



# Building Bridges and Utilizing Potentials: India and Germany between Culture and AI

Prof. Dr. Clas Neumann

India Keynote and Festive Speech on the Occasion of the  
70th Anniversary of the Indo-German Society


## 7. Indienrede

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*As the Head of SAP Labs Network (SLN), Neumann is leading the management and operation of 21 labs across the globe. Under his leadership, the SLN organization has grown significantly and is successfully running as the backbone of the entire Research & Development value chain in SAP. Being part of SAP's Senior Executive Team, Neumann has a more than 25-year advantageous career in SAP. Neumann has spent years in the fast-growing markets to develop the organization, with more than 20 years in India and China. At present, he serves as Chairperson of the German Chamber of Commerce East China, the Vice Chairman of the Board and Member of the Steering Committee in the East Asian Association (OAV), and a Board Member of the Indo-German Science & Technology Centre (IGSTC). Furthermore, he co-authored several books and articles on innovation and business practice in emerging markets. Neumann speaks regularly at major conferences (e.g. World Economic Forum, China International Import Expo, Asia Berlin Summit) and top universities, such as Tsinghua University, Tongji University, San Jose State University, Seoul National University etc. Neumann holds a doctoral degree in Business Administration from École des Ponts Paris Tech Business School in France, and an MBA degree from INSEAD, Fontainebleau, and Singapore. Neumann has been appointed as the Adjunct Professor of Tongji University and School of Economics and Management, Dalian University of Technology. He lives with his family in Shanghai, China.*



**Y**our Excellency, Ambassador Harish Parvathaneni, State Minister of Baden-Württemberg  
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Dr. Frank Mentrup, Retired Consul  
Dr. Jürgen Morhard, Honorary Consul to India, Andreas Lapp, Chairman of the DIG, Bernhard Steinrücke, ladies and gentlemen, and dear friends, I wish you a wonderful good evening.

I am very honored to have the opportunity to deliver the “India Keynote” here today, on the 70th anniversary of the Indo-German Society. Seventy years is a long time in any relationship, and it is not surprising that many historical and political events have occurred over the course of the last seven decades. However, I did not wish to focus on all the ups and downs of the bilateral relationship between our two countries; rather, I wish to take a peek into the future. More specifically, I want to focus on how the vibrant relationship that exists between India and Germany can continue to flourish in the current technological age, that involves the rise of artificial intelligence, or AI, among other things.

Although, to begin, I would like to take you back in time for a brief moment and share part of the story that set me on my own personal journey of exploring and experiencing Asia and India throughout my life. Exactly 30 years ago, way back in 1993, I first stepped foot on Indian soil. I was venturing into the relative unknown as one of the few backpackers who were making their way from China through the Karakorum Mountains into Punjab, Pakistan, and then crossing at the Vakil border into India. It was a journey that was as vivid as it was enlightening. After crossing the border, my first stop was the city of Amritsar, home of the “Golden Temple,” the sacred center of Sikh spirituality. Back then, all travelers, regardless of their religion, background, or status, were



invited to stay in the temple for three nights. This was an offer that my girlfriend and I could not resist; in true backpacker style, after months of traveling, we were constantly short of money. I am sure many of you remember that time in life, when time is abundant, but funds are scarce. It seems that the opposite occurs later in life.

Anyway, I must return to my Golden Temple experience. Everyone who stayed overnight in the temple was eligible to receive a free North Indian meal of dal and bread, and we ate together with the hundreds of pilgrims who had reached the Temple from across India and beyond. So, on my very first night in India, I had the pleasure of experiencing India's great hospitality. The sanctuary hummed with a sense of serenity and peace that I had never experienced before. I can still hear the Temple music that we woke up to every morning. The sights, sounds, scents, and hues of the land were a sensory delight and created a unique vibrancy that I found to be absolutely staggering. I fell in love with India on my first night in the country, and during that trip, I experienced Indian hospitality, the kaleidoscope of cultures that constitute this diverse land, and the symphony of colors, sounds, and scents that make up India. These vivid impressions left an indelible mark on my life, and 10 years later, I became a permanent resident of India and lived there for 12 years. Before we explore the present and future, I wish to first touch on the history between India and Germany, because learning about this history helps us to understand current Indo-German relations. As Konrad Adenauer, the first German Chancellor, noted, "To look back into the past only makes sense if it

Serves the future." Incidentally, he was the first German chancellor to meet with an Indian prime minister; he met Prime Minister Nehru, also around 70 years ago.

