



The Talent Layer

Co-Creating the Indo-Pacific's Next
Shared Infrastructure



Content

Contents

Executive Summary	2
Introduction	3
A Region of Matched Strengths	3
From Demographic Advantage to Regional Capability	4
How are Campuses and Protocols being Developed	5
Structuring the Indo-Pacific Workforce Architecture	6
Governance of the Workforce Architecture	7
Arc of Certification Creating the Arc of Trust	8
Purvodaya as the Anchor Region	8
Minerals, Energy and the Missing Process Engineer	9
Practicing Co-Creation: Practices that India can Adopt	10
Conclusion	10
Bibliography	12

Executive Summary

The Indo-Pacific has built shared systems for moving goods, capital and data, but people and their skills still stop at borders. A nurse trained in Kolkata or an engineer certified in Surabaya still faces re-examination and re-assessment when moving within the region. This paper argues that the next layer of regional integration will be human: a shared talent infrastructure, built with partners rather than for them. India has both the reason and the means to help build it:

- **Demographic complementarity:** Japan, Korea, Singapore and Australia bring capital, industrial systems and mature institutions but slowing workforce growth. India has a median age of about 29, around 68% of its population of working age, and a demographic window at its widest between 2030 and 2040.
- **Institutional groundwork already in place:** The Academic Bank of Credits (over three crore registered students), APAAR, the National Academic Depository and the National Credit Framework already make learning portable and verifiable at population scale.
- **A growing regional footprint:** Indian campuses in Zanzibar, Abu Dhabi, Dubai and, from July 2026, Malang in Indonesia, alongside Quad scholarships and joint programmes.
- **Untapped inbound capacity:** India hosts about 58,000 international students from 173 countries, a small share next to domestic enrolment of 4.5 crore.

The paper proposes an operating layer that sits beneath the ASEAN Qualifications Reference Framework and adds to it rather than replacing it. The model is UPI, which partner countries adopted without adopting India's currency. The architecture has four layers, jointly governed and designed to preserve each nation's control over its own qualifications:

- **Verification:** instant cross-border confirmation of credentials, extending India's depository and APAAR through bilateral agreements.
- **Vocabulary:** a shared skills taxonomy linked to AQRF levels.
- **Portability:** regional credit transfer and stackable micro-credentials.
- **Mobility:** ethical recruitment norms, pre-departure standards and portable social security.

Two further proposals follow. Every defence platform-transfer agreement should carry a jointly certified skills annexe, which would extend the "Arc of Trust" from hardware to the workforce that sustains it. And the Purvodaya belt, with about 43 crore people including the North-East, should anchor the initiative. It combines Nalanda's legacy, an engineering cluster sitting inside the mineral belt, and proximity to ASEAN. The concrete starting point is a jointly governed Indo-Pacific Centre for Minerals, Materials and Energy Skills there, plugging into the International Solar Alliance's STAR-C network. India, in turn, can learn from Singapore's SkillsFuture, Australia's vocational quality assurance and Japan's dual training systems.

Introduction

Knowledge is one such asset, the sharing of which if done for constructive processes can be used to develop not only the receiver's objectives but also the increase the positive outreach of the provider's long-term objectives. Knowledge has historically been an important currency in the Indo-Pacific region that has directly contributed to its connectivity and building lasting partnerships. The importance of knowledge is also emphasized in how it is one of the primary methods which promotes people and capabilities to cross borders.

The increasing dynamism that is present in workforces across geographies today can only be done justice by building institutions of talent that crosses borders and become centers of cross-cultural exchange of knowledge, information, and ideas. Therefore, a nurse trained in Kolkata who wishes to practise in Singapore, an engineer certified in Surabaya joining a project in Chennai, a technician qualified in Hanoi servicing equipment in Manila should eventually have the opportunity to practice that choice without getting lost in the complications of re-examinations, re-translations and re-assessments across multiple geographies.

This paper argues that the next shared layer of Indo-Pacific integration will be human which will be built together. It further argues how India has an unusual combination of reasons and means to help build it. This proposition is explained in this thought paper through four key anchors. Firstly, the demographic complementarity that makes this the moment; secondly is the institutional groundwork India has already laid; thirdly a concrete proposal for a shared talent infrastructure built with partners rather than for them; and the ultimate reason that positions the Purvodaya region as its natural anchor. With talent being Indo-Pacific's next great commons, custodianship of the commons means maintaining infrastructure that others use freely and govern jointly.

