# Global Invest: Streamlined Pathway for Cross-Border Innovation

M.V. Karthikeyan<sup>1</sup>, Kishore R<sup>2</sup> and Rohith Kannaa G M<sup>3</sup> {karthik.me09@gmail.com<sup>1</sup>, kishoreravichandran7@gmail.com<sup>2</sup>, rohithkannaa179@gmail.com<sup>3</sup>}

Professor, Department of Electronics and Communication Engineering, St. Joseph's Institute of Technology, Chennai, Tamil Nadu, India<sup>1</sup>
Student, Department of Electronics and Communication Engineering, St. Joseph's Institute of Technology, Chennai, Tamil Nadu, India<sup>2, 3</sup>

Abstract. "Global Invest" is a platform for investment innovation to resolve the long stretched conventional approach of Foreign Direct Investment (FDI) approval attempts in India. The current system is filled with bureaucratic red tape and inefficiency, with security problems, resulting in problematic interactions with foreign investors by Indian entrepreneurs. Global Invest" bridges this gap and acts as an online link between the foreign investors and the funded Indian companies. The platform allows entrepreneurs to post business plans that are then screened and directed for governmental approval, thereby creating a process that is as transparent and effective as possible. The most noteworthy aspect of "Global Invest" however, is the deployment of AES encryption for the protection of confidential information, and real time monitoring, because it simplifies monitoring authorization procedures. These are key features that minimize delays and help ensure stakeholders' trust. With a modular platform, there is the potential to integrate future enhancements such as the introduction of AI-driven project suggestions and blockchain technology to enhance transparency and security. By streamlining the investment approval processes, "Global Invest" not only fast-tracks overseas investments, but it also encourages international partnerships. The platform enables realizing the vision of positioning India as the Innovation hub of the world, particularly in sectors like Automotive, Avionics, Space, Defence, Railways, Industrial & Capital Goods, Heavy Engineering, and Mobility. By removing the need for approval delays and enhancing security and transparency in the investment process, Global Invest promotes an environment of comfort for Indian entrepreneurs or foreign investors. Last but not the least, it makes a meaningful contribution in projecting India as one of the leading FDI, innovation and sustainable economic growth hub.

**Keywords:** FDI, plaintext, cryptogram, transparency, investment, security, entrepreneurship, digital signature.

## 1 Introduction

The new Start-Up fever and the changing of the winds of business in India, have put the country on the wish list of places to invest in for Foreign Direct Investment (FDI). The biggest hurdle is the archaic FDI approval system though, for both business-entrepreneurs and foreign investors. Issues such as bureaucratic inefficiency, transparency problems, long waiting times for approval and security/currency concerns continue to plague the system, posing obstacles to the country's aim of becoming [1] a gateway to global investment. In such backdrop, the need of the hour is to develop an efficient, transparent and secure mechanism which could connect the foreign funds with the Indian expertise. The time it will take for approval under the current

manual processes and the piecemeal regulatory checks and balances, the article's author believes will make approval period long and disappointing for would-be investors and deny access to crucial funds to entrepreneurs.

Moreover, there's no central entry-point and digital workflow doesn't force efficient collaboration among the participants, therefore opportunity-wise strategic international partnerships get lost. To resolve these system problems, "Global Invest" has been conceived as a state-of-the-art online facility, which holds the potential to transform the FDI approval process in India. The portal provides a [2] window to the Indian businessmen and the world to get to know about each other, share ideas and collaborate and do business as per principles of this online, secure, regulator- friendly market. The portal uses sophisticated practices in encryption, real-time analysis and workflow automation to manage all aspects of the investment process with accuracy and efficiency.

Entrepreneurs can present their business or project to the world while investors can browse through a gatariy of different kind of categorized investment opportunities with supporting documentation and verified information. By digitizing everything from submission to scrutiny of applications, Global Invest does away with paper work and reduces bureaucratic problems. What one of the main advantage Global Invest has is the focus [3] on security and integrity of the data. The system also utilises AES encryptions to protect critical information between the users and the system. All financial data, project information, and user passwords are processed in a secure manner to guarantee the privacy, and minimize the risks, of data leakage. In addition, multi-factor authentication enhances the login procedure by ensuring that only authorized users can access sensitive information.

In addition, the ability track real-time, all-in-one and through an intuitive dashboard, visibility into the full process flow of investments, without waiting periods and no information loss, to monitor application status, approval, transaction history. Even government entities are able to take full advantage of this level of transparency because of centralized [4] document validation, automatic status updates and fast feedback channels, which helps avoid hiccups in decision processes. One of the aspects of the platform is that it is modular based and can be scaled and extended in future. In addition to its existing features and capabilities, the system can evolve to include new technologies such as AI and blockchain as well to enable higher efficiency and transparency.

