Against tectonic shifts in world order and a decaying global multilateralism, there is a need to look at new strategic partnerships, as well as to deepen existing ones. Bilateral relations between Spain and India are at a sweet spot; there is a mutual interest in deepening the nature and scope of cooperation. The bilateral relationship has a high potential going forward. This is compounded by a strategic EU-India relationship that is fast consolidating, following the landmark conclusion of an EU-India Free Trade Agreement (FTA) and the numerous agreements reached along security and mobility lines earlier in 2026. This report aims to shed light on the intricacies of the existing bilateral relationship between India and Spain, as well as the potential for it to thrive across key sector areas.

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Authors
Javier Gil Pérez and Amaia Sánchez-Cacicedo

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CHAPTER 1

INTRODUCTION

Against tectonic shifts in world order and a decaying global multilateralism, there is a need to look at new strategic partnerships, as well as to deepen existing ones. Bilateral relations between Spain and India are at a sweet spot; there is a mutual interest in deepening the nature and scope of cooperation. The bilateral relationship has a high potential going forward. This is compounded by a strategic EU-India relationship that is fast consolidating, following the landmark conclusion of an EU-India Free Trade Agreement (FTA) and the numerous agreements reached along security and mobility lines earlier in 2026. This report aims to shed light on the intricacies of the existing bilateral relationship between India and Spain, as well as the potential for it to thrive across key sector areas.

The report is divided into two main sections. The first section is focussed solely on India as a rising power. It starts off with a brief dive into India's rich and complex history, as well as the implications of its geographic location and asymmetric relationship with its smaller and larger neighbours. Thereafter, the chapter focuses on the country's economic rise, its security dilemmas and global ambitions, including its wish to remain a leading voice of the Global South. The chapter finalizes by highlighting how both Europe and India remain committed to economic openness, multilateralism and territorial integrity, all of which are under serious threat against a shifting world order. There is lots of common ground between both partners despite not being 'natural' partners. It is no different in the case of Spain and India as unpacked in the next section.

The second section explores the existing cooperation and the scope for future collaboration across key sectors to enhance the strategic dimension of the Spain-India relationship. The chosen domains are biotechnology and digital health, green technology and sustainable development, digital public infrastructure (DPI) and cutting-edge technologies, as well defence and security. Existing EU-India agreements across these domains provide a helpful umbrella into increasing trade ties, as well as ongoing research and innovation (R&I) projects combined with growing corporate engagement from the Indian and Spanish sides, as explored in the following lines.

2

CHAPTER 2

INDIA: A RISING POWER AND ITS IMPLICATIONS

2.1. OVERVIEW ON INDIA

The Republic of India, which emerged as an independent country in 1947 after a long colonial period, has since navigated a long path marked by profound internal and external challenges. This trajectory has brought it to the present day as a key actor, not only in the Indo-Pacific region but also at the global level, as demonstrated by its growing international presence across different geopolitical arenas.

India stands as the natural geopolitical leader of South Asia due to its demographic and geographical vectors, as it constitutes a perfect crossroad between several regions. The Republic of India is bordered by Pakistan, Bangladesh, Nepal, Bhutan, and Sri Lanka in South Asia; by Myanmar and Indonesia in Southeast Asia; and by China in the Far East. In addition, it is located very close to Central Asia, a strategic region. To this must be added its growing economic, military, and diplomatic power, as well as its possession of nuclear weapons (FAS, 2025), all of which reinforce its position as the clear regional leader.

India positions itself as a net security provider in the Indian Ocean, with its extensive maritime frontage onto the Indian Ocean, the Arabian Sea, and the Bay of Bengal, which connect it with the Gulf countries and Southeast Asia, respectively. In addition, its more than 11,000 km of coastline (Ministry of Earth Sciences, 2025) constitute key elements for the country's trade and, in recent decades, also for internal security and external projection in the Indian Ocean, from the Strait of Malacca to the eastern coast of Africa.

