military operations running smoothly, even in the most challenging environments. Together, these technologies improve efficiency, speed, and flexibility in military logistics and supply chain management.

PATENT STATISTICS

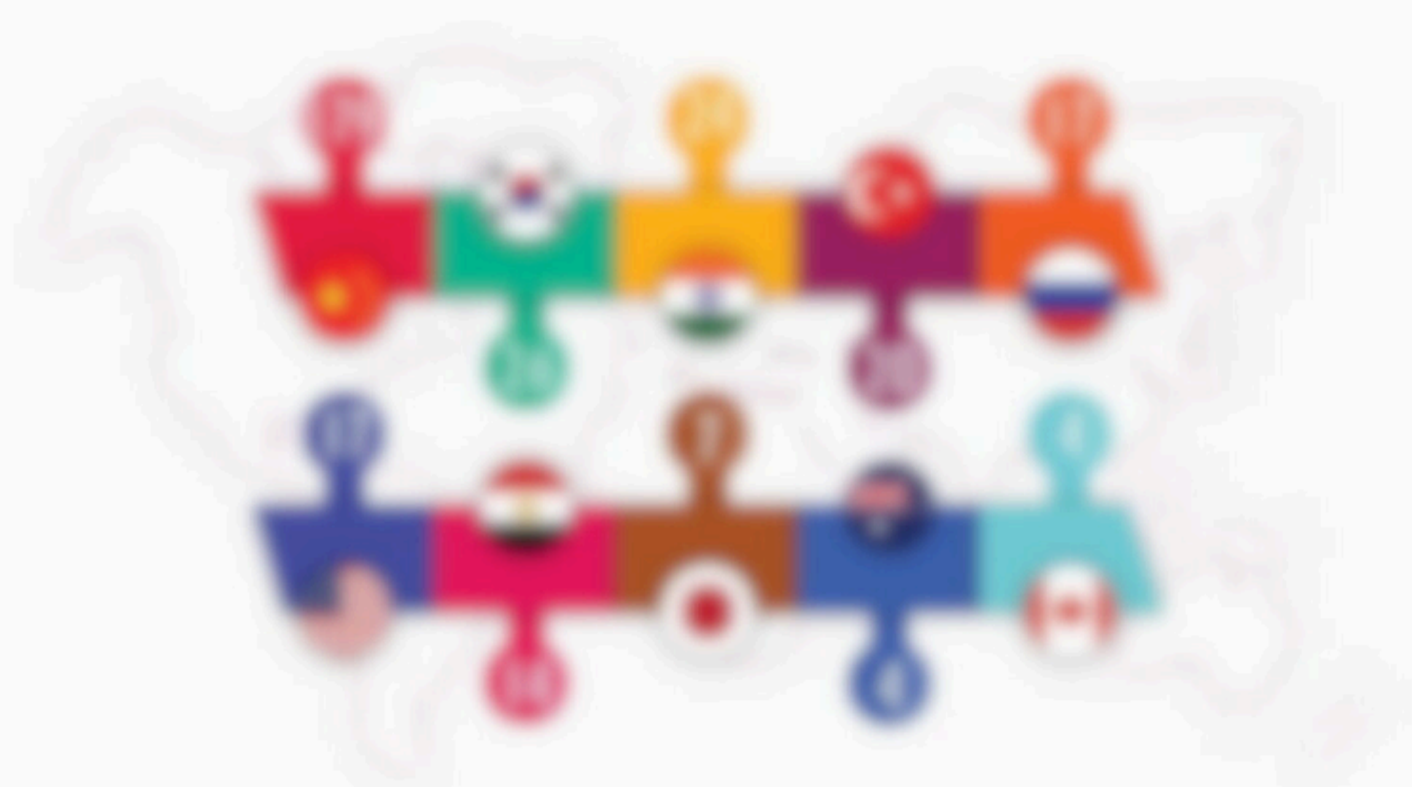
WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
201901000000000000	2019-01-01	Method for increasing the efficiency of a system for data storage	Region 1
201901000000000000	2019-01-01	System for data storage and retrieval	Region 2
201901000000000000	2019-01-01	Method for data storage and retrieval in a distributed system	Region 3
201901000000000000	2019-01-01	System for data storage and retrieval in a distributed system	Region 4
201901000000000000	2019-01-01	Method for data storage and retrieval in a distributed system	Region 5



ADVANCED MEDICAL SUPPORT SYSTEMS

Advanced Medical Support Systems are enhancing care for patients on the battlefield, improving both diagnosis and treatment. **Portable diagnostic tools** allow medical or specialty teams to operate in the field, providing essential information for immediate treatment or evacuation decisions. These tools include handheld devices for imaging, blood testing, and vital signs monitoring. **Automated medical evacuation systems** are designed to quickly transport injured personnel to safety without the need for human involvement. Drones or robotic vehicles are often used to carry injured patients from the battlefield to medical facilities, delivering supplies, care and reducing the risk to medical staff. **Portable health monitors** track patients' vital signs, such as heart rate, temperature, and oxygen levels, providing real-time data to medical and command centers. These devices help identify health issues early, ensuring faster intervention. Together, these technologies improve survival rates and reduce the impact of injuries in conflict zones.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



APPLICANT IS CURRENT

APPLY CURRENT

APPLICANT HAS NO RECOMMENDATION LETTERS

APPLY CURRENT OF CURRENTING FOR

APPLY 1 CURRENTING WITH AN OTHER CURRENTING

APPLY CURRENTING

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APPLY CURRENTING OF THE CURRENTING



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Inventor
2019-01-01	2019-01-01	Method, Apparatus, System and Computer Program for	Microsoft Corporation
2019-01-01	2019-01-01	System and Method for Managing and Distribution of	Google LLC
2019-01-01	2019-01-01	Method, Apparatus, System and Computer Program for	Microsoft Corporation
2019-01-01	2019-01-01	Method, Apparatus, System and Computer Program for	Microsoft Corporation
2019-01-01	2019-01-01	Method, Apparatus, System and Computer Program for	Microsoft Corporation



CAMOUFLAGE AND STEALTH TECHNOLOGIES

Camouflage and stealth technologies play a key role in modern military operations, helping forces remain undetected in hostile environments. Modern camouflage systems change the color and pattern of a soldier's gear or vehicle to match the surrounding environment, making them hard to spot effectively and reducing visibility to enemies. **Stealth coatings** are applied to vehicles, aircraft, and vessels to absorb radar signals and reduce detection by radar systems, making them less visible to enemy forces. These coatings help military assets avoid detection while performing high-risk missions. Additionally, **active camouflage technologies** are used to reduce the signals emitted by vehicles, aircraft, and equipment, preventing enemies from detecting them through visual or sensor-based methods. By combining both visual and radar systems, these technologies enhance the ability to carry out operations covertly and effectively, ensuring tactical advantage and improving survival rates in challenging combat situations.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
US-2017010000	2017-01-11	Method for... US-2017010000	US-2017010000
US-2017010000	2017-01-11	Method for... US-2017010000	US-2017010000
US-2017010000	2017-01-11	Method for... US-2017010000	US-2017010000
US-2017010000	2017-01-11	Method for... US-2017010000	US-2017010000
US-2017010000	2017-01-11	Method for... US-2017010000	US-2017010000