The AI recommendations of investments can link investors with appropriate projects according to their interest and risk level, while blockchain can provide traceable transaction and approval records. This prophetic attitude does not only enhance operational flexibility but also supports India's 'Digital India Vision' to be a moneyed investment destination [5]. Embracing these technologies means Global Invest is effectively addressing current inefficiencies and establishing safe ground for the future of international investment. Furthermore, the platform seeks to promote international collaborations - by providing a safe platform for international investors to tap into the vast pool of Indian entrepreneurial talent. It serves as an economic engine, helping the economy to grow and enabling start-up companies to scale at accelerated rates with foreign investment, and offering investors access to high-growth markets and frontier technologies. Global Invest with its simplified, security-sensitive, and transparent approval mechanism develops confidence among investors, eases doing of business with India and adds credibility [6] (http://www.pwc.com/in HZr2) to foreign investment system in India. The

platform clearly facilitates government's national initiatives such as Make in India, Start-up India and Digital India and thus, India's prominent role as a viable investment destination globally. Because Global Invest is more than just a digital transformation enabler - it's a fuel of economic growth and international cooperation in the digital era.

The rest of the paper is organized as follows: Section II is a literature review. Method In Section III, focusing on its operation. The results and discussions are presented in section IV. Section V, finally summarizes the important recommendations and findings.

# 2 Literature Survey

Most of the developing world suffers from slow turn-around times and uneven digital infrastructure under existing foreign investment frameworks. Few platforms are integrated, which means that data is scattered and investors react slowly. Such efficiencies tend to lead to lost opportunities for start-ups to gain access to capital in a timely manner. Manual verification of the credentials of investors and of the information about the project is there for inevitable, which introduces uncertainty and a risk of falsifying information. In many countries, only partial aspects of the FDI process have been digitized and implementation of an entirely electronic transparent, end-to-end FDI eco- system which facilitates real time tracking of FDI proposals and assures data security is also low, undermining investor confidence and economic growth potential.

Majority of the investment procedures in the world are still operated based on paper procedures and physical verification steps. This is a pain in the neck, especially for cross-border investments with multiple levels of approval. Inhibiting the process are the absence of automation and a lack of integration between departments which would [7] expedite the approval and drive up the cost of compliance for entrepreneurs and investors. Countries, trying to improve FDI environment, are trying to digitalize, but there is still the challenges of data protection and stakeholder communication. Investors thus choose the quick response, visible digital solution over legacy bureaucratic nations.

Investor platforms to facilitate accessibility of financing have been introduced, albeit most of these platforms do not have an integrated solution which ensures transparency and efficiency through the various stages of approvals/pitches/etc. While such platforms generally provide matchmaking services linking investors and startups, they do not have alleviation in place with which to comply with the laws. The absence of 2 In security of document [8] in real-time access and management an appropriate trust model still does not exist between the foreign investors and the enterprises. Similarly, government agencies are rarely granted detailed views of project data in an organized and reviewable format, which results in slower and less efficient due diligence. As such, the necessity for an all-encompassing, bulletproof system is increasingly clear in our current economies.

Most countries have several problems faced by foreign investors in startup ecosystems as regulatory environments remain opaque. That deters them since there is no single point of truth and reliable documentation process. While some online services try to narrow this gap, none of them provide the strong end-to-end security [9] for the transaction or a wide transparency of the checking procedure. Entrepreneurs exchanging information with officials are generally not synchronized, and the process is slow. There is even less in the way of mechanisms for the

players to track their progress or get feedback in a timely manner. And those restrictions deter ongoing foreign investment, and can prevent potential startups from scaling with international support.

It's ridiculous that as the digital public infrastructure expands in most countries, however, approval mechanisms for investment continue to lag behind in tech terms. Key shortcomings include lack of secure data transfer, lack of effective investor profiling and lack of effective feedback loops for applicants. This ghettoizes the experience where you can't collaborate with the other stakeholders. Entrepreneurs encounter another set of obstacles [10] from submitting information over and not clear communication with the authorities. Investors would lose trust, if project status or regulatory checks are not made transparent enough. Integrating secure digital technologies tightly into existing government review processes seamlessly should transform these systems into highly efficient and trusted services.

Cross-border investments require efficiency, trust and legal transparency. Traditional platforms rely on static documents and offline processes that are not conducive to quickly getting stakeholders aligned. The majority of systems don't have a capability to verify a user's identity digitally or validate the legitimacy of a project, which increases the risk of fake entries. Even if the digital transformation [11] has been started, there are only several platforms that support the dynamic dashboard or notification system to remind the users their progress. There's no follow up process to manually confirm status updates; approvals are delayed and there's friction. A well-constructed and transparent system would do away with these long-standing inefficiencies.

Government-funded startup portals in emerging markets have made attempts to court foreign capital, but often neglect local quirks that confront the investors. The systems may provide data on licensure or business registration information, but do not facilitate interaction and a trusted transaction closure between local start-up and foreign investor. Foreign language, ad-hoc document formats, lack of support for [12] foreign regulations also prevents collaboration. Lack of central approval monitoring means there are few investors who are confident to invest in high+ 'potential targets. An open, technically solid platform with real-time functionality, then, is important for establishing trust and facilitating proper collaboration between investors and entrepreneurs.