India also has a highly diverse internal geography. Particularly noteworthy in the north is the Himalayan mountain range, which acts as a natural border with China, and from which emerge the three great rivers that are vital for the subsistence and important agricultural production of India, Pakistan, and Bangladesh, respectively: the Ganges, the Indus, and the Brahmaputra. For all these reasons, India is located at the heart of South Asia, and its geopolitical position and importance derive not only from its land area

of around 3 million km² (Know India), but also from its broad projection of power over the Indian Ocean. Therefore, India must be analyzed as a rising power in both land and maritime domains, and as a central actor throughout the broader Indo-Pacific.

Although modern India originated in 1947 after the painful partition of former British India, India is much more than a nation and can therefore be considered one of the great civilizations of history. Indian civilization has its cultural roots in the Indus Valley Civilization (3300 BCE to 1500 BCE), the Vedic period (1500 BCE to 500 BCE), and in the empires and influences that reached India and shaped present-day India. These range from Greek and Persian influence to the arrival of Islam and the emergence of new religions such as Buddhism and Jainism (National Geographic). All of this has left a substantial cultural legacy in India that it projects across the rest of the region and the world. Within this great universal legacy, we can find the field of mathematics, where India's contributions include the concept of zero and decimal numbers, as well as the early development of knowledge about the cosmos. In addition, It is in India where Buddhism originated and further (Trainor, 2006), spread across Central Asia, Southeast Asia and the Far East, which has shaped the lives of millions of people (Kumar, 2025). In fact, the religious articulation of today's Indo-Pacific cannot be understood without India's contribution. Therefore, aside from the great advances that India has provided to the rest of the world, the ancient character of Indian civilization and its importance throughout history are worth emphasizing. Analyzing India as a mere state would be a mistake.

This complex history, rooted thousands of years in the past, together with its strategic geographic position and its maritime leverage, help explain one of India's key traits: its diversity. India presents an extraordinary mosaic of religions, ethnic groups, languages, and cultures, making it one of the most diverse countries in the world. This immense, diverse, and complex mass has turned India into a vast mosaic in which diversity is the norm, and the management of that diversity constitutes one of the great challenges for every Indian government. India is home to the world's major religions, including Hinduism, Islam, Sikhism, Buddhism, and Christianity. In fact, India is not only home to the largest Hindu community in the world, but also to the second-largest Muslim community after Indonesia. Alongside its religious diversity, India is also highly diverse in terms of its ethnic and language background with 22 official languages and three major ethnic groups: Indo-Aryans, Dravidians and Mongoloid peoples.

India is currently the most populous country in the world, with 1.45[1] billion people. Moreover, India is expected to become the first country in history to reach 1.8 billion inhabitants by the end of the 21st century (Nanda, 2007). This change will generate significant challenges both for India and for the rest of the world when it comes to satisfying the growing demands for energy, economic development, food, water, energy resources, healthcare and other needs that a rising middle class representing over 30% of the Indian population is increasingly demanding in the country (Shukla, 2023).

India's population is massively concentrated in the north of the country, along the banks of the Ganges River, and in the country's major cities such as Mumbai, Kolkata, Delhi, Chennai, Bangalore and Pune. Despite the massive growth of Indian cities where 35% Indians live (Guite, 2025) and the country's large-scale urbanization, India remains a mostly rural country. India's population is predominantly young profile, which gives the country enormous labour and consumer potential, and its transition towards lower population growth rates, due to lower fertility rates, among other factors (Kumar, 2025).

India is also a country that reflects major social and economic contrasts including economic disparities between urban and rural areas the North-South divide, though these have gradually diminished because of its economic growth over recent decades. All of this makes India a geo-political leader in its regional sphere and positions it as a key actor in the Indo-Pacific, going forward.

2.2. INDIA'S ECONOMIC RISE

India's transformation and economic rise are undoubtedly among the main defining features of contemporary India and symbolize one of the major changes in the Indo-Pacific in recent decades. An independent India began its economic journey in 1947, and started from an initial situation marked by underdevelopment, a lack of public infrastructure, a wide social gap, and a very limited industrial base.