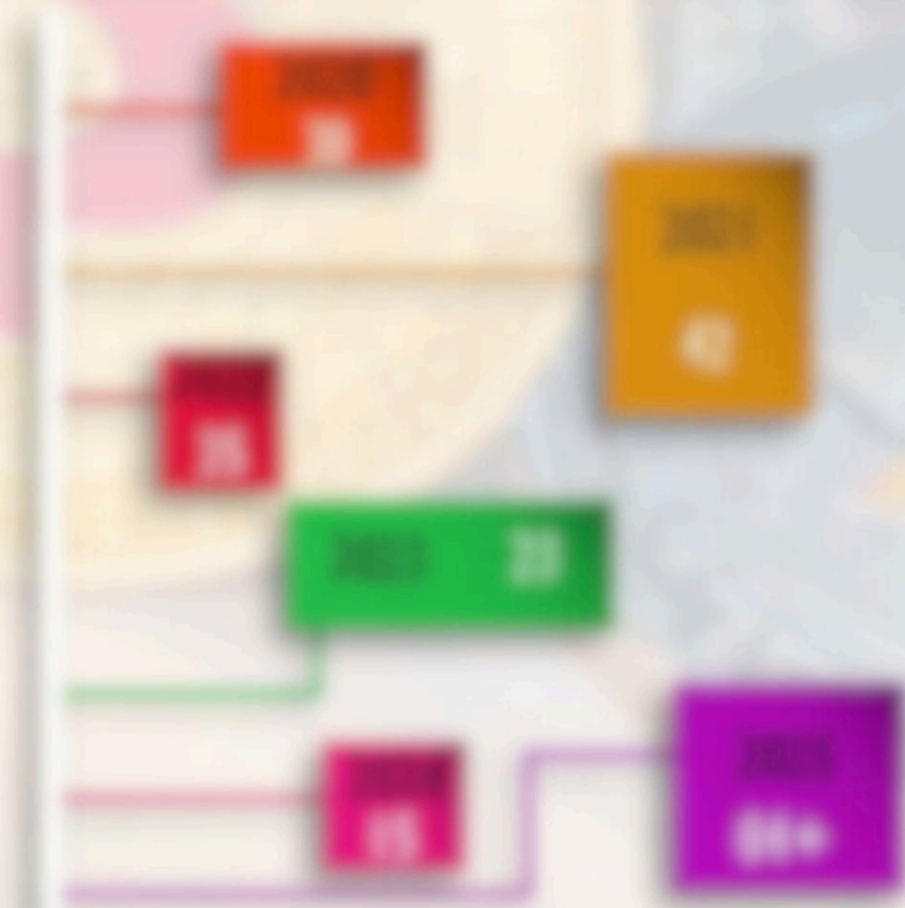


BLOCKCHAIN TECHNOLOGY

Blockchain technology is becoming an important part of defense systems, offering secure, transparent, and efficient solutions for military operations. By creating a **digital ledger**, blockchain ensures that sensitive data, like military communications or supply chain information, is safely stored and cannot be tampered with. It can help prevent cyberattacks by making it difficult for unauthorized parties to alter records. **Supply chain management** in defense can be greatly improved with blockchain, as it tracks the movement of supplies, ensuring they reach the right destination without fraud or error. Additionally, **smart contracts** in blockchain allow for automatic, digital transactions without the need for intermediaries, saving expenses, time, and reducing the risk of corruption. Overall, blockchain in defense enhances security, transparency, and efficiency, making it a powerful tool for modernizing military operations and protecting critical data.

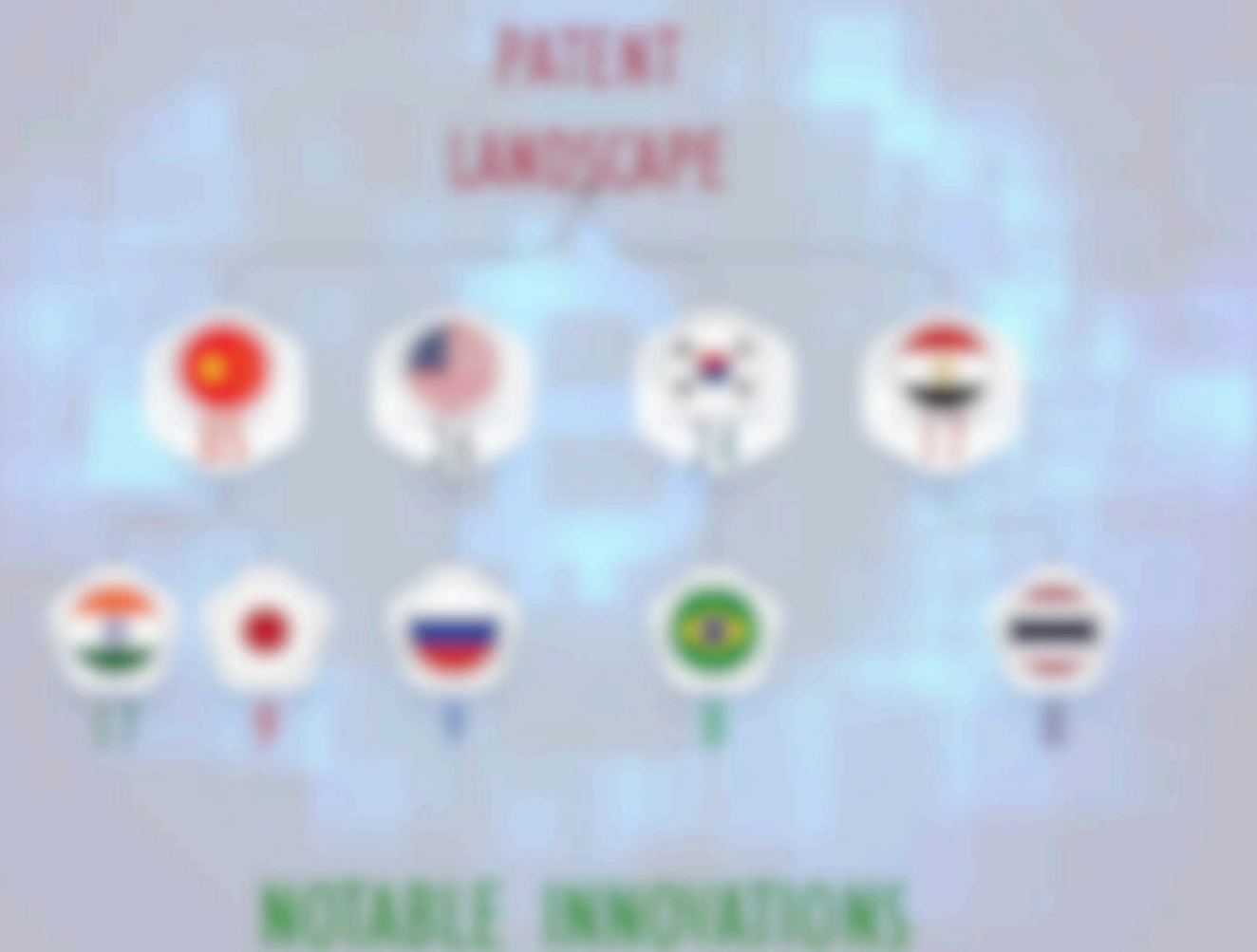
PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS





Patent Application	Filing Date	Title	Region
2019/0000001	2019-01-01	Method for Predicting Future Patent Activity	Global (Worldwide)
2019/0000002	2019-01-01	System for Predicting Future Patent Activity	US, EU, Japan, Korea, China, India, Brazil, Russia, Sweden
2019/0000003	2019-01-01	Method for Predicting Future Patent Activity	Global (Worldwide)
2019/0000004	2019-01-01	Method for Predicting Future Patent Activity	Global (Worldwide)
2019/0000005	2019-01-01	Method for Predicting Future Patent Activity	Global (Worldwide)

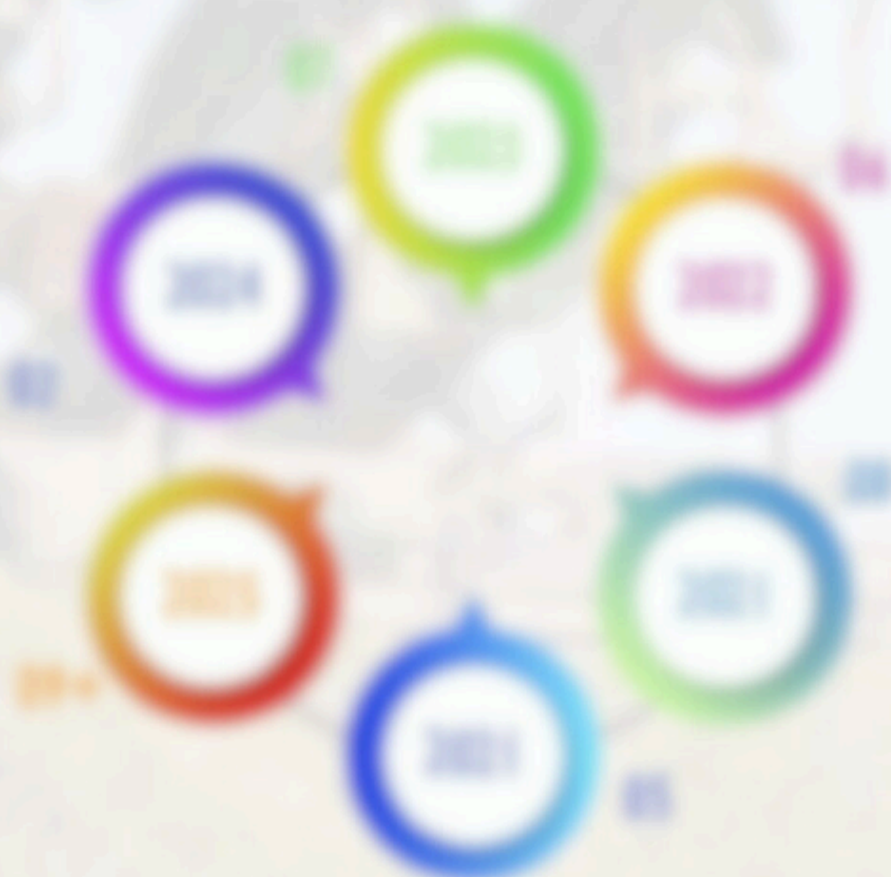


DIRECTED ENERGY WEAPONS

Directed Energy Weapons (DEWs) are the upcoming transformation technology that can be adapted into modern defense systems, as the promise is neutralizing numerous threats with much speed and cost efficiency. **High-energy lasers** capable of striking enemy targets from thousands of miles, and ray other variants as well as well as with very high precision and negligible collateral damage. **Plasma Weapons** emit high-frequency radiations to affect electronic equipment and communication through threats without having physical. **Particle Beam Technology**, which targets materials at charged particles as energy targets at the atomic level, both non-ionizing destructive potential, although they are still highly experimental. DEWs offer significant advantages, such as precision and reduced collateral damage, making them ideal highly effective against both military and civilian targets. The integration of these advanced systems enhances defense and offense capabilities, ensuring protection in modern conflicts.

PATENT STATISTICS

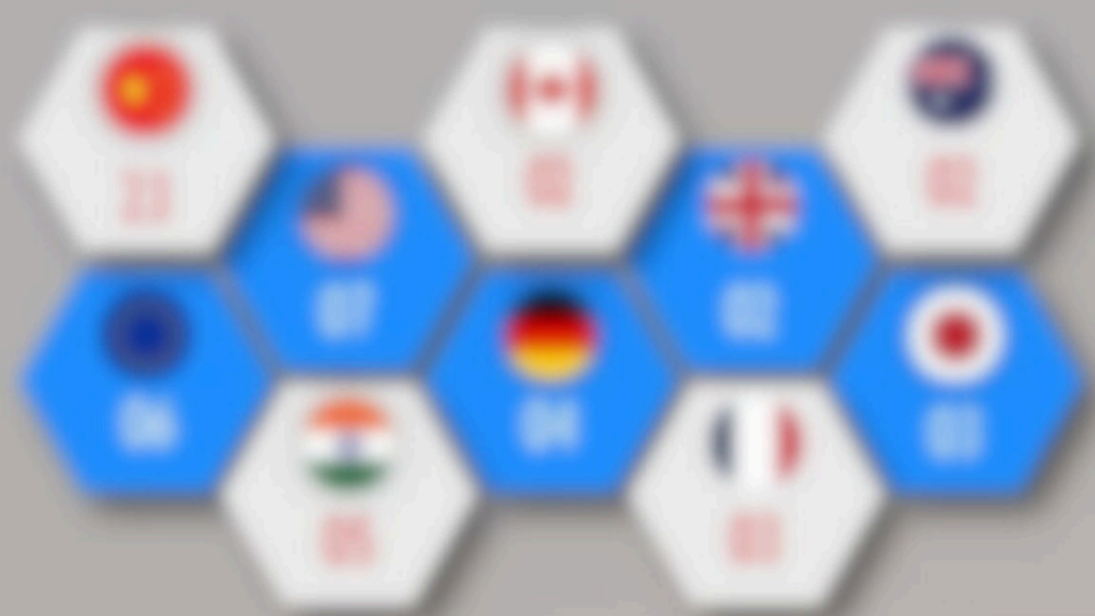
WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Innovation
US 2014/0100000	2011-01-01	Method for Predicting the Effect of a Drug on a Patient	Personalized Medicine
US 2014/0100001	2011-01-01	System for Predicting the Effect of a Drug on a Patient	Personalized Medicine
US 2014/0100002	2011-01-01	Method for Predicting the Effect of a Drug on a Patient	Personalized Medicine
US 2014/0100003	2011-01-01	System for Predicting the Effect of a Drug on a Patient	Personalized Medicine
US 2014/0100004	2011-01-01	Method for Predicting the Effect of a Drug on a Patient	Personalized Medicine
US 2014/0100005	2011-01-01	System for Predicting the Effect of a Drug on a Patient	Personalized Medicine



UNMANNED AND AUTONOMOUS SYSTEM

Unmanned and Autonomous Systems plays a pivotal role in modern defense strategies by enhancing operational efficiency and reducing human risk in potentially dangerous environments. **Unmanned Aerial Vehicles (UAVs)** are extensively used for intelligence, surveillance, reconnaissance, and precision strike missions, offering real-time classified information and reduced troop exposure. Drones, ranging from tactical to strategic, improve the capability to monitor and respond to threats. **Unmanned Ground Vehicles (UGVs)** support a wide range of defense tasks, including logistics, mine clearance, and explosive ordnance disposal, ensuring continuity in operations in high-risk environments. Autonomous capabilities in these systems improve decision-making speed and reduce human error while increasing human effectiveness. These capabilities are defense strategies across various battlefield dimensions, from protection and offense across a dynamic operational context.