Financial tech just keeps moving ahead but foreign investment approvals don't. The delay has created a mismatch between the availability of international capital and the financing needs of start-ups. Though fintech platforms have leveraged automated KYC/ secure transaction mechanisms, regulator is lagging [13] in implementing such services. So, approval time is long as is document verification. Furthermore, the lack of open familiar ability with submissions and status updates leaves investors disinterested in participating. Aligning investment platforms with fintech innovations could optimize administrative proceedings and simplify FDI procedures.

Startups need fast access to cash, yet the cross-border complexity of compliance can prevent access to funds from overseas. Investment platforms are typically built for the local market and do not implement international standards or multilingual documentation at all. [14] Unfortunately, this shortage restricts the available investment capital and thus stymies growth. There is little legal back up for either party involved, or status transparency – this leads to

ambiguity. For a platform to be effective at a global scale, it needs to accommodate diverse user experience, legal jurisdiction, and communication requirements. Connecting these by digitization can render it more integrated and smoother in operation.

Even partially digitized investment approval procedures of countries are plagued by suboptimal data formats and little interoperability between systems. Investors are unable to access reliable project information and entrepreneurs have no way to track the status of approval. Without digital [15] workflows involving all people, approvals are too slow at all phases. This tend to be quite onerous for those projects which require multiple approvals. An unbroken digital solution providing real time visibility and streamlining documentation would eliminate these headaches and lead to a consistent investment experience in most geographies.

Emerging Markets attract high-return investing, though systemic inefficiencies in the approval process lead to short-termism among investors. There are sites galore that will give you generic investment information but not with organized ways of engaging in live-time discussions. Outcomes in user feedback [16] are often around lack of personalization, transparency, and visibility of the submitted form. Without fixing these, faith in the platform is gone. Furthermore, no support for end-to-end secure transaction inspires even lower confidence. The notion: dashboards for the different stakeholders Communication features on platforms, and in particular dashboards the different stakeholders have access to, to improve usability and investment in emerging markets.

FDI is key to economic development, but there is still a lot of bureaucracy, and shaky digital infrastructure in most countries. Start-up founders often suffer under an arduous approval process that is as opaque as feedback is scarce. Unpredictable rule enforcement and processing times are destroying investor trust. Digital systems that [17] allow structured submission, secure messaging, and live monitoring of progress, can improve coordination and reduce uncertainties. Economies that receive and implement such platforms will benefit from increased investments and economic strength, with faster, more predictable and surplus capital deployment.

A key limitation of the archetypical investment approval process is a passive engagement of investors when the deal is tendered. Decision-making is constrained by delayed feedback and real time data, possibly weakening investor demand. Entrepreneurs are also confronted with an opacity [18] in the evaluation of proposals and do not know about possible improvements or further directions. Such a missing consensus of stakeholders does not lead to efficient collaborative actions. This could potentially be reduced through use of an active digital system sending reminder notifications, indicating the review period will soon open, which may result in better consumer engagement and satisfaction.

Most legacy FDI platforms are a one-size-fits-all solution with little customization or flexibility between investor and startup profiles. Low flexibility equals low user experiences and less profitable investments. Pre-packaged template [19] pro- posals, for example, are trivial but are rarely enriched with intelligent filters or customized recommendations. In addition, most SN systems are not scalable to meet user requirements, and so they may lead to platform delays and information overloading. The limitations can be addressed by a modular and flexible system that can be customized to user demands.

There are no feedback loops in legacy investment approval systems, limiting the possibility to learn and improve processes. Post approval analytics is necessary for authorities to identify bottlenecks or recurrent failure points. Entrepreneurs [20] do not receive actionable feedback on rejection or delayed reasons on their proposals. And investors can't access historical information to inform future decisions either. Platforms such as analytics-enabled with user dashboards could be the enabler for transparency and data-driven culture. This not only improves the performance of the system in the long term, but also enables stakeholders to act more strategically and with greater insight.

# 3 Methodology

The Global Invest platform is an IT-based mechanism focusing on a systematic investment facilitation to cut down the time for FDI approval in India. Utilizing safe digital platforms, the model helps Indian startups and foreign investors connect on a secure, efficient and compliant level. Security, automation and real-time monitoring are built in at each step of the process, where from initial sign up to securing an investment in the final step securities side of it. "Faster filing is enabled and attended with no manual delay, advancing the trust level among government, entrepreneurs and investors, and perfect communication and coordination among investors, entrepreneur and government," the HSW accountants said. "The system-based approach will make sure that all FDI applications in India, irrespective of the source, are verified, screened and approved in a quick manner, with no needless bureaucratic obstacles, which would allow for maximum growth in the economy of India and maximum entrepreneurial development." Fig 1 shows Architecture Diagram.

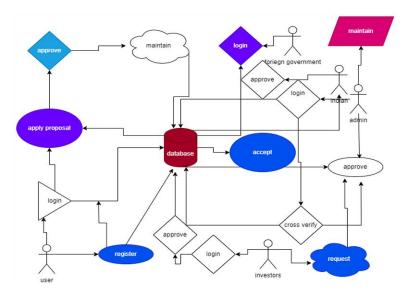


Fig. 1. Architecture Diagram.