The governments of the country's first Prime Minister, Jawaharlal Nehru, aimed to foster the country's accelerated development and guarantee self-reliance (Adhia, 2015). For this purpose, they introduced an economic policy based on large public companies in strategic sectors of the Indian economy, intense protectionism aimed at shielding local industry,

strong state intervention to regulate and organize the economy and, finally, strict control over small private enterprises in the country. In other words, it was a state-controlled economy.

This economic model laid the foundations for India's initial industrial development, with an average growth rate of 3.5% from 1947 to 1991 (European Commission). However, over the years, it began to show signs of weakness and, above all, produced weaker development outcomes than some other Asian countries experiencing strong economic growth and substantial improvements in living standards, such as Japan, South Korea, Thailand, Singapore, and Taiwan.

These first signs of structural weakness compared to the rest of Asia led to the introduction of the first liberalizing measures in the Indian economy in the 1980s. These included: export incentives, reduced industrial controls, a new and updated exchange rate, and the partial liberalization of the government's monopoly rights over imported goods (Panagariya, 2004). These measures marked the starting point for what would become the great reform of the Indian economy in the following decade, as well as the emergence of a new, more prosperous India, with greater resources and stronger capacities in technology, which had never previously been fully exploited.

Thus, following the balance of payments crisis of 1990–91 and amid a colossal geopolitical shift brought about by the end of the Soviet Union, radical economic reform was introduced in India. This reform was based on two major pillars: on the one hand, attracting foreign direct investment, and on the other, freeing India's productive forces through private initiative. In a nutshell, India moved from a state-controlled economy to an increasingly liberalized one. This major economic shift in India resembles the great transformation introduced by Deng Xiaoping in China in 1978. India's economic turn should also be understood in that context: change to advance economic development.

The data speak for themselves. Since the 1990s, India has enjoyed sustained economic growth of around 7% (Born, 2025), supported by internal political stability, a powerful domestic market that underpins its growth, and a comprehensive restructuring of the Indian economy.

Today, India has become a service-based economy, with more than 50% of GDP derived from this sector (NITI Aayog, 2025). Information technology has emerged as one of the key sectors in the country's awakening. New technological hubs have also appeared, above all Bangalore

and Hyderabad, while multinationals such as Tata Consultancy Services (TCS), Infosys, HCLTech, Wipro and Tech Mahindra are defining an era, with some of them present in Spain. The emergence of Bangalore as a new technological hub in Asia is significant; it is following the footsteps of Shenzhen in China.

As for the manufacturing sector, it contributes more than 16 per cent of the national wealth (Ministry of Commerce & Industry ,2025). India enjoys a growing manufacturing industry, supported by initiatives such as "Make in India", the "Industrial Corridor Development Programme" (Nigam and Kumar,2024) and the Production Linked Incentive (PLI) Scheme that through incentives is fostering manufacturing production in critical sectors as drones, electronic products or medical devices (PIB, 2025). It also has large consortiums in sectors such as automobiles, pharmaceuticals, biotechnology, renewable energy and aerospace.

Regarding the agricultural sector, although small compared with the services sector, it remains one of the country's economic foundations, as it is the main source of wealth for much of rural India (Food and Agriculture Organisation - FAO). In fact, agriculture in India has gone from accounting for more than 50 per cent of GDP to less than 20 per cent today. India is also the world's largest producer of rice (Times of India, 2026), a key fact given that rice is a staple food throughout the Indo-Pacific.

According to the International Monetary Fund, India in 2026 accounts for 8.49 per cent of the world's share of GDP based on PPP (IMF, 2026) making it the world's third-largest economy. It is still far behind China and the United States, but it is closing the gap. If we compare this figure with 4 per cent in 2000, we can appreciate the leapfrogging of the Indian economy.

Based on the above, India has managed to leave behind the image of a poor developing country and give way to one of a country with an emerging middle class and significant consumer capacity. It is also becoming a leader in digitalization, as well as in sectors such as biotechnology, green technologies, emerging technologies, aerospace, and robotics, among others. These sectors will continue to be vital for the global economy in the medium and long-term. In this regard, India has a structural advantage over countries in its region and globally, as its technological base is solid and growing.