PATENT STATISTICS

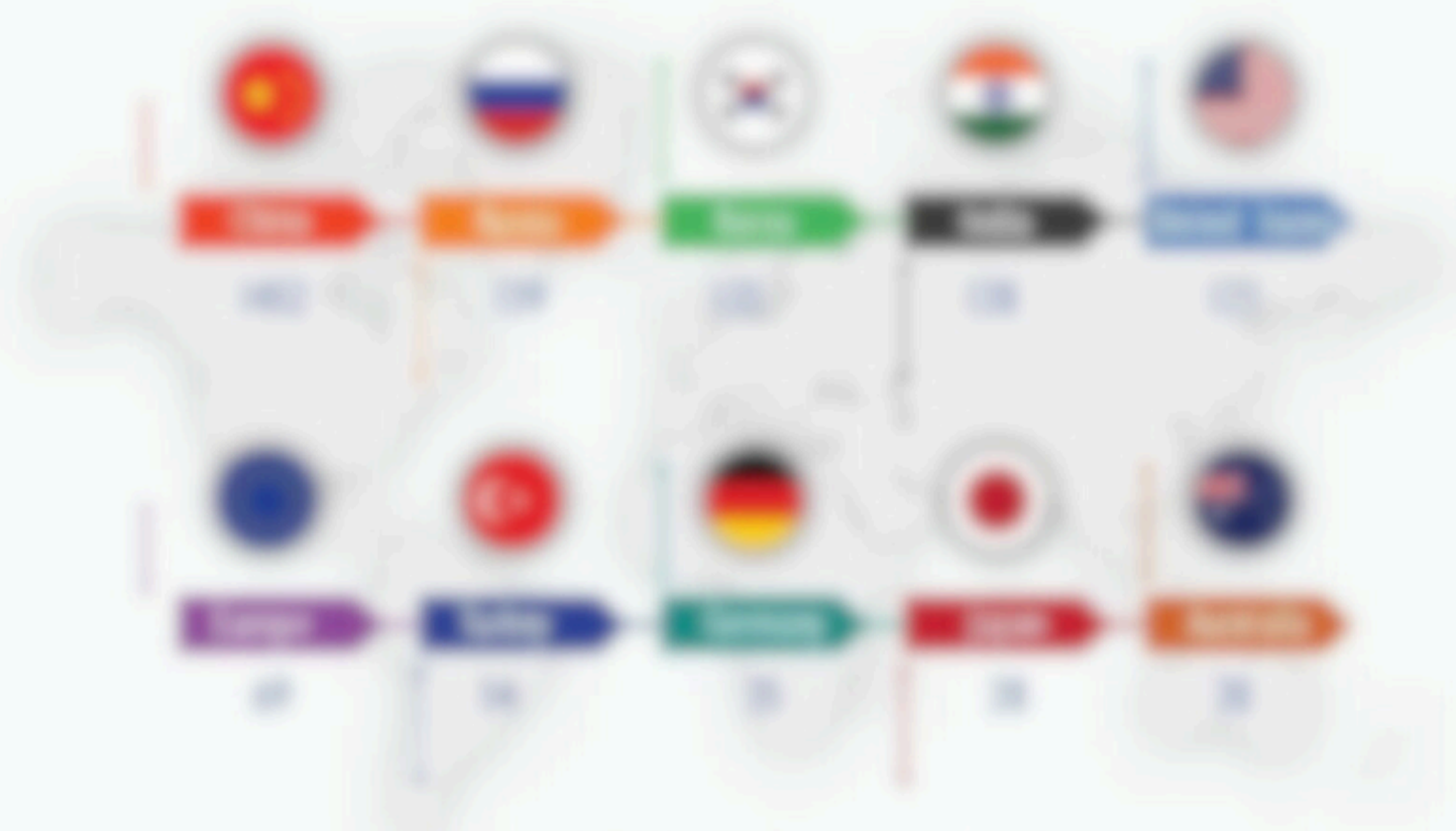
WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
2014-01-01	2014-01-01	Method for processing data in a network	Asia
2014-01-01	2014-01-01	System for data processing	Europe
2014-01-01	2014-01-01	Method for data processing	North America
2014-01-01	2014-01-01	System for data processing	South America
2014-01-01	2014-01-01	Method for data processing	Africa
2014-01-01	2014-01-01	System for data processing	Oceania



ARTIFICIAL INTELLIGENCE (AI) IN DEFENSE

Modern defense concepts are increasingly being supported by artificial intelligence (AI), which improves operations through making faster decisions. AI-powered systems **Automated Targeting Systems** equipped with AI can independently perform target identification, target classification, and precision engagement, thereby reducing the human error factor and increasing the efficient execution of missions. **AI-driven Threat Detection and Analysis Systems** enhance defense operations by processing large volumes of data and identifying emerging threats, enabling proactive measures and faster response times. **AI-powered Decision Support Systems** assist commanders by providing critical insights, optimizing resource allocation, and improving strategic planning. AI systems significantly enhance the integration of AI in various operations, augmenting traditional effectiveness, accelerated response times, and ensure secure systems, all while increasing costs in personnel and assets in complex and high-risk scenarios.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



CYBERSECURITY AND QUANTUM COMPUTING

Advancements in cybersecurity and quantum computing are reshaping the modern defense space by fortifying digital infrastructure and enhancing security frameworks. **Advanced Cyber Defense Mechanisms** involve using advanced encryption, AI, machine learning, and threat intelligence to detect, prevent, and mitigate cyber threats ensuring the integrity of critical defense assets. Data trust architectures ensure continuous authentication, while secure communication systems protect sensitive information by utilizing the core principles of quantum mechanics. **Quantum Cryptography** achieves unparalleled levels of security. The advanced cryptographic techniques ensure that any act of eavesdropping or data theft is instantly detected. Furthermore, **Quantum Radar** offers improved detection capabilities by using the unique qualities of quantum particles, such as entanglement and superposition, to identify even the smallest changes in physical variables, such as gravitational forces, magnetic fields, and more. This offers for enhanced capabilities in navigation, surveillance, and communication and strengthening of defense strategies against high-risk environments.