## 3.1 User Registration and Authentication

The FDI journey STARTS WITH A SAFE AND STRONG REGISTRATION OF ENTREPRENEURS/INVESTORS. Verifiable credentials are added by users by getting digitally signed documents of credentials, that can be verified via email verification and multifactor authentication (MFA). The financial and personal information are encrypted with Advanced Encryption Standard (AES) before it is securely stored. Business owners provide business information, and investors provide financial information for trust. Once registered, user signs in and can use platform features. Registration and hacking one of the main preventives of fake users on the platform. Two-factor is part of what helps keep the system secure (data private, business sensitive data protected, and so on). By it the investment environment is made more secure and the prestige of the platform is maintained.

## 3.2 Project Proposal Submission

If approved, entrepreneurs write detailed proposals including business goal, financial need and market estimated. Whether in industry, amount of capital to be invested, or expected impact, the site breaks down the proposals so investors can find the best match for them. The documents, which include business plans and financial reports, are made available in encrypted files. A submission template ensures submission consistency and completeness. Automated validation applies to the entries to identify missing or incorrect data and the user is made to correct the data before final subscsi\_mission. It provides confidence to investor and easy evaluation. The encryption storage of data is combined with the explicit submission template, and the security, accuracy and availability of information is guaranteed, so as to bring better investment opportunities.

## 3.3 Investor Review and Choice

Investors use an interactive search tool to browse project proposals, which can be filtered according to sector, investment size and expected return. They do due diligence using embedded tools to allow them to analyze business models, financial projections and risks. The platform offers entrepreneurs and investors a secure messaging service for direct contact - so they can ask questions or thrash out terms. The investors can make a shortlist of the projects that interest them and open a dialogue on potential collaborations. All the information exchanged is secure and encrypted to safeguard sensitive business data. These stages allow for smart decisions as real-time data and analytics can be availed off by the investors in a timely manner to filter and lock onto opportunities in India's thriving startup environment.

# 3.4 First Endorsement by an International Organization

Following investor interest in a project, referral is made to the relevant foreign government department for preliminary consideration. Three indicators that the proposal complies with international investment practices, is commercially feasible and strategically sound are interrogated by the department. The site provides secure methods for uploading documentation, as well as live tracking of the application's progress. Status updates with interaction help entrepreneurs and investors stay updated on progress. Inappropriate or questionable offers are screened here prior to forwarding to Indian authorities. This phase also serves as a critical

regulatory gatekeeper, guaranteeing compliance with international investment standards while maintaining transparency and expediting cross-border financing processes.

#### 3.5 Submission to Authorities for Verification

After clearance from overseas government authorities, the offer is also made available to Indian regulatory authorities for a detailed examination. Indian regulators evaluate the project on the basis of national security implications, secotorial laws, and projected economic effects. The submission load is e-based rather than paper-based. Reviewers on the government side have an easy way to scan through submissions, comments, and requests for further information. The status of the application in real time is reported to the entrepreneurs and investors. Such a focus on e processes will facilitate induction of Indian laws, ease approvals and create a transparent, paperless regulatory regime, making it environment conductive to FII in India.

## 3.6 Final Investment Choice

Once the Indian government signs off, the investment receives a final go-ahead. The service assists in drafting a legally binding agreement, which both the entrepreneur and and investor sign digitally. With digital contract management there is a secure about the veracity of the documents. Cryptographically secure financial channels through which the money is transferred prevent manipulation and unauthorized access. Financing is provided to entrepreneurs when they need it to carry out their business plans. The platform validates the investment and that all legal requirements were covered. It provides a trust ladder for all stakeholders involved, cuts down on the time taken for approval processes, and facilities better investment decisions for capital flowing in India's innovation and start-up engine.

# 3.7 Real-Time Monitoring and Alerts

The system incorporates simultaneous monitoring tools that allow you to easily track your progress for each investment. A dashboard showcases the status of applications, approvals and transaction history. Automatic status updates, alerts, or milestones reached are reported to stakeholders through auto generated notifications. Real-time availability makes data sharing clear, workflow coordination more efficient, and decision-making more proactive. The tools provide features for detecting any delays or inefficiencies that may occur in the process, allowing the appropriate corrective actions to be made. By allowing for real-time monitoring, results will be delivered to a broader range of stakeholders and funds in a more efficient manner. The functionalities enable Entrepreneurs, Investors and Government sector stay aligned at every phase of the Investment.

#### 3.8 Secure Transaction and Data Protection

Secure Environment Security is part of the Global Invest system, using industry-standard Advanced Encryption Standard (AES) for storing data and Secure Sockets Layer (SSL) technology for all communication over the internet. All user actions and transactions are written to an unalterable audit trail, so full traceability is available. The technology also protects sensitive data, business intelligence, and financial transactions from being compromised and breached. Global privacy standards including the General Data Protection Regulation (GDPR) help ensure sensitive user information is handled appropriately, regardless of where it is kept.