There are, however, also challenges ahead for India's economic future. These stem from both external factors, such as the evolution of the technological revolution (Vargh-

ese, 2018) and an increasingly turbulent, conflict-ridden and volatile global geopolitical environment, and from domestic factors, such as India's strong dependence on foreign sources of energy and minerals , the need for better public infrastructure, and the persistence of a large informal economy (Harriss-White, 2024), which significantly limits the Indian government's tax capacity and, therefore, its investment capacity.

2.3. INDIA'S SECURITY DILEMMAS: KEY DOMESTIC AND EXTERNAL CHALLENGES

India faces a complex and volatile security scenario (Martín, 2026). This is due to three factors, namely: its serious border disputes with neighbouring countries, the internal security challenges that persist within the country represented by several insurgencies, and India's increasing role in world politics. These interests make it vulnerable to global crises, such as the ongoing US-Israeli war on Iran and its implications for India's energy supply problems (Mody, 2026).

Despite India enjoying sustained economic growth over three decades and its positive projection abroad, India faces serious security challenges. This constitutes India's Achilles' heel for the country's stability and towards ensuring its economic rise.

Domestically, India continues to face two long-standing insurgencies: one in Jammu & Kashmir and the other one in the East of the country, along the Red Corridor. Regarding Jammu & Kashmir, India has suffered the effects of terrorism since the late 1980s. Insurgent terrorist groups with a base in Pakistan, most notably Lashkar-e-Taiba, Jaish-e-Mohammed and Hizb-ul Mujahideen, have carried out hundreds of attacks against military and civilian representatives of the Indian state in the Jammu & Kashmir, s, as well as against civilians, as shown by the Pahalgam attack from May 2025 where 26 people were killed. Despite, more than 22,000[2] people killed between 1988-2000, the trend has been declining since the beginning of the new millennium, which invites some optimism. Nevertheless, insecurity persists in the region.

In terms of the insurgency led by the communist-inspired Naxalites in the country's Red Corridor, although casualty figures are lower than in the case of Kashmir - with 6,800 casualties since the year 2000 till May 2026 (SATP) the persistence of insurgent attacks continues to represent a serious threat to the country. It also reflects India's structural difficulties in bringing an end to one of the longest-running insurgencies in the region.

Figura 1: India-China territorial disputes.

Source: Voice of America News (2023)

Indeed, the most important aspects of both insurgencies are their persistence in time, their capacity to adapt and resist, as demonstrated over time, as well as the difficulties faced by the Indian state in putting an end to their attacks.

By contrast, the situation in the North-East, which has also historically suffered from violence by various insurgent groups, is now stable, leaving behind decades of violence. This suggests that a reduction in violence and the gradual stabilization in Jammu & Kashmir, as well as along the Red Corridor, may be possible. This would allow the Centre to concentrate its energies on other areas of concern to the country.

Regarding its neighbours, alongside minor territorial disputes with Nepal and Bangladesh and the problematic border with Myanmar, India continues to sustain a decades-long territorial dispute with Pakistan over the sovereignty of Jammu & Kashmir, which has led to three wars between the two countries in 1947, 1965 and 1999, respectively. In addition to open armed confrontations, skirmishes between both countries' armies have been continuous since 1947 till today, with the May 2025 armed crisis standing out. Following the terrorist attack in Pahalgam, India launched "Operation Sindoor" in both Pakistani-occupied Kashmir and Pakistan in retaliation (Clary, 2025).

The second major regional security challenge is centred on the 3,488 kilometres-long northern border with China, which remains unsettled between both sides. Its main points of tension are along the Western sector of the Line of Actual Control (LAC), that is, at Aksai Chin currently under Chinese control but claimed by India), and in Arunachal Pradesh along the Eastern Sector, currently under Indian control but claimed by China. These territorial disputes generate tension and actual armed clashes, such as those that occurred in