A Region of Matched Strengths

The Indo-Pacific as a region is entering a period of remarkable demographic complementarity and the region's prosperity over the next quarter-century will depend substantially on how well it organises that complementarity into working arrangements. The region can be seen on two sides of the demographic line which in turn creates the potential for India to actually become the driver of growth and development for the next few decades. The region's most advanced economies have reached a stage of maturity that is itself a formidable asset. Japan, the Republic of Korea, Singapore and Australia bring deep pools of patient capital, world-class industrial systems, mature regulatory institutions and accumulated technological know-how that took generations to build. However, they are also moving into a phase where their domestic workforces will grow at apace slower than their ambitions. While it becomes a normal signature of a successful development path, it also raises the question of which demographic hosts the skilled workforce who will drive growth for the next decades.

It is this question that India answers and is backed by the strongest source in its numbers. Its median age is roughly 29¹, against about 40 in China² and close to 49 in Japan. Around 68% of Indians are of working age³, and the absolute size of that cohort is projected to keep expanding to somewhere near 1.04 billion people by around 2040. The Carnegie Endowment places India in the mid-window phase of its demographic opportunity, with the window at its widest between 2030 and 2040⁴. What becomes a strategic perspective is viewing them less as competitive positionality and more as a natural matching of demographic progression.

¹ Worldometer. 2026. "India Demographics 2019 (Population, Age, Sex, Trends) - Worldometers." Worldometers.Info. 2019. <https://www.worldometers.info/demographics/india-demographics/>.

² Georank. 2025. "China Demographics Data 1960-2026: Median Age Growth." Georank. October 22, 2025. <https://georank.org/demographics/china>.

³ Smile Foundation. 2024. "Understanding the Working-Age Population of India." Smile Foundation. April 9, 2024. <https://www.smilefoundationindia.org/blog/understanding-the-working-age-population-of-india/>.

⁴ Jadhav, Apoorva. 2026. "Unlocking India's Urban Dividend." Carnegie Endowment for International Peace. July 30, 2026. <https://carnegieendowment.org/research/2026/07/india-city-population-growth-urban-demographic-dividend>.

With India, the Purvodaya region is one of the concentrated regions. The Purvodaya states of West Bengal, Bihar, Jharkhand, Odisha and Andhra Pradesh are home to some 37.5 crore people⁵ and contribute roughly ₹65 lakh crore to national output. Some of the region's states also have a demographic profile that is younger than the national average. Most notable mentions have to be those of Bihar and Jharkhand⁶. Together with the North-Eastern states, this belt accounts for around 43 crore people. This is a larger workforce than that of the entire European Union, sitting directly on the Bay of Bengal and within a few hours' flight of every major ASEAN capital.

The present juncture of technological advancement also makes the moment of action rather than hesitation. Artificial intelligence is reorganising what work looks like, and the clearest effect so far is to raise the premium on capabilities that are supervised, applied and embedded in a domain. These are precisely the capabilities that are expensive to build alone and far cheaper to build together through a combination of shared curriculum, joint certification and common standards. A region that builds its talent infrastructure in the next five years will shape how that transition lands. The opportunity can be states as how the Indo-Pacific contains the demand for skilled people and the supply of them that have to be brought together to fulfill the region's objectives.

From Demographic Advantage to Regional Capability

A large workforce just left on its own merit is a fact that only becomes a regional capability when specific policy infrastructures are created and given the responsibility to do so.

The National Education Policy 2020 set in motion the most substantial restructuring of Indian higher education in decades and have many consequential elements. The Academic Bank of Credits, established under University Grants Commission (UGC) regulations in 2021, is a national digital repository in which credits earned at any registered institution are deposited to a student's account and can be transferred, accumulated and redeemed across institutions. More than three crore students had registered on the platform by early 2024, and registrations have continued since. It is paired with the Automated Permanent Academic Account Registry (APAAR)⁷, which gives each learner a single persistent identifier, and with the National Academic Depository, which holds verified award records. The National Credit Framework extends the same credit logic across school, higher and vocational education, so that a skills certificate and a degree module become commensurable units rather than separate currencies.

This essentially reflects a national system for making learning portable, and verifiable at population scale. It has developed to be one of the most construction education management systems within the region of the Indo-Pacific. The internationalization programme has advanced alongside it. The UGC's Academic Collaboration Regulations of 2022 permit Indian institutions to run twinning, joint and dual-degree programmes with foreign partners⁸. Foreign universities have been allowed to establish campuses in India, and Indian institutions to establish campuses abroad. Study in India has built a single front door for prospective international students, and a dedicated student visa category was introduced to streamline entry.