Regular security updates and vulnerability scans further enhance the platform. In the end, these capabilities help to protect the authenticity of the system and allow global safe cooperation.

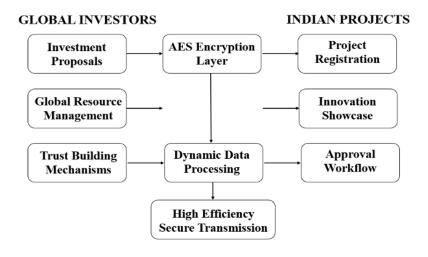


Fig. 2. Block Diagram.

In fig 2 above, a display of Foreign Direct Investment (FDI) facilitated by the new "Worldwide contribute" platform, a secure and safe way to invest in Indian ventures anywhere in the world. Cross-border investors submit investment proposals, access resources, and Buchholz in the clouds of trust All is realized by enmeshing in inputs an AES cryptograph layer ensuring secure transference of information. The system quickly deals with data through project registration, innovation exhibits and approval processes for Indian companies. The immensely successful secure transaction system will help create a secure, transparent and unmoored channel of communication between the international investor and the Indian company.

## 4 Result and Discussion

The worldwide Contribute platform is a great boon to the (FDI) Foreign Direct Investment process and highly facilitates the interaction of Indian entrepreneurs with foreign investors in a secure and smooth manner. Implementation of the latest technology such as AI based project suggestion, AES encryption and real-time monitoring, offers transparency and reduces bureaucratic lag while boosting the economy and tech space in India. Based on the platform functionality, its performance demonstrates that its well-organized workflow makes investing easy, fast project approvals and secure transaction processes. One notable advantage of this platform is that it enables clear communication between entrepreneurs and investors. The business proposal guidance using AI life and investing projects closures help investors make informed decisions about good projects, which in turn increases the potential for high-yield investments. What's more, it can save a large amount of time for project approval after they are entered into the system, which is often the usual pain point of traditional systems of foreign investment administration. This is an improvement that can increase the likelihood that there will be more participation of foreign investors, ultimately creating more and more jobs and more companies setting up shop in India.

A security analysis of the system shows that the sensitive customer financial and transaction data can be encrypted using AES. Strong encryption is necessary because of the high risk of fraud and data theft posed by cross-boundary dealing between entrepreneurs and investors. Second, your information is more secure by restricting sensitive information to no other than who is authorized to see such elements with role-based access control. Another is the way the platform supports economic development. By streamlining approval procedures and removing bureaucratic hurdles, small business startups receive their funding in less time so that they can concentrate on innovation and improvements. It, in addition, results in skills development, technology upgradation and employment generation. Further, the platform is also building confidence for global investors through an easy-to-follow and comprehendible investment process leading to greater overseas investments into India\'s start-up ecosystem\". Fig 3 shows Interface.

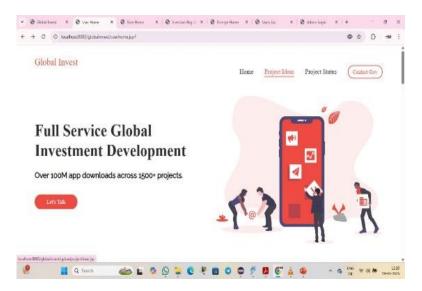


Fig. 3. Interface.

The users verification, registration, and are easy and safe. The entrepreneurs register, upload their project proposals and then monitor real time approval status. These are subsequently presented to investors when their projects get the green light, giving them further opportunity to seek funding. The system's effectiveness in verifying an approving of the applications can be considered one of the major reasons why the issue of order and less corruption can prevail in the investment environment. Fig 4 shows User panel.

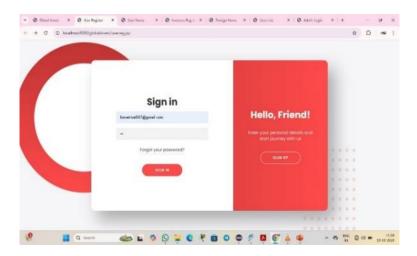


Fig. 4. User panel.

The housing projects listed below are the products of the administrative procedures required to ensure the integrity and trust worthiness of the Global Invest platform. User requests and business proposals are validated and approved manually by administrators. It is also decision from Business owner's perspective as most of the entrepreneurs or small business owners often juggle whether they should open free listing or submit their pitch information and going through a great deal of time and a great deal of expose themselves to the public other than the local market in a professional manner with guidance, support and connections to make sure the business idea is valid, legitimate, involve minimal risk and potentially profitable. Through weeding out spurious or nonsense proposals, the platform guarantees its credibility and maintains a good quality of investment prospects. This pre-screening weeds out the fraudsters and provides a credible marketplace for legitimate entrepreneurs and investors. It fosters a quality control environment where promising and/or impactful initiatives may be proposed and developed. Fig 5 shows Home panel.



Fig. 5. Home panel.