The current Indo-German relationship is not just political in nature. Even though good political relations are often at the core of international relations, economic, scientific, and cultural relations are also vital, and these types of relations between India and Germany have truly matured over the past 7 decades.

Over the past 70 years, India and Germany have walked a shared path, strengthening political and economic relations. This journey commenced in 1951, when diplomatic relations were initially established. Since then, multiple visits have been conducted by the chancellors and prime ministers of both countries. In 2000, a significant development occurred in the German-Indian Partnership with the launch of the Green Card initiative. Today, our interactions span 30 different consultation and dialogue formats, which contribute to a vibrant and ongoing relationship.

Now, let us turn our attention to the present. If we ventured out, right now, to the Schlossplatz here in Stuttgart, and asked anyone there what they know about India, it is likely that most people would answer with something like: "India is big, is far away, and has a huge population." These are all certainly true and not just clichés. Just this year, India overtook China as the country with the largest population. Today, 1.4 billion people call India home. The growth of India's population has been remarkable. It is now nearly eight times what it was in 1800, when Europe and India had about the same population (170 to 180 million).

India's population is also very young, on average. In fact, 25% of Indians are below 15 years of age, and only 7% are older than 64. It is for this reason that many people speak about a demographic divide.

If one imagines a future in which all of India's young people are educated and prepared for the workforce, the outcome is very bright indeed. However, the age imbalance may become a demographic burden for the country if the majority of the young people cannot access education and do not become part of social systems, taxpayers, and contributors to India's growth.



What about the clichés about Germany that Indians can recall? Well, the city of Heidelberg and Neuschwanstein Castle are well-known, as is Germany's expertise in producing luxury cars. Football prowess is also part of Germany's brand, although the recent performance of Germany's national team is nothing that we are particularly proud of.

From an economic perspective, generations of initiatives have fostered increasingly stronger ties between the two nations. Economic relations were established in 1947, with a primary focus on technical cooperation and developmental aid. Gradually, between 1950 and 1970, the relationship broadened in its scope as the nations started trading, with Germany exporting machinery and chemicals, and India supplying textiles and agricultural products. Significant economic reforms introduced by India in the 1990s effectively opened the door for foreign investment.

Over the years, India has become a significant economic powerhouse. Today, it is the fifth-largest economy in the world and was worth 2.7 trillion USD in 2020. The financial boom has been fueled by India's growing middle class and expanding agriculture, service, and industry sectors. More than 1,700 German companies currently have affiliates and/or do business in India. The soaring bilateral trade volume, which jumped from 4 billion USD in 2000 to a staggering 21 billion USD in 2019, underscores

**T**hat this relationship reflects more than just geopolitical business as usual. It is an intertwining of two extraordinary countries and cultures.

There are also many personal stories woven into the Indo-German relations narrative, including my own. During the economic "IT wave" boom years and when I was working for SAP, I traveled back to India in 1998. This marked my first professional venture into this dynamic land. From 2000 onwards, as a proud permanent resident of India, I was appointed as the Joint Managing Director of SAP Labs.

I want to focus now on the growth of India's IT sector, which is certainly a story worth telling, particularly in the context of India's economic path. During my early months in Bangalore, NASSCOM, the national association of India's IT industry, was focusing on the goal of exporting four billion dollars' worth of IT services. This was a stretch goal in 2000, and IT exports only made up a very small percentage of India's overall exports. The main export goods were still raw materials, agricultural goods, and manufactured consumer goods. This year, the value of India's IT and software exports is expected to be well above 300 billion Euros, and it is anticipated to keep rising. India's IT and software exports account for more than 11% of global software exports, including those of software giants in the US. Very soon, half of India's exports will be IT services and software. It is clear from these figures that this is indeed an unprecedented success story.