The next phase of this build-out is where the regional opportunity lies. The Economic Survey 2025-26 and NITI Ayog's December 2025 working paper on international student mobility have both mapped this opportunity.

⁵ Amit Kapoor and Sheen Zutshi. 2024. "Purvodaya for Eastern Revival – Institute for Competitiveness." Competitiveness.In. August 9, 2024. <https://competitiveness.in/purvodaya-for-eastern-revival/>.

⁶Rukmini S. 2025. "Age Distribution in Indian States." Data For India. January 13, 2025. <https://www.dataforindia.com/age-distribution-states/>.

⁷"Academic Bank of Credits and APAAR Building India's Lifelong Learning Ecosystem Academic Bank of Credits: An Overview." 2026. <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2026/jul/doc202675912501.pdf>.

⁸ ZGEN Global. 2026. "ZGEN Global — Connecting the World of Academia." Zgenglobal.Com. Accessed September 23, 2026. <https://www.zgenglobal.com/resources/guides/twinning-program-regulations>.

India currently hosts around 58,000 international students drawn from 173 countries⁹, a figure that has grown steadily. India is already the principal host within South Asia, attracting over four-fifths of the sub-region's inbound students. Set against a domestic enrolment of 4.5 crore¹⁰, however, international students fall short of major representation.

That gap says how India's inbound capacity is almost entirely untapped, and that the constraints are practical and solvable rather than structural. Developing faster recognition processes of foreign qualifications, clearer post-study pathways, published graduate-outcome data that lets a prospective student in Jakarta or Colombo judge an Indian programme on evidence, and campus services built for learners arriving from elsewhere will be crucial in developing India's potential of hosting more international students from the Indo-Pacific region.

The strategic point is that every one of these reforms was designed for domestic purposes and every one of them is regionally useful. A credit architecture built to let an Indian student move from Ranchi to Bhubaneswar is, with modest extension and partner agreement, an architecture that could let a student move from Bhubaneswar to Bangkok.

How are Campuses and Protocols being Developed

While India has begun the sharing of academic knowledge by means of exchange of ideas and framework, the campus story is a recent occurrence that has potential yet to be explored.

IIT Madras opened in Zanzibar; IIT Delhi in Abu Dhabi in September 2024; IIM Ahmedabad in Dubai from September 2025. In July 2026, during the Prime Minister's visit to Jakarta, IIM Bangalore announced its first overseas campus at the Singhasari Special Economic Zone in Malang, East Java¹¹, under a memorandum with the zone's development authority. The components of the curriculum reflects how contemporary geopolitical and technological advancements are forming the base with focus on global supply chains, digital transformation, artificial intelligence, climate and sustainability. Set alongside this is the Centre for Southeast Asian Studies inaugurated at Nalanda University, the 50 Quad scholarships worth \$500,000 funding four-year engineering degrees at Indian public institutions under the Wilmington Declaration¹², and the widening web of joint programmes with Australian, Japanese and ASEAN universities. India's academic footprint in the region is real and growing.

The creation of campuses across geographies plays a crucial role in developing a deeper relationship between civilizations that is based on the creation and sharing of talent and knowledge. The longevity that emerges because of shared campuses continues to connect across multiple generations, thereby also strengthening the bilateral partnership. India's diplomatic initiatives in the Indo-Pacific have been positioned as one that goes back centuries. While past experiences of knowledge exchange and transfer of students has contributed to India's connect with different countries in the Indo-Pacific, its future lies in creating a shared layer of talent that is developed through transnational education delivered through twinning arrangements, franchised programmes, joint and dual degrees and articulated credit transfer, which reaches students by the hundred thousand without a single building overseas.

The campuses developed under India's Indo-Pacific strategy should be a greater reflection of the contemporary challenges that the member states face and the skills developed in these campuses help in addressing not only the

⁹Desk, TN Education. 2026. "AISHE Report: India Hosts 58,134 Foreign Students from 173 Countries; Nepal Leads, Karnataka Tops Host States." TimesNow. Times Now. July 12, 2026. <https://www.timesnownews.com/education/aishe-report-india-hosts-58134-foreign-students-from-173-countries-nepal-leads-karnataka-tops-host-states-article-155079487>.

¹⁰ SEO EVM. 2026. "Higher Education Enrolment Unlocks Record Growth 2026." Education View Magazine. July 9, 2026. <https://educationviewmagazine.in/india-higher-education-enrolment-reaches-nearly-4-5-crore/>.