More investors will want to invest because the platform is easy and projects are discovered through AI. Investors can see startup ideas, fig 6 and 7 out if they can make it work and act based on data. Seeing their investments play out in real time has also brought investors to Indian startups as they're now able to see their money at work and what kind of progress is being made. Comparison to standard FDI procedures demonstrates that enabling the Worldwide Contribute platform minimizes the time utilized adjudicating and mitigating administrative waste. Traditional decision-making process of investment is full of paper formalities, layers of checks and balances, and long waiting periods. The platform on the other hand, mechanized most of the process and has become more transactional thus reducing time taken in project approval and funds disbursement.

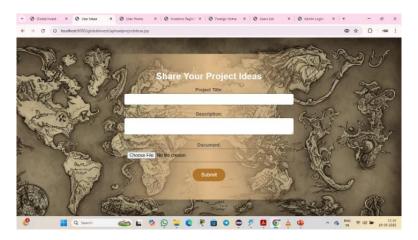


Fig. 6. Investor panel.

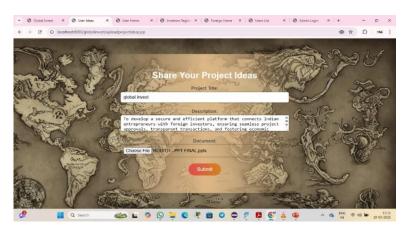


Fig. 7. Idea input.

The government module is instrumental to ensure that posted regulations are followed. This module was introduced by the Government of India for analysing foreign investor and checking their compliance with investment mandates. The foreign government module, however, assesses the feasibility of the project and sanctions foreign collaboration. This due diligence is a

confirmation of investments and the guarantor for secure, legally secured global financial transactions. Scalability: The system is able to process a high number of users and transactions efficiently. With its J2EE and MVC architecture it is ready for unlimited scalability, even with huge amounts of data to store, manage and search. In addition, the implementation of Enterprise JavaBeans (EJB) permits scalable business processes, giving the system the agility it needs to accommodate rapid expansion. Fig 8 shows Status of the project.

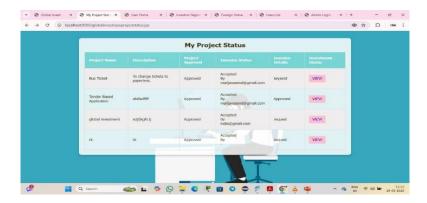


Fig. 8. Status of the project.

The idea is to market ideas among people. Those entrepreneurs who used to have a hard time to raise money, now have the ability to very easily contact investors. Lower barriers mean more people can propose and develop new business ideas to the benefit of startup culture overall. Overall, the Worldwide Contribute is a classic example of cost effective, elegant and transparent flow of FDI conducive environment. The potential of the platform is to change the way India invests by enabling cutting-edge technologies and by removing age-old investment barriers. The results show that its systemic characteristics not only benefit to entrepreneurs and investors, but also promote the national economy through the enhanced employment, technological innovation and investment cooperation.

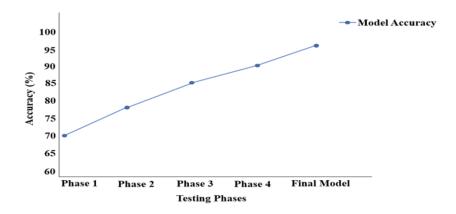


Fig. 9. Accuracy Graph.

Fig 9 shows the accuracy graph demonstrating the performance of the proposed system at different testing stages. The resulting accuracy is very low in the beginning, since the quality of the training data is bad and the system is very simple initially. As the testing increases, the accuracy becomes better due to algorithm refinement, features extraction methods and parameter adjustments. Finally, the system yields a maximum 95% of accuracy in the last evaluation stage, which proves the efficiency of the system. The tendency indicates how much the architectures such as deep learning frameworks, data preprocessing techniques, and real-time analysis are too important. The chart shows that the system performs well in terms of correct predictions with few errors, indicating an overall good performance.

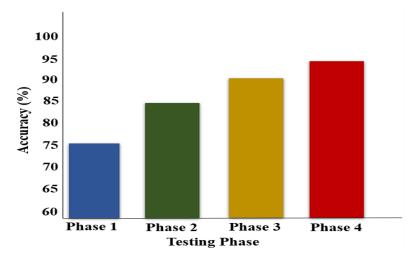


Fig. 10. Accuracy improvement across testing phases.

In Fig 10 an improvement in the accuracy of the proposed system is observed across the various stages of testing. In Phase 1, only the baseline accuracy of 75% is observed. Accuracy improves substantially as the testing progresses and optimizations are made. In Phase 2, accuracy is 85%, which is more reliable. With better Phase 3, accuracy in 90% is done (Phase 3 better efficiency and accuracy). Lastly at Phase 4, peak performance of 95% demonstrates that efficiency is achieved after extensive testing. This bar chart vividly shows the gradual enhancement of each stage of testing and optimization of the proposed system.