PATENT STATISTICS

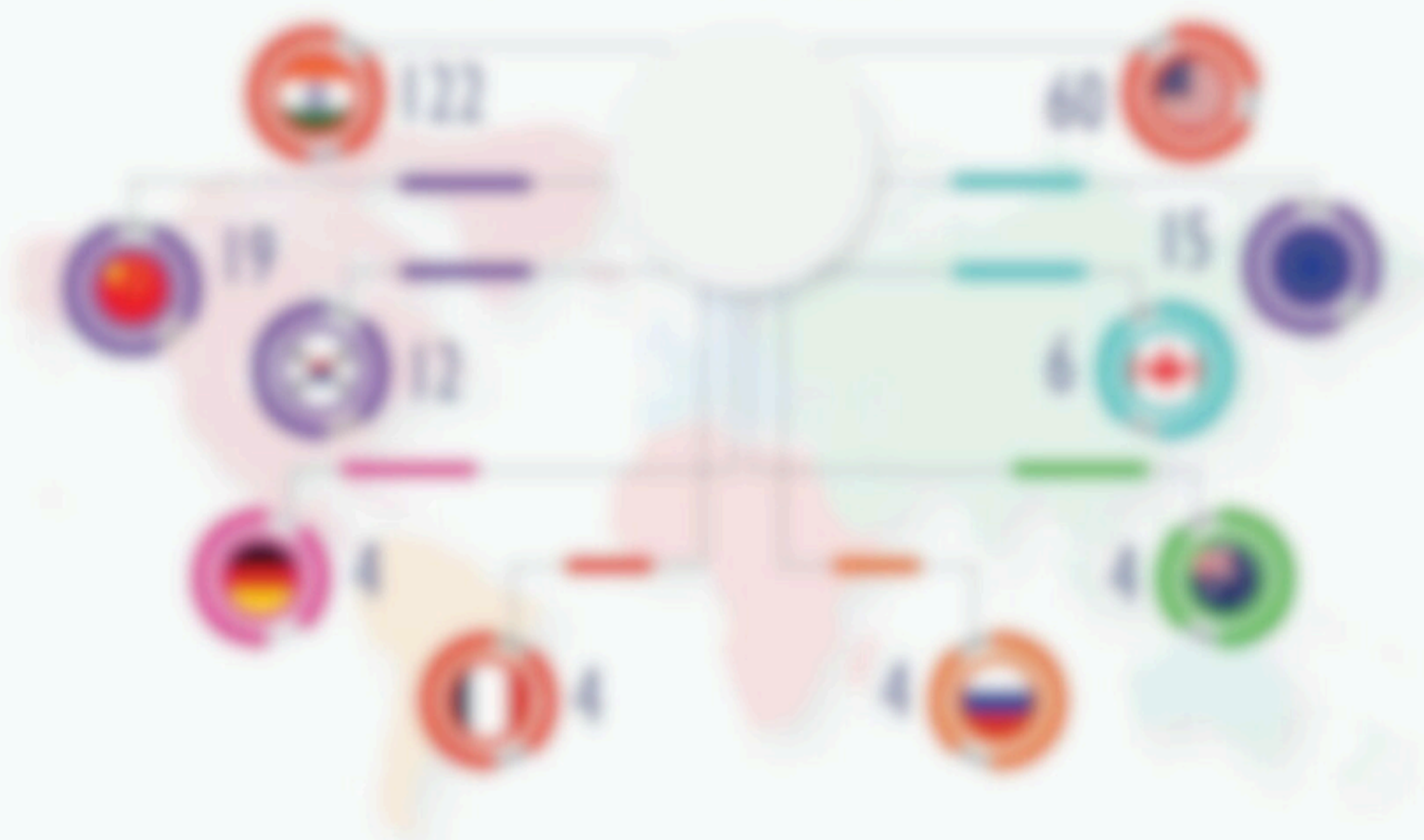
WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Inventor
2019/0123456	2019-01-01	Method for determining optimal route for autonomous vehicle navigation	J. K. Smith, A. B. Jones
2019/0123457	2019-01-01	System for optimizing energy consumption in smart building management	M. N. Patel, R. S. Lee
2019/0123458	2019-01-01	Device for monitoring and controlling air quality in smart homes	L. O. Garcia, P. Q. Brown
2019/0123459	2019-01-01	Method for enhancing cybersecurity in cloud computing environments	D. E. White, K. H. Black
2019/0123460	2019-01-01	System for managing and distributing renewable energy resources	S. I. Kim, J. M. Taylor



HYPERSONIC TECHNOLOGIES

The rapid advancement of hypersonic technologies is reshaping the future of defense as it delivers unprecedented speeds exceeding Mach 5, accuracy, and agility in warfare. The [Hypersonic Missiles \(HMs\)](#) are launched into the upper atmosphere and then glide back to earth at hypersonic speeds, thus making them impossible to track and intercept. [Hypersonic Cruise Missiles \(HCMs\)](#) make use of scramjet engines, enabling hypersonic speed throughout the journey, hence resulting in efficiency and range. These have important tactical advantages, such as being immune to traditional missile defense systems, along with the ability to deliver payloads rapidly over great distances. The [Hypersonic Interceptor \(HI\)](#) is being developed to detect and track incoming hypersonic threats and neutralize them in real time. The system relies on advanced sensors, predictive algorithms, and precision guidance technologies that ensure effective interception during high-speed maneuvers.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application Number	Filing Date	Title	Applicant
US-2019-012345	2019-03-15	System for Data Analysis and Reporting	ABC Corp.
US-2019-012346	2019-03-15	Method for Data Collection and Storage	XYZ Inc.
US-2019-012347	2019-03-15	System for Data Processing and Analysis	DEF Ltd.
US-2019-012348	2019-03-15	Method for Data Visualization and Reporting	GHI LLC
US-2019-012349	2019-03-15	System for Data Security and Protection	JKL Corp.

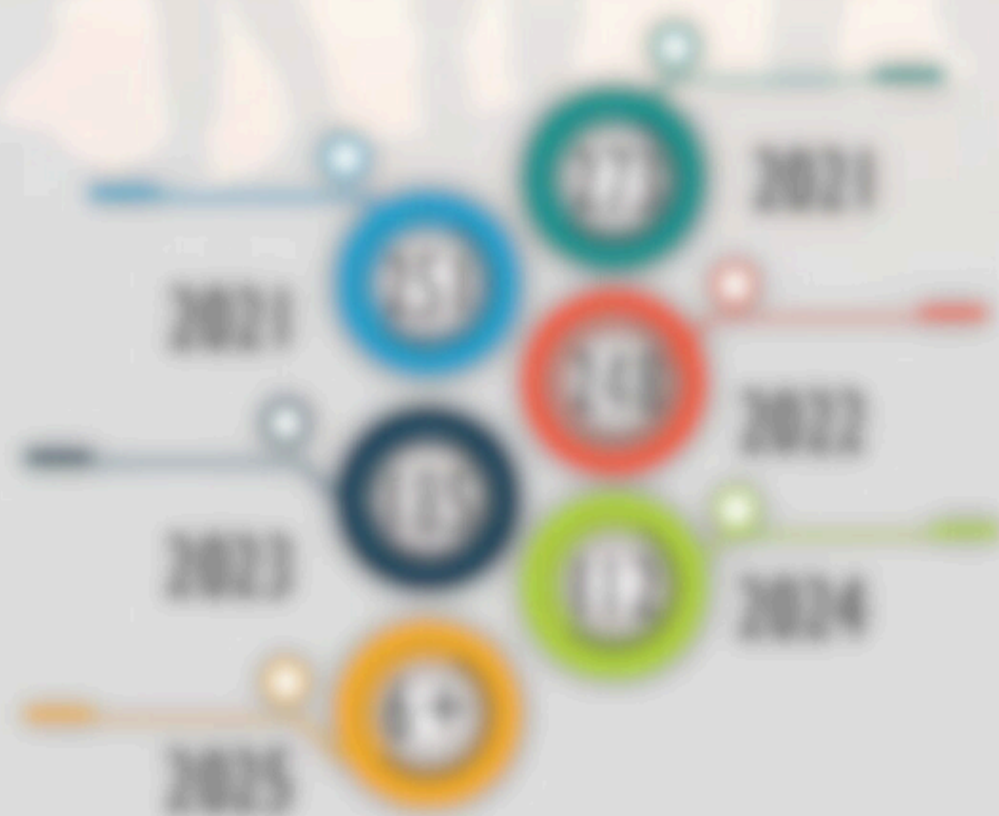


ADVANCED MATERIALS AND MANUFACTURING

Advanced Materials and Manufacturing Technologies are reshaping defense capabilities by enhancing durability, efficiency, and operational readiness. 3D Printing of Space Parts is defense technology revolutionizes logistics and by allowing for rapid on-demand production of critical components. This technology reduces the need for extensive inventories and minimizes downtime, as spare parts can be manufactured on-site or near the point of need. Health Research is defense technology are designed to enhance the survivability of military assets by increasing their detectability. These materials can create radar through absorption or reflection of radar waves, thereby making the object less detectable by the radar system. Thermal camouflaging materials are designed to regulate heat signatures to help objects blend into the environment to avoid infrared detection. High-strength alloys and composites advance defense technology through enhanced durability, strength, and lightweight. These improve military equipment's performance and resilience, crucial for maintaining strategic advantages.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS



PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Region
US 2019/0123456	2018/01/01	System and method for managing data in a distributed environment	North America
US 2019/0123457	2018/01/01	System and method for managing data in a distributed environment	North America
US 2019/0123458	2018/01/01	System and method for managing data in a distributed environment	North America
US 2019/0123459	2018/01/01	System and method for managing data in a distributed environment	North America
US 2019/0123460	2018/01/01	System and method for managing data in a distributed environment	North America
US 2019/0123461	2018/01/01	System and method for managing data in a distributed environment	North America



SPACE CONNECTIVITY AND INTERNET OF MILITARY THINGS

Space Connectivity and Internet of Military Things (SIFT) are revolutionizing the modern defense system by integrating space IS Networks, edge computing and IoT devices. **Space IS Networks** provide fast, reliable and encrypted communications, enabling real-time data sharing across military units. **Edge computing** processes data closer to the source, reducing latency and enhancing operational efficiency in critical missions. The **SIFT ecosystem** connects various military assets, including drones, satellites, and sensors, allowing seamless coordination on the battlefield. This technological synergy enables precise decision-making, improved threat detection, and enhanced operational security. By leveraging these technologies, defense forces can achieve superior tactical intelligence, faster response times, and a robust cyberwarfare framework. These capabilities in defense is reshaping warfare, making operations more efficient, secure, and resilient against evolving threats in modern conflicts.

PATENT STATISTICS

WORLDWIDE PATENT FILING TIME-LINE



TOP APPLICANTS

RESEARCH INFORMATION SCENARIO

WU - WU AND CORPORATION OF CHINA

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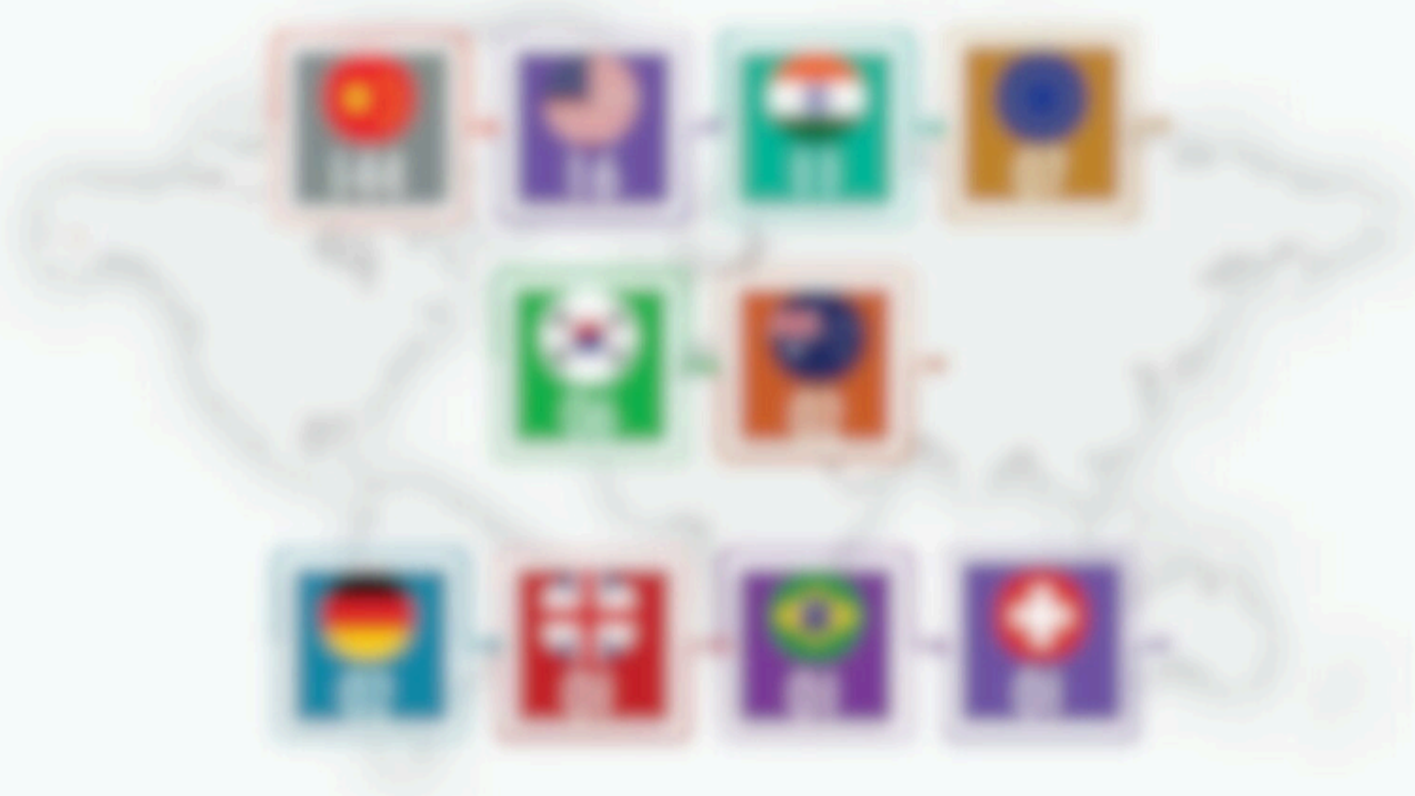
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PATENT LANDSCAPE



NOTABLE INNOVATIONS

Patent Application Number	Priority Date	Title	Region
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Building Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process
201910000000000000	2019-01-01	System for processing data and managing resources using AI	Manufacturing Process

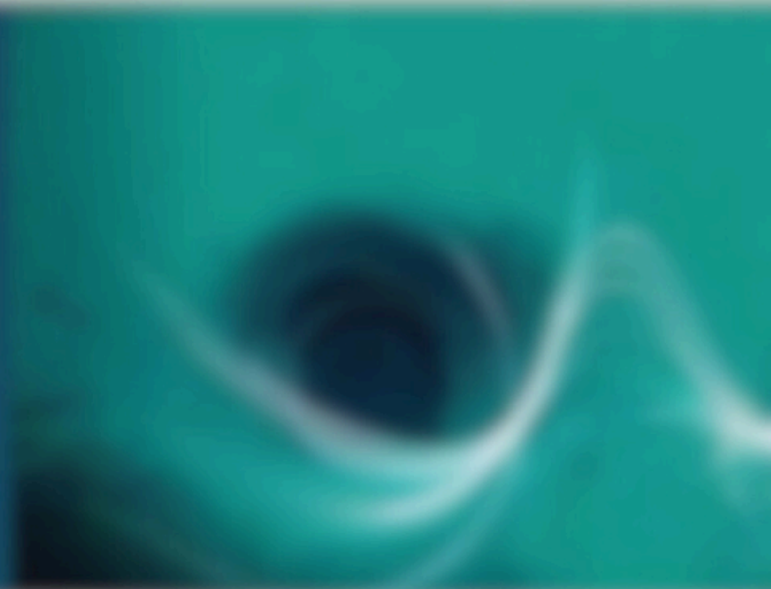




TECH ZONE

**TECHNOLOGIES AVAILABLE FOR
LICENSING**

TURBULENT FLOW OPTIMIZATION



TECH WHITE

The technology focuses on improving control strategies to prevent efficiency penalties in collection systems. It works by analyzing the flow of the system, identifying critical elements that lead to instability and developing flow control strategies to prevent the system from becoming unstable. The technology is controlling and stabilizing the collection flow system.