As for SAP's presence in India, earlier this year, we celebrated the 25th anniversary of SAP Labs India in Bangalore. During the celebrations, I had the opportunity to join about a dozen colleagues on stage who have been with our software development lab since 1998; they were some of the original 100 employees who are still working with us. It was truly special to not only celebrate with those few who have been on the whole journey with us but also to look into the eyes of some of the thousands of SAP Labs employees in the audience and see their ambitions to make a difference in our industry. Today, SAP Labs India employs well over 12,000 engineers, slightly more than our headquarters in Walldorf. This is of course a success story for SAP in India, and I am very proud to have played a role in its humble beginnings all those years ago.

The success of the Indian software sector relies on an abundance of talent and a highly efficient education system that produces, according to various sources, about one million engineering graduates per year. Again, these are extraordinary numbers, and China and India are constantly head-



to-head when it comes to the number of engineering graduates. Nevertheless, there are two areas of concern. First, there are hundreds of thousands of very talented young people who leave India to study and then work abroad and never return to work in India. They contribute to the growth of other countries' economies and innovation clusters. Second, the quality of the engineering colleges in India is not consistent. Even NASSCOM complained last year that only about half of all graduates are employable in their industry. Furthermore, the quality of the top universities in India may be sufficient to produce excellent software engineers; however, they lack an international research presence, PhD students, and funding. It is worth noting that no Indian university is ranked among the top 100 universities in the world.

Nevertheless, in the Indo-German context, there continue to be positive developments in the research and higher education sectors. From research projects and collaborations to exchange programs, there has been a significant increase in bilateral academic ties. There are currently around 40,000 Indian students in Germany. However, there are less than 50, yes, 50 German students in India. There are only a few joint degree programs. Even though there are more Indian students in the US and Canada, where the numbers reach the hundreds of thousands, let us not forget that there has been a sharp increase in

**T**he number of Indian students in Germany and that this increase is certainly something to celebrate; after all, these students are the next generation of ambassadors for Indo-German relations. I remember that when SAP supported the first student fair run by the German Academic Exchange—the DAAD—in Bengaluru in 2001, there were only about 600 Indian students interested in studying in Germany. I think that the take-home messages here are as follows: our student exchange programs need to be enhanced, we need more joint research centers, and existing collaborative programs between our top universities should be deepened and expanded. Many organizations are stakeholders in this endeavor, including the German schools, institutes such as the DAAD, The Indo-German Science and Technology Center, and the Goethe Institute – which is called Max-Mueller-Bhavan on the subcontinent, and consulates. Also, the Indo-German Chamber of Commerce is playing an increasingly important role in the establishment of the German dual education system in India.

I strongly believe that the majority of our close friendships are formed when we are young. In this stage of my life, I am a traveling manager and I know people all over the world, but I do not seem to really get to know them, let alone make new close friends. Therefore, I think that as the number of Indian students studying in Germany, and vice versa, increases so too will relations and immigration between India and Germany. The immigration story gained traction in 2000, with the introduction of the Green Card by the German government. The German Foreign Minister, Joschka Fischer, visited SAP Labs in Bengaluru at that time to learn more about India and how Germany could become a more attractive prospect to Indian software engineers. When my Indian colleagues told him that Germany was competing with Silicon Valley, he smiled and said, “we can do many things for you in Germany, just the weather we cannot change to a California sunshine.” Now, unfortunately, global warming is resulting in Germany's climate becoming more and more like California's climate. Recently, I had the opportunity to speak to Minister Fischer again, and he fondly recalled that discussion with the group of young engineers in the coffee corner at SAP Labs in Bangalore (which was what Bengaluru was called at the time).