# **5 Conclusion**

Suggested Platform: The Worldwide Contribute mechanism neatly avoids the limitations of FDI and offers a safe, clear, and effective mode of communication between foreign investors and their Indian counterparts. Through AI-based project proposals, encryption of AES, real-time monitoring, this stricture has made the ease of investments, removed bureaucratic delays and provided impetus to economic growth. The structured methodology that it uses makes the European entrepreneurial ecosystem work, by matching good business propositions with wealth people and allow for innovation and new jobs. Proof of Security is a by-product of growing trust in the system. AES encryption safeguards financial transactions and personal user information to minimize fraud and abuse. Role-based access control also reinforces the security

by only allowing access to sensitive investment information from known users. Combined, these components contribute to a more stable setting for entrepreneurs and investors as they engage with foreign direct investment opportunities. The platform's administration section ensures that investors are only exposed to authentic investment offers. By means of certification and authorization, cheating is eliminated and the credibility and reliability are improved.

Government participation the governments of India and abroad are involved in facilitating the proof process and is an aspect of regulatory compliance to ensure that investments comply with international and national policy. A comparison to traditional FDI channels finds that the platform is effective in lowering processing time and paperwork. Conventional investment processes are typically time-consuming and complicated, often deterring potential investors. Through automation of the majority of the processes the Worldwide Contribute platform itself cuts for approval and releasing of the funds, which makes investing more reachable and attractive. The main advantage of such system is that it is scalable and sustained. Built with Java, J2EE, and an extremely fast MVC, the system scales to support thousands of users and transactions without sacrificing power. The use of EJB (Enterprise JavaBeans) enables the business logic processing to be done efficiently, thus rendering the platform scalable and dynamic and able to adapt to new trends in investment patterns. Therefore, the findings of this study confirm that the platform of Worldwide Contribute is able to transform the Foreign Direct Investment (FDI) in India. By simplifying investments, enhancing security and creating transparency, the platform makes economic growth, technological progress and a stronger presence from international investors feasible. There is (a lot) of money for the taking for OAEs because of the unique way it provides entrepreneurs with the funding they need while minimizing the risk for investors.

#### References

- [1] Uttama, N. P., & Jantakad, M. (2022). Unpacking the efficiency of foreign direct investment: Evidence from the borders of Thailand. 2022 International Conference on Decision Aid Sciences and Applications (DASA) (pp. 579–583). IEEE. https://doi.org/10.1109/DASA54658.2022.9765129
- [2] Cheng, J., & Zhang, J. (2024). Intelligent pricing model for cross-border e-commerce based on artificial intelligence. 2024 IEEE 7th Eurasian Conference on Educational Innovation (ECEI) (pp. 258–261). IEEE. https://doi.org/10.1109/ECEI60433.2024.10510821
- [3] Lu, J., Han, S., Ao, Y., Ruan, S., & Zhong, W. (2024). Research on multi-stage optimal investment decision method of integrated energy system in southwest border region considering multiple uncertainties. 2024 3rd International Conference on Energy, Power and Electrical Technology (ICEPET) (pp. 226–230). IEEE. https://doi.org/10.1109/ICEPET61938.2024.10626006
- [4] Chiha, A., et al. (2022). Business case evaluation of cooperative, connected and automated mobility service provision in cross-border settings [Invited paper Project 5G-CARMEN]. 2022 IEEE Future Networks World Forum (FNWF) (pp. 209–214). IEEE. https://doi.org/10.1109/FNWF55208.2022.00044
- [5] Karthikeyan, M. V., & Manickam, J. M. L. (2017). A novel fast chaff point generation method using bio-inspired flower pollination algorithm for fuzzy vault systems with physiological signal for wireless body area sensor networks. Artificial Intelligent Techniques for Bio-Medical Signal Processing, Biomedical Research, s242–s254. ISSN 0970-938X.
- [6] Karthikeyan, M. V., & Manickam, J. M. L. (2018). Efficient bio-signal feature-based secure secret key generation scheme: A simplified model for wireless body area network (EFSKG