¹¹ "Indian Institute of Management, Bangalore." 2025. iimb.Ac.In. 2025. <https://www.iimb.ac.in/pm-narendra-modi-announces-iimb-campus-indonesia>.

¹² ET Education. 2024. "India Announces \$500,000 Scholarship for Indo-Pacific Students." ETEducation.Com. PTI. September 23, 2024. <https://education.economictimes.indiatimes.com/news/higher-education/india-announces-500000-scholarship-for-indo-pacific-students/113584477>.

regional challenges but provide the world with a global strategy. The curriculum should be developed in a manner that goes beyond the traditional realm and adopts the best that country specific curriculum has to offer to create a joint layer of knowledge and talent. The success of building such a talent layer lies almost primarily in how well the idea of new interests can be combined with existing knowledge and practice. The depth with which India will be able to build a deeper relationship of knowledge with a partner and extend capability, the more suited it will become as the custodian of the Indo-Pacific.

Structuring the Indo-Pacific Workforce Architecture

The process of building a shared workforce will essentially require a common architecture that allows qualifications, skills and eventually career move across the region in a reliable and smooth manner. This common architecture will have to deliberate upon the different practices that already exist and find a middle ground that is acceptable by most member countries of the Indo-Pacific.

While developing or proposing the development of a common educational architecture it is important to highlight how the region already has one in the form of the ASEAN Qualifications Reference Framework (AQRF) that has been running since its committee first convened in 2017¹³. The AQRF requires no member state to change its national qualifications system, and it works by referencing rather than harmonizing. Thus, each country maps its own levels to a common eight-level reference, and comparison becomes possible without anyone surrendering control. Most ASEAN member states have completed referencing.

India's objective of creating this shared architecture should follow an additive approach, rather than being an alternative to the AQRF. If the AQRF can be continued to be treated as the diplomatic and technical framework for comparing qualifications, India has the opportunity to build the operating layer of talent beneath it. This layer helps to make a referenced qualification verifiable, transferable and useable in practice. It is the layer that India has domestic precedent and can build regionally for the Indo-Pacific.

The common architecture that helps build that layer of talent is based on four layers:

Layer 1: Verification

Due to the wide diversifications in educational systems in the region, the architecture should have a mechanism of prompt confirmation that a credential was real and has credibility in the host country's education system. India's Academic Depository and APAAR identity are already operational within the Indian context. This should be extended through bilateral agreements by means of which an employer in Ho Chi Minh City could verify an Indian diploma instantly, and a university in Bhubaneswar could do the same for an Indonesian one. This layer alone removes one of the largest frictions in regional mobility and eliminates the credential-fraud problem that quietly depresses trust in every direction.

Layer 2: Vocabulary

Efforts should be made to build a sense of uniformity within this common architecture as much as possible without compromising on national priorities. A shared skills taxonomy that gives common meaning to occupational competencies, sitting beneath AQRF's qualification levels and linked to them. A qualification level tells you how advanced a credential is; a taxonomy tells you what the holder can do. India's National Credit Framework, which already spans academic and vocational learning, is an unusual starting point because it treats a skills certificate and a degree module as commensurable. This is the exact property a regional taxonomy needs.

¹³The ASEAN Admin. 2024. "Higher Education: The ASEAN Qualifications Reference Framework - The ASEAN Magazine." The ASEAN Magazine. July 31, 2024. <https://theaseanmagazine.asean.org/article/higher-education-the-asean-qualifications-reference-framework/>.

Layer 3: Portability

The greater the ease of transfer when it comes to talent and knowledge, the stronger the base of this common architecture will be. Emphasis should be on regional credit transfers and stackable micro-credentials which are built outward from the Academic Bank of Credits model. A student could complete two years in Manila, two in Kolkata, and receive a degree that both systems recognize. Similarly, a working professional could accumulate short certifications across borders into a full qualification.

Layer 4: Mobility

Common architecture should be developed in a manner that enables the actual movement of students across the different geographies of the Indo-Pacific. This includes giving students clear guidance on pre-departure standards, ethical recruitment norms that protect from exploitative intermediaries, and the portability of social security.

While the four layers decide what travels, the mechanism that is can potentially be used besides the establishment of physical campuses and universities becomes important. However, this question of how it travels has already been answered by India's digital public infrastructure. UPI and RuPay are now accepted across Singapore, Nepal, the UAE, France, Bhutan, Mauritius, Qatar, Cambodia and Sri Lanka, with the UPI-NPI person-to-person linkage with Nepal becoming operational in June 2026¹⁴.