PROBLEMS ADDRESSED

- Excessive Collection Penalties
- Excessive Process Penalties
- Lack of Available Process Headlines
- Control System Failure
- No Operator Control
- Excessive Instability

TARGET BENEFITS

- Reduced Penalties
- Increased Capacity
- Improved Efficiency
- Better Control



Collection System Flow



Control System Configuration



Process System Flow



Collection System Control



Integrated Monitoring System



Control System Configuration

IT System

- Control System

Available For

- Operators & Non-Operator Users

Test System

- Technology Validation

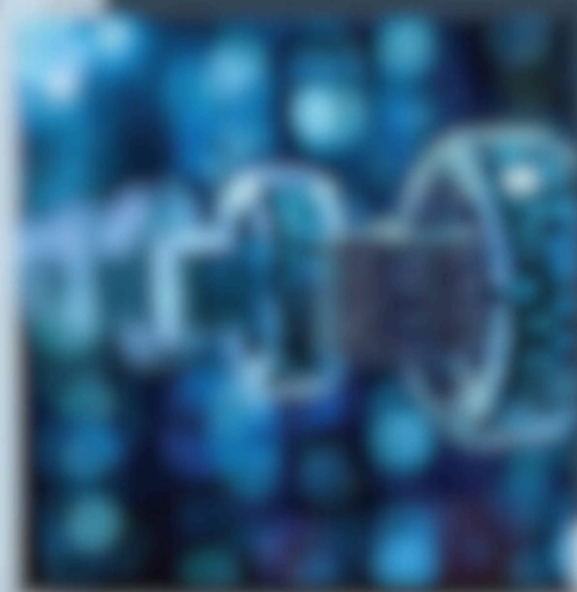
ENHANCED BLOCK CHAIN SCALABILITY

USE CASE

The innovative blockchain-based data storage for health operations, enabling an integrated system from recording health data to secure transactions. The edge is offering a new for storage in a new recording block. This is a secure platform to use in health for transactions, enabling the secure data storage and setting up integration in health data.

PROBLEM ADDRESSED

- New Blockchain Edge
- Health Chain
- Connected Health Ecosystem
- Edge Health Chain
- Connected Healthcare Ecosystem
- Health Ecosystem Ecosystem

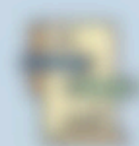


TARGET AUDIENCE

- Health and Finance
- Health and Finance
- Health and Finance
- Health and Finance
- Health and Finance
- Health and Finance

USE CASES

Health Chain Ecosystem



Health Chain Ecosystem

Health Chain Ecosystem



Health Chain Ecosystem

Health Chain Ecosystem



Health Chain Ecosystem

Health Chain Ecosystem



Health Chain Ecosystem

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ELECTRONIC DETECTOR FOR EXPLOSIVES

TECH INTRO

The technology provides a cutting edge-solution for detecting explosives, offering a versatile tool for security applications. It combines innovative design with advanced detection methods for enhanced safety and reliability.



PROBLEMS ADDRESSED

- ❌ Complex System
- ❌ Low Sensitivity
- ❌ Inaccurate Detection
- ❌ Bulky in Size
- ❌ High Heat Conductivity
- ❌ Expensive System

TARGET AUDIENCE

- ✅ UAV Manufacturing Industry
- ✅ Defense and Military
- ✅ Agriculture Sector
- ✅ Disaster Management

TECH FEATURES



Simple Construction



Reliable and Accurate



Easy to Operate



Portable System



Shock Resistance



Scalable



Cost Effective

IP Status

- ✅ Granted in India

Available For

- ✅ Exclusive & Non-Exclusive License

Tech Status

- ✅ Technology Validated

SHOCK WAVE RESISTANT SHIELD

KEY POINTS

The reflecting structure is attached directly with various protective components designed to dissipate incoming force. The absorbing effect of these two shock waves. The shock resistance for personal safety is the greatest measure and reduces protective effect using various ways.

PROBLEM SOLVED

- Anti-Blow-Off Protection
- Shock Absorption Effect
- Impact Shock Absorption
- Multiple Shock Absorption
- Shock Wave Shielding

KEY FEATURES

THREAT RESISTANCE

- Reduce to 1/1000
- Maximum Force
- Shock Wave



Shock Wave Shielding



Shock Absorption Effect



Shock Wave Shield



Shock Absorption Effect



Compression of Shock Wave



Shock Wave Shielding



Shock Wave Shielding



Shock Wave Shielding

1/1000

1/1000 to 1/1000

Available for

Structure of the Industrial Zone

Not Shown

1/1000 to 1/1000

OCTOCOPTER WITH SUPERIOR STRENGTH

TECH INTRO

The technology introduces an advanced octocopter drone primarily constructed using AISI 304 (1.4301) stainless steel, a high quality material known for its exceptional corrosion resistance, durability and mechanical strength. The material enhances drone's performances and longevity in diverse operating conditions.



PROBLEMS ADDRESSED

- ✓ Lack of Structural Strength
- ✓ Excess Drone Weight
- ✓ Rough Landings
- ✓ Limited Working Area

TARGET AUDIENCE

- ✓ UAV Manufacturing Industry
- ✓ Defense and Military
- ✓ Agriculture Sector
- ✓ Disaster Management

TECH FEATURES



Enhanced Strength



Lightweight Design



Integrated Flight Controller



Smart Sensors and Camera



Enhances Working Area



Laser Cutting Method

IP Status

- ✓ Granted in India

Available For

- ✓ Exclusive & Non-Exclusive License

Tech Status

- ✓ Technology Validated

TRAINING SIMULATION SYSTEM

TECH INTRO

The technology introduces a training simulation system that provides comprehensive training for defense and law enforcement, enhancing tactical proficiency, strategic responses, performance evaluation.



PROBLEMS ADDRESSED

- ✓ Lack of Training
- ✓ Inappropriate Strike Location
- ✓ Risk of Fatal Injuries
- ✓ Performance Evaluation Gap

TARGET AUDIENCE

- ✓ Defense and Military
- ✓ Law Enforcement Sector
- ✓ Security Training Industry

TECH FEATURES



Real Time Simulation



Skill Training



Performance
Evaluation System



Realistic Environment

IP Status

- ✓ Granted in India

Available For

- ✓ Exclusive & Non-Exclusive License

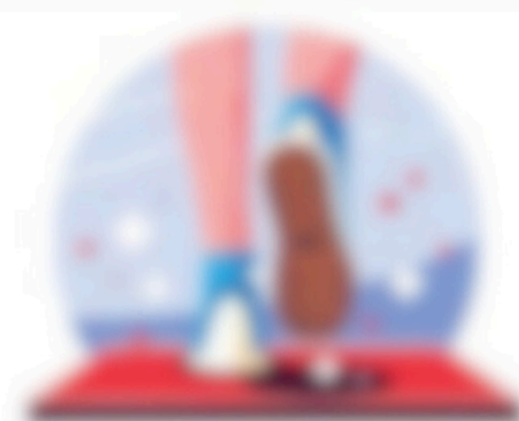
Tech Status

- ✓ Technology Validated

LOCOMOTION ASSISTING SHOE

TECH INTENT

The innovative Locomotion Assisting Shoe, designed by Dr. [Name], is a revolutionary footwear designed to enhance the efficiency and effectiveness of various activities. It incorporates advanced technology to manage energy, improve balance, and provide support. The shoe's design is inspired by the natural mechanics of walking, running, jumping, and other activities, aiming to optimize performance and reduce fatigue.