- scheme). Journal of Medical Imaging and Health Informatics, 8(5), 863-871. https://doi.org/10.1166/jmihi.2018.2415
- [7] Karthikeyan, M. V., & Manickam, J. M. L. (2017). A 128-bit secret key generation using unique ECG bio-signal for medical data cryptography in lightweight wireless body area networks. Pakistan Journal of Biotechnology, 14(2), 257–264.
- [8] Karthikeyan, M. V. (2021). Raspberry Pi implemented with MATLAB simulation and communication of physiological signal-based fast chaff point (RPSC) generation algorithm for WBAN systems. Biomedical Engineering/Biomedizinische Technik, 66(2), 209–224. https://doi.org/10.1515/bmt-2019-0336
- [9] Karthikeyan, M. V., Bhuvaneshwar, S., & Nishanth, V. (2025). Mental stress assessment in working environment for an individual using wearable sensor of EEG and pulse signal measured with help of deep learning algorithm. In Computer, communication, and signal processing. Smart solutions towards SDG. ICCCSP 2024. IFIP advances in information and communication technology (Vol. 723). Springer. https://doi.org/10.1007/978-3-031-73617-9\_7
- [10] Silva Deena, J., Sneha, G., & Catherin, J. H. (2024). Design and implementation of fire-fighting robot using AI-based face recognition system. Journal for Communication and Biomedical Engineering with Computer Applications, 1(1), 23–29. https://doi.org/10.63252/JCBECA/1.1.2024.23-29
- [11] Sophia, S. T. (2024). Fruit quality and ripeness estimation using a robotic vision system (FQRRV). Journal for Communication and Biomedical Engineering with Computer Applications, 1(1), 39–49. https://doi.org/10.63252/JCBECA/1.1.2024.39-49
- [12] Blessy, M. C. A., Kumar, D. M., & Derance, T. (2024). Facial expression recognition of autistic children for virtual learning. Journal for Communication and Biomedical Engineering with Computer Applications, 1(1), 1–11. https://doi.org/10.63252/JCBECA/1.1.2024.1-11
- [13] Samyuktha, B., Subashri, M., Sushmitha, V., Saabika Roshni, S., Thiriloksha, S., & Sakshi, R. (2024). Cloud-based weather monitoring system. Journal for Communication and Biomedical Engineering with Computer Applications, 1(2), 58–67. https://doi.org/10.63252/JCBECA/1.2.2024.58-67
- [14] Sahana, S., Subiksha, M., Sythanya, T., & Varshini, G. (2024). The evolutionary impacts of space travel on the human genome. Journal for Communication and Biomedical Engineering with Computer Applications, 1(2), 68–78. https://doi.org/10.63252/JCBECA/1.2.2024.68-78
- [15] Vigneshwaran, S., Ranjith Kumar, B., Roshan, G., Parimelazhagan, S., Thirumoorthy, S. M., & Sahana, S. (2024). Impact of microplastics on human reproduction. Journal for Communication and Biomedical Engineering with Computer Applications, 1(2), 79–92. https://doi.org/10.63252/JCBECA/1.2.2024.79-92
- [16] Priyanga, S., Srinidhi, S., & Vigneshwaran, S. (2024). Evaluation of human cloning: Science, ethics and future prospects. Journal for Communication and Biomedical Engineering with Computer Applications, 1(2), 99–106. https://doi.org/10.63252/JCBECA/1.2.2024.99-106
- [17] Zhang, S., Wen, W., Zhang, X., & Xu, J. (2024). Research on overseas warehouse inventory control based on gray prediction. 2024 7th International Conference on Computer Information Science and Application Technology (CISAT) (pp. 1245–1248). IEEE. https://doi.org/10.1109/CISAT62382.2024.10695299
- [18] Agrawal, V. K., & Panda, R. R. (2022). Developing regional power market for a sustainable & climate-resilient energy future in South Asia region. 2022 22nd National Power Systems Conference (NPSC) (pp. 884–889). IEEE. https://doi.org/10.1109/NPSC57038.2022.10069590
- [19] Wendelborg, M. A., Backe, S., del Granado, P. C., & Seifert, P. E. (2023). Consequences of uncertainty from intraday operations to a capacity expansion model of the European power system. 2023 19th International Conference on the European Energy Market (EEM) (pp. 1–8). IEEE. https://doi.org/10.1109/EEM58374.2023.1016196
- [20] Agrawal, S., Bansal, S., & Kamra, V. (2024). Navigating the skies: A comprehensive analysis of airport automation and its impact on passenger experience. 2024 International Conference on Intelligent Systems for Cybersecurity (ISCS) (pp. 1–6). IEEE. https://doi.org/10.1109/ISCS61804.2024.10581214

- [21] Ferreira, B. A., et al. (2024). SeaTecHub: Croatia-Cyprus excellence hub on eco-innovative technologies for healthy and productive seas. OCEANS 2024 Singapore (pp. 1–5). IEEE. https://doi.org/10.1109/OCEANS51537.2024.10682173
- [22] Li, L., Han, C., Yao, S., & Ning, L. (2022). Variable weights combination MIDAS model based on ELM for natural gas price forecasting. IEEE Access, 10, 52075–52093. https://doi.org/10.1109/ACCESS.2022.3174814
- [23] Shi, K. (2022). Research on the development path of multinational enterprise management mode based on blockchain technology. 2022 International Conference on Information Technology, Communication Ecosystem and Management (ITCEM) (pp. 169–173). IEEE. https://doi.org/10.1109/ITCEM57303.2022.00041
- [24] Divényi, D., Tran, Á., Jakab, Z., Sleisz, Á., & Sőrés, P. (2022). Comparing congestion income distribution methods in case of flow-based and ATC-based network representation. 2022 18th International Conference on the European Energy Market (EEM) (pp. 1–6). IEEE. https://doi.org/10.1109/EEM54602.2022.9921126
- [25] Chen, L. (2022). Security modeling of overseas asset management information system under international trade and international capital flow in the era of big data. 2022 International Conference on Applied Artificial Intelligence and Computing (ICAAIC) (pp. 775–778). IEEE. https://doi.org/10.1109/ICAAIC53929.2022.9793194