The lesson for a talent architecture is how no partner country had to adopt India's currency in order to adopt India's rails. Sovereignty was preserved at every node while interoperability was achieved across all of them. The same separation must govern the talent layer by means of which no country should have to adopt India's curriculum in order to use India's verification. A credential exchange built on consent-based architecture, where the learner holds the credential, the employer requests it and the issuing institution attests to it in real time, is the same design pattern applied to a different asset class. India's comparative advantage in the Indo-Pacific is not that it has the largest education system. It is that it has already proven, at population scale and then across borders, that it can build public digital infrastructure that others are willing to plug into.

Governance of the Workforce Architecture

Being the custodian of the Indo-Pacific, India will have to go beyond building the architecture to also include a governance design that ensures the continuity of operations. The governance design should be based on an adoption that follows from the adopter's interest rather than the builder's enthusiasm

The best example in this regard would be to emulate how India's Unified Payment Infrastructure (UPI) has been adopted in different geographies across the world. The most effective way of practicing this would be contribution in engineering capacity and operating experience at scale rather than being focused on ownership.

Some of the key principles that should determine this are:

1. Jointly Governed from Day One: Ensuring joint governance will work as an encouraging factor that motivates other member countries to participate in developing the architecture as one of their own. A steering committee should be convened with ASEAN, Pacific Island nations and South Asian partners as equal members with a formal link to the AQR Committee.
2. Open Qualifications and Source: The efficiency with which each country can run their own node without the proprietary dependency or a single point of control. The independence will foster a joint sense of responsibility and contribute to the "Arc of Trust" between the different countries of the Indo-Pacific.

¹⁴ Desk, Business Today. 2026. "No Cash, No Problem? UPI Is Now Accepted in 11 Countries: Check Where You Can Pay." Business Today. September 2, 2026. <https://www.businesstoday.in/latest/world/story/no-cash-no-problem-upi-is-now-accepted-in-11-countries-check-where-you-can-pay-552665-2026-09-02>.

3. National Sovereignty over Qualifications: Given how the Indo-Pacific is created by a combination of multiple small and middle-sized countries besides the bigger economies, steps should be taken to ensure national sovereignty and interests are not paying the cost of building a shared infrastructure. The architecture while comparing and verifying should refrain from deciding the worth of any individual educational degree.
4. Reciprocity by Design: The continued focus should be on ensuring reciprocity of practices and credentials to build the "Arc of Trust" within the region. This trust not only helps strengthen current dynamics but also actively contributes to creating a more long-lasting architecture that stands the test of time and evolution.

This shared talent architecture positions itself as a unique offering that emerges from the Indo-Pacific and prepares a whole generation of individuals to become more adept in developing long-term solutions to the challenges of the present and future centuries.

Arc of Certification Creating the Arc of Trust

The Prime Minister's July 2026 tour of Jakarta, Canberra and Wellington framed an emerging "Arc of Trust" across the Indo-Pacific¹⁵, resting on financial services, resource processing, advanced manufacturing and human capital. The hardware layer of that arc is already substantial. Following the Philippines, India formalised BrahMos contracts with Vietnam in May 2026 and Indonesia in July 2026¹⁶, and the Akash system secured its first overseas buyer in 2022, with Pinaka deliveries progressing alongside.

What is rarely stated is that a platform export is a thirty-year human commitment. Missiles require maintenance crews, test engineers, software sustainment teams, safety-certification authorities and range instrumentation specialists in the recipient country. Co-development of hardware is, in operational terms, co-development of a workforce. This is where the talent architecture and the security architecture converge, and it is the convergence India is uniquely placed to institutionalise.

Two proposals follow. First, every platform-transfer and co-development agreement should carry a skills annexe specifying jointly certified technician and systems-engineering qualifications, referenced to AQRF levels and verifiable through the credential layer described above. Second, reciprocity must be real: Indian engineers embedded in Australian, Japanese and Korean quality-assurance systems, not only partner technicians trained in India. There is a further, underappreciated benefit. Defence-adjacent training carries genuine export-control obligations, and a shared credential framework with auditable trails is therefore not merely an administrative convenience but a compliance and confidence-building instrument. Trust in the Indo-Pacific will not finally be built by transferring capability. It will be built by transferring the certified capacity to sustain it.

Purvodaya as the Anchor Region

Eastern India has been the hub of educational and cultural development since time immemorial. The region has been the home to some of the world's first educational institutions and academic centers. Long before the rise of Western universities, monumental monastic complexes like Nalanda and Vikramashila drew thousands of international scholars to study under luminaries like Silabhadra and Atisa¹⁷. The region also fostered foundational classical thinkers, notably Aryabhata, who pioneered early mathematical and astronomical concepts from Kusumapura. Centuries later, pioneer institutions like the Calcutta Madrasah and Presidency University sparked

¹⁵ "Analysis - PM Modi Constructs New Arc of Trust Across Indo-Pacific Amid Rising Chinese Naval Assertiveness: Report." 2026. Defence News India. July 11, 2026. <https://defence.in/threads/pm-modi-constructs-new-arc-of-trust-across-indo-pacific-amid-rising-chinese-naval-assertiveness-report.18250/>.

¹⁶ "Indonesia Nears BrahMos Missile Deal As India Expands ASEAN Defence Partnerships." 2023. Indiandefensenews.in. 2023. <https://www.indiandefensenews.in/2026/05/indonesia-nears-brahmos-missile-deal-as.html>.

¹⁷ Yogi, Manisha. 2026. "Ancient Indian Universities as Centre of Learning: Study of Nalanda and Vikramshila." *Journal Peer Reviewed Journal INTERNATIONAL JOURNAL OF TRENDS IN EMERGING RESEARCH AND DEVELOPMENT* 4. <https://doi.org/10.5281/zenodo.22912717>.

the Bengal Renaissance, nurturing modern scientific visionaries like Jagadish Chandra Bose and Satyendra Nath Bose and cementing the region's unbroken legacy of academic excellence. Eastern India, therefore should be the inception point of regional talent infrastructure.

This legacy of academic excellence has continued to the modern century, thereby positioning the Purvodaya region a hub of growing knowledge and talent. It is characterized by the combination a younger and agile workforce along with modern infrastructure, which builds the contributory aspect to the common architecture

Young Workforce

The Purvodaya region can be a credible contributor to the skilled talent that contributes to building the Indian base of the common architecture. The Purvodaya states together with the North-East account for some 43 crore people, a younger age profile in most states than the national average, and an expanding higher education and skilling base.

Institutional Infrastructure

The eastern engineering and applied-science cluster is deep and specific with the presence of IIT Kharagpur, IIT (ISM) Dhanbad, NIT Rourkela, IIST Shibpur, Jadavpur University, the Indian Statistical Institute, CSIR-NML at Jamshedpur, and a fast-growing private sector in and around Kolkata and Bhubaneswar. Critically, this cluster sits inside the mineral belt, which makes it unusual globally. The Indo-Pacific's critical minerals agenda which includes Indonesia's nickel, Australia's lithium, the region's rare earth ambitions faces a shared bottleneck that is not access to ore but the scarcity of trained metallurgists, separation chemists and process engineers. Given East India's location, it can be the seat of a physical institution that adopts the common architecture and trains individuals across the Indo-Pacific to develop these specialized capabilities.

Minerals, Energy and the Missing Process Engineer

The critical minerals sector is the strongest single case for locating the architecture in eastern India. The National Critical Mineral Mission¹⁸ commits to introducing specialized critical-minerals modules into existing mining, metallurgy and recycling degree programmes, and to offering capacity-building programmes to resource-rich countries through GSI, MECL, IBM and Indian institutes and universities.

The constraint it addresses is one of global nature. Hydrometallurgists, solvent-extraction engineers and geometallurgists with practical experience in lithium brine or rare earth processing are scarce worldwide, and skilled labour shortages directly constrain processing plant ramp-up schedules. Indonesia holds the nickel, Australia the lithium and the quality-assurance systems, and eastern India the mineral belt and the training institutions sitting inside it. An Indo-Pacific Minerals and Energy Skills Corridor, anchored across IIT (ISM) Dhanbad, CSIR-NML Jamshedpur, NIT Rourkela and IIT Kharagpur, could issue stackable, jointly certified micro-credentials in separation chemistry, tailings management and ESG-compliant mine planning.

Clean energy admits the same approach without new institutions. The International Solar Alliance¹⁹ already operates Solar Technology Application Resource Centres in member countries to build skills and institutional capacity, alongside a fellowship programme for mid-career professionals, and its Green Hydrogen Innovation Centre, backed by the Asian Development Bank, provides training and expert resources across member states. The talent layer should plug into STAR-C as its certification spine rather than duplicate it, extending coverage to grid-integration engineers, battery-storage technicians and electrolyser operations personnel. The binding

¹⁸ "National Critical Mineral Mission Powering India's Clean Energy Future (Ministry of Mines)." 2025.