PROBLEM ADDRESSED

- Lack of Energy
- Poor Balance
- Poor Posture
- Low Efficiency

TARGET AUDIENCE

- Athletes & Fitness Enthusiasts
- Elderly Individuals
- Healthcare Professionals
- Sports Teams
- Military Personnel

IF STATE

- Improved Performance

TECH FEATURES



Energy Efficiency



Balanced Posture



Supportive Structure



Enhanced Energy Efficiency



Improved Posture

Available for

- Athletes & Fitness Enthusiasts

Test State

- Technology Integration

PORTABLE AND BULLETPROOF RESCUE COVER



TECH INTRO

The invention describes a foldable, bulletproof shield engineered to ensure the safe rescue of hostages and protection of special forces during emergencies and shootouts.

PROBLEMS ADDRESSED

- ✓ Lack of Portability
- ✓ Limited Protection
- ✓ Slow Deployment
- ✓ Multi-Directional Vulnerability
- ✓ Inadequate Coverage

TARGET AUDIENCE

- ✓ Defense Sectors
- ✓ Law Enforcement
- ✓ Emergency Rescue Units
- ✓ Security Industries
- ✓ Tactical Equipment Suppliers

TECH FEATURES



Compact & Foldable Design



Bulletproof & Fire-Resistant



Customizable & Modular Panels



Rapid & Tool-free Assembly



Water/UV Resistance



Mobile & Easy to Carry

IP Status

- ✓ Granted in India

Available For

- ✓ Exclusive & Non-Exclusive License

Tech Status

- ✓ Technology Validated

CONVERTIBLE PROTECTION SHIELD

TECH INFO

The innovative combination of unique layers that can be converted into an ultra-thin protection shield, providing a comprehensive view that allows insight into otherwise sealed cells.



TECHNICAL ADVANTAGES

- Full of transparency
- Thin Structure
- Compact Technology
- Ultra-thin Layering
- Reduced Weight
- Scalable & Customizable options

KEY FEATURES

- Low Temperature Operation
- Ultra-thin Layer
- Temperature-Resistant Layer
- Thin Layer
- Security and Ultra-thin Structure

TECH FEATURES



Temperature-Resistant Layering



Ultra-thin & Temperature-Resistant Layer



High-Resolution & Security



Ultra-thin Layering



Compact & Customizable Options



Scalable & Customizable

IP Status

- Patent in India

Available for

- Research & Development Center

Test Status

- Following Method

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www.iphone.com

www.iphone.com

BIOMETRIC IDENTIFICATION SYSTEM

THE WHY

The technology offers precise biometric identification, secure, reliable access and reliable authentication across various devices, meeting compliance with existing standards and providing users with a secure, convenient and reliable solution for authentication.

KEY FEATURES

- Safe & Secure
- Easy to Use & Simple to Deploy
- Scalable & Flexible
- No Ongoing Maintenance



KEY BENEFITS

- Increased Security & Reliability
- User Authentication & Access Control
- Reduced Risk of Breach
- Increased Efficiency



Secure & Reliable Authentication

IP Device
No Network Required



Secure & Reliable Authentication



Enhanced User Authentication

Mobile Device
No Network Required



Compatible with Existing Network



Secure & Reliable Authentication

Web Device
No Network Required

BALLISTIC SHIELDING SYSTEM

TECHNICAL

The following features of ballistic shielding system designed for law enforcement agencies to protect law enforcement officers providing protection from both the front and side attacks as well as on the top.



PROTECTIVE FEATURES

- High Impact Protection
- Impact Protection
- Impact Mobility
- Fully in Use
- Non-Flammable

TECHNICAL FEATURES

- Fully in Use
- Fully in Use
- Fully in Use
- Fully in Use

TECHNICAL FEATURES



Impact Protection



Secure Locking Mechanism



Impact Protection



Impact Protection



Impact Protection

Filter

100% Impact Protection

Available for

100% Impact Protection

Test Results

100% Impact Protection



International Optical Technologies Association

Formerly known as  **IHMA**

The International Optical Technologies Association (IOTA) – formerly known as the International Hologram Manufacturers Association (IHMA) – is made up of over 70 of the world's leading suppliers of optical technologies who actively cooperate to maintain the highest professional, security and quality standards in support of their customers.

Founded in 1993 to represent the interests of hologram manufacturers and the hologram industry, it has expanded in 2024 to represent suppliers of all optical technologies. The association is dedicated to promoting the interests of the optical technologies industry worldwide and to helping users achieve their commercial, aesthetic and authentication objectives through the effective use of holography.

IOTA membership confers authenticity and credibility on companies that join – all of which are rigorously vetted and adhere to a strict Code of Practice governing standards, business ethics, customer service, respect for and protection of customers' and each others' intellectual property.

The IOTA is a not-for-profit membership organisation registered in the UK, liability limited by guarantee.

Membership is open to all Optical Variable Device (OVD) suppliers. For more information, membership benefits, and the procedure for joining the IOTA visit the website below.

iot-association.org

MARK OF
AUTHENTICITY

MARK OF
INTEGRITY

MARK OF
QUALITY

MARK OF
RELIABILITY

MARK OF
SECURITY



प्रेम में संस्कृति का स्पर्श हो,
विकास में प्रकृति का दर्श हो,
सफल हर हृदय का संघर्ष हो,
धरोहर की साख में सहभागी सब सहर्ष हो।



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Our Expertise covers

- ✓ Ballistic Armor System Development
- ✓ Multipurpose Armor System Development
- ✓ AI Based Multi Domain Cyber Protection System
- ✓ Crime Prediction Technology
- ✓ Critical Data Analytical Tools
- ✓ Tactical Mesh Communication System
- ✓ Cyber Warfare Weapons
- ✓ Optical & Satellite Surveillance
- ✓ Strategic Consultation

**At Life Line , we are inspired and guided
by our core values: Trust, Respect,
Accountability, Collaboration and
Innovation.**

**Our Core values – which span across
the enterprise – drive our actions,
behaviors and performance with
a vision for**

DEFENDING THE DEFENDERS



Expert Fire Safety Services

At Shivay Fire and Life Safety India Pvt Ltd, we are dedicated to delivering tailored fire safety solutions that not only meet but exceed industry standards. With a deep understanding of the challenges faced by various sectors, we provide customized services that ensure maximum protection for people, property, and assets.

From consultation and design to implementation and maintenance, our expert team works closely with clients to create safe, compliant, and efficient environments, no matter the scale or complexity of the project.



Turnkey Projects On



Fire Hydrant & Sprinkler
Systems



Fire Suppression
System



Safety Training Programs



Fire Alarm Systems



TRACK PACK INNOVATION LLP

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