It is also worth noting that despite the challenges that immigrants may face, such as language barriers and qualification recognition issues, the global perspective they gain is invaluable. There is also the possibility of gaining a wealth of new experiences as a student or professional living in another country.



However, we should also acknowledge that it can be difficult to manage and be part of teams that consist of people from different personal and professional cultural backgrounds. For example, misunderstandings can occur. Yet, the positives that come from forming diverse teams far outweigh the challenges. Why? Because cultural diversity encourages different perspectives and better decision-making and fosters innovation.

I can clearly remember learning such a lesson not long after moving to India during a 360-degree feedback session. All of my managers and direct reports had been assembled in a room and were discussing my performance with an HR colleague. I was called in later to hear their consolidated feedback. You know what the main issue was? They told me that I should not start every second statement with “In Germany, we do it like this,” or “This is how Walldorf thinks about it.” I learned very quickly that I needed to leave my German approach in Germany and adjust better to Indian culture. Of course, my colleagues were correct: many things work in vastly different ways in India compared to Germany, but they do work. The goal may be the same, but there are different ways to achieve that goal. To this day, I am thankful that I received this valuable feedback so early on in my career in India. So, I would like to pass the lesson on to you: Living in India with a conservative German mindset can lead

**T**o many misunderstandings and personal challenges. One needs to “let go” a little, become more flexible, and allow for surprises every day. Planning is important, but planning every line-item some months in advance is often not the wisest thing to do in India, as conditions change frequently, the pace is rapid, and one needs to be much more agile than in the Western world.

The use of different strategies can also be seen in how Germans and Indians approach innovation. In Germany, innovation is a deeply structured process and involves meticulous planning. In contrast, in India, innovation seems to rely heavily on the notion of “We will make it happen” and trial-and-error. Which approach is better, you may ask? My answer is that they are as good as each other. Both approaches have pros and cons, both lead to innovation, and both can have highly successful outcomes. For example, the world’s best cars are built in Germany as a result of the German approach to engineering, and India’s growing 300 billion Euro software export industry is the product of the innovation mindset of its engineers.

India, while still down in the Global Innovation Index ranking, has shown a continuously upward trend in its presence in global innovation. This index includes a measure of the innovation system infrastructure, which includes funding for research clusters, an area in which India cannot yet compete with the US, Japan, or Switzerland. Nevertheless, the Indian innovation ecosystem is rapidly developing, and examples of leapfrogging abound. A digital revolution is unfolding in the form of “Digital India,” a project to digitally transform the country through e-governance, broadband connections, and digital education. The Aadhaar, a unique biometric ID system, is another product of India’s unique approach to innovation.

Innovation often blooms in imperceptible corners, and I saw firsthand examples of this during my various trips to India with German President Frank-Walter Steinmeier, Vice Chancellor Philipp Rösler, and Vice Chancellor Robert Habeck this year. Almost 10 years ago, President Steinmeier and I engaged with start-ups that were digitalizing mobility and visual technologies for operating infrastructure in India. We visited the Indian Institute of Science in Chennai, where many start-ups proudly presented their innovations to us. In 2023, Vice Chancellor Habeck and his business delegation met with the brilliant minds behind the corporate research conducted by BASF, Sie-



mens, Lapp, SAP, and other global giants, as well as fascinating start-ups with highly innovative IT and other products, such as CarbonCraft and Purpelle. The creativity and dynamism bursting out of every corner in India is truly something to behold.

This leads us to the final topic I wish to discuss today: the future. More specifically, it is important to examine whether India's success story will continue in the same way. In my opinion, it probably will not. No trend continues forever, and disruption always occurs in cycles. India has been successfully riding the digital revolution wave, benefiting from its English-language-based higher education system and the system's capacity to produce a significant number of software engineers. However, the next technological revolution is now upon us—the emergence of AI—and this will change the equation. First, AI-based systems will take over many jobs that skilled people do today. I would even say that it is more likely that AI-based systems will take over more skilled than unskilled labor jobs. This is because AI emulates human intelligence, which means that it has the capacity to perform tasks that require thinking. Perhaps you saw footage of a banner that was hung at a construction site in San Francisco, probably by the construction labor union, which read: “Hey Chat GPT – finish this building!” I think this signifies the situation we are facing with the emergence of AI—that an AI-based system can beat a world champion in chess without much effort, but it cannot make a robot walk and move like a human.