<https://static.pib.gov.in/WriteReadData/specificdocs/documents/2025/apr/doc202549537601.pdf>.

¹⁹ "International Solar Alliance." 2025. Isa.Int. 2025. <https://old.isa.int/star-c>.

constraint on the region's energy transition is not capital and not technology. It is the certified technician, and certification is the least expensive and most durable thing India can offer.

A CONCRETE ANCHOR

Establishing an Indo-Pacific Centre for Minerals, Materials, and Energy Skills within the Purvodaya belt could be a strong starting initiative. It can be jointly governed by partner countries and be open to students and working professionals from across the region.

The curriculum could potentially include mineral processing and hydrometallurgy, battery materials and recycling, grid-scale storage, and green hydrogen and ammonia systems engineering and combine classroom teaching with shared pilot-plant facilities. It would be the first institution to operate on the Talent Stack principles described earlier following principles such as credentials issued in verifiable digital form, credits deposited so that they transfer, curricula designed jointly with partner institutions, and governance shared from the beginning.

Practicing Co-Creation: Practices that India can Adopt

The diversity of the Indo-Pacific region can also be visible in the different human capital systems which also create a learning opportunity for India and its academic innovation.

Singapore's SkillsFuture is one of the most thoughtfully engineered lifelong learning instrument in the world. Its Level-Up Programme²⁰ has solved the pressing problem of mid-career workers rationally avoid retraining because they cannot afford the lost income. Singapore's answer is a mid-career credit top-up of \$4,000 that does not expire, subsidies covering up to 90% of course fees, and a training allowance set at half of a worker's recent average income, capped at S\$3,000 a month for up to 24 months. The design insight is that the binding constraint on adult reskilling is income risk, not motivation or course availability. India's initiative can incorporate these insights into programs to ensure greater participation from mid-career professionals.

Australia's vocational quality assurance architecture acting as a national regulator is a register of recognised training organisations and published completion and employment outcomes. This is the model for what gives vocational credibility in an employer's hands. India's National Credit Framework will only deliver its promise if the qualifications flowing through it carry that kind of assurance.

Japan's dual training systems have sustained something India has attempted still in the process of achieving. A genuine employer co-ownership of vocational training, with firms treating apprentices as an investment rather than a compliance obligation could significantly contribute to upskilling and produce a more evolved workforce. The lesson is institutional rather than curricular, and worth incorporating in any form of joint talent layer.

This is the substance behind the word co-creation. The talent layer will be worth building only if every participant expects to learn from it.

Conclusion

The Indo-Pacific has spent three decades building the institutions of exchange. Goods move across the region on shared rails, capital moves on shared rules, and data increasingly moves on shared standards. People and their capabilities remain the

²⁰ SkillsFuture. 2023. "SSG | AboutSkillsFuture." Www.Skillsfuture.Gov.Sg. 2023. <https://www.skillsfuture.gov.sg/AboutSkillsFuture>.

exception, held back less by distance than by the absence of a common architecture through which a qualification earned in one country becomes legible in another. This paper has argued that closing that gap is the region's next integrative task, and that India arrives at it with an unusual combination of reasons and means: a workforce entering its widest demographic window precisely as partner economies enter their most capital-rich and institutionally mature phase; a domestic credit, credential and identity architecture already operating at population scale; a demonstrated record of building open digital infrastructure that others have chosen to adopt; and in Purvodaya, a region where the workforce, the institutions, the mineral belt and the sea routes to ASEAN sit within the same few hundred kilometres. The work ahead is one of connection rather than creation.

Eastern India understood this long before the language of regional architecture existed. Nalanda and Vikramashila drew scholars from China, Korea, Java, Tibet and Sri Lanka across deserts and oceans for seven centuries without establishing a single campus abroad, because they had built something the region wanted and had made it possible to come. The ambition now is both more modest and more reciprocal: not to be the destination, but to help build the rails. The Indo-Pacific's ports, payment systems and trade corridors were built by countries choosing to connect to one another on terms they set together. Its talent layer can be built the same way.

Bibliography

- "Academic Bank of Credits and APAAR Building India's Lifelong Learning Ecosystem Academic Bank of Credits: An Overview." 2026. <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2026/jul/doc202675912501.pdf>.
- "Analysis - PM Modi Constructs New Arc of Trust Across Indo-Pacific Amid Rising Chinese Naval Assertiveness: Report." 2026. Defence News India. July 11, 2026. <https://defence.in/threads/pm-modi-constructs-new-arc-of-trust-across-indo-pacific-amid-rising-chinese-naval-assertiveness-report.18250/>.
- The ASEAN Admin. 2024. "Higher Education: The ASEAN Qualifications Reference Framework - The ASEAN Magazine." The ASEAN Magazine. July 31, 2024. <https://theaseanmagazine.asean.org/article/higher-education-the-asean-qualifications-reference-framework/>.
- Business Today Desk. 2026. "No Cash, No Problem? UPI Is Now Accepted in 11 Countries: Check Where You Can Pay." Business Today. September 2, 2026. <https://www.businesstoday.in/latest/world/story/no-cash-no-problem-upi-is-now-accepted-in-11-countries-check-where-you-can-pay-552665-2026-09-02>.
- ET Education. 2024. "India Announces \$500,000 Scholarship for Indo-Pacific Students." ETEducation.com. PTI. September 23, 2024. <https://education.economictimes.indiatimes.com/news/higher-education/india-announces-500000-scholarship-for-indo-pacific-students/113584477>.
- Georank. 2025. "China Demographics Data 1960-2026: Median Age Growth." Georank. October 22, 2025. <https://georank.org/demographics/china>.
- "Indian Institute of Management, Bangalore." 2025. iimb.ac.in. 2025. <https://www.iimb.ac.in/pm-narendra-modi-announces-iimb-campus-indonesia>.
- "Indonesia Nears BrahMos Missile Deal As India Expands ASEAN Defence Partnerships." 2026. Indiandefensenews.in. May 2026. <https://www.indiandefensenews.in/2026/05/indonesia-nears-brahmos-missile-deal-as.html>.
- "International Solar Alliance." 2025. isa.int. 2025. <https://old.isa.int/star-c>.
- Jadhav, Apoorva. 2026. "Unlocking India's Urban Dividend." Carnegie Endowment for International Peace. July 30, 2026. <https://carnegieendowment.org/research/2026/07/india-city-population-growth-urban-demographic-dividend>.
- Kapoor, Amit, and Sheen Zutshi. 2024. "Purvodaya for Eastern Revival – Institute for Competitiveness." Competitiveness.in. August 9, 2024. <https://competitiveness.in/purvodaya-for-eastern-revival/>.
- "National Critical Mineral Mission Powering India's Clean Energy Future (Ministry of Mines)." 2025. <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2025/apr/doc202549537601.pdf>.
- Rukmini S. 2025. "Age Distribution in Indian States." Data For India. January 13, 2025. <https://www.dataforindia.com/age-distribution-states/>.
- SEO EVM. 2026. "Higher Education Enrolment Unlocks Record Growth 2026." Education View Magazine. July 9, 2026. <https://educationviewmagazine.in/india-higher-education-enrolment-reaches-nearly-4-5-crore/>.
- SkillsFuture. 2023. "SSG | AboutSkillsFuture." www.skillsfuture.gov.sg. 2023. <https://www.skillsfuture.gov.sg/AboutSkillsFuture>.

Smile Foundation. 2024. "Understanding the Working-Age Population of India." Smile Foundation. April 9, 2024. <https://www.smilefoundationindia.org/blog/understanding-the-working-age-population-of-india/>.

Times Now Education Desk. 2026. "AISHE Report: India Hosts 58,134 Foreign Students from 173 Countries; Nepal Leads, Karnataka Tops Host States." Times Now. July 12, 2026. <https://www.timesnownews.com/education/aishe-report-india-hosts-58134-foreign-students-from-173-countries-nepal-leads-karnataka-tops-host-states-article-155079487>.

Worldometer. 2026. "India Demographics 2019 (Population, Age, Sex, Trends) - Worldometers." Worldometers.info. <https://www.worldometers.info/demographics/india-demographics/>.

Yogi, Manisha. 2026. "Ancient Indian Universities as Centre of Learning: Study of Nalanda and Vikramshila." International Journal of Trends in Emerging Research and Development 4. <https://doi.org/10.5281/zenodo.22912717>.

ZGEN Global. 2026. "ZGEN Global — Connecting the World of Academia." Zgenglobal.com. Accessed September 23, 2026. <https://www.zgenglobal.com/resources/guides/twinning-program-regulations>.