**M**any people say that AI-based systems will take over software engineering jobs, specifically those that involve repetitive tasks, such as software testing, adding similar features across large applications, or low-level coding to create simple web application functionality. It is also likely that software services and helpdesks will be taken over by AI-driven Chatbots soon, as they work with much higher precision than humans in terms of analyzing errors, finding solutions, and building on previous solutions. This may also threaten the Indian IT industry to some extent, as not all jobs in the IT industry require expertise in building algorithms, data science, or software architecture.

There is some good news, though. The demand for creative software engineers who can program AI-based systems and the digital applications we need in our daily lives will increase. Companies around the globe that require such engineers will likely look to India as a source. Therefore, if the Indian education system can inculcate its students with hardcore engineering skills and foster creativity, critical thinking, and an innovator's mindset, then there is a good chance that the industry will continue to succeed and that considerable job losses across the industry will be avoided.

Finally, there are also significant advantages associated with having engineers from different backgrounds involved in the generation and development of AI-based systems. As you may know, AI systems utilize and build on data from the past, and such data is often biased in some way, depending on where it is retrieved from and how and by whom it is structured and cleaned. Therefore, it is vital to take into account the data variety and sources to ensure that cultural diversity is not lost amid all the bytes and matrixes. Using diverse data sets will also help to create more diverse and responsible AI systems and thus reduce bias, whether it is bias for certain results or against certain people and solution options. For example, a research team from INSEAD found that ChatGPT is significantly biased in terms of overconfidence in its own answers. Hence, we can improve the safety and reliability of AI-based systems by ensuring that they are developed by diverse teams that reach beyond borders. With this in mind, India has not only an opportunity but perhaps a duty to be part of this global endeavor. Therefore, I was happy to see that both Germany and India attended the recent AI summit at Bletchley Park and signed the declaration to work toward developing safe AI alongside China, the US, Japan, and many other economically strong nations.





AI is much more than a technology. Even Henry Kissinger, who I had the honor and pleasure of listening to at a conference in Shanghai, recognized AI as an integral factor for the future world order and peace among nations. Indeed, with geopolitics, technology, innovation, and cultural influences continuing to shape our world and change occurring at an accelerating rate, it is more difficult than ever to predict what may or may not happen. However, I am certain of one thing: we need India as a strategic partner to maintain rules-based multilateralism.

I think this quote from Aristotle aptly summarizes India and Germany: “The whole needs to be more than the sum of its parts.” Both nations are much more than a combination of stereotypes and strengths.

As we tread the path toward a progressively shared future, we should strive to achieve exponential growth and change (rather than incremental additions), remove boundaries, embrace diversity, and reach global unity. Imagine if we could create the world that Rabindranath Tagore envisioned when he was creating this beautiful poem about how he saw India, which had just become an independent nation:

Where the mind is without fear and the head is held high  
Where knowledge is free  
Where the world has not been broken up into fragments  
By narrow domestic walls  
Where words come out from the depth of truth  
Where tireless striving stretches its arms  
Towards perfection  
Where the clear stream of reason has not lost its way  
Into the dreary desert sand of dead habit  
Where the mind is led forward by thee  
Into ever-widening thought and action  
Into that heaven of freedom, my Father, let my country awake.”

Now, here is a summary of this poem that was created by Chat GPT, which I think is amazingly well done:

“In a fearless mind and lofty knowledge unbound,  
Where truth and reason are found,  
awake to freedom, my country, in action profound.”

As we work toward creating this fearless and united world, let us remember that we are not just Indians or Germans, but allies in the pursuit of a global community, with each of us contributing our unique strengths to build and realize the future we want - our future, our children’s future, and the future for the generations to come.

Thank you for listening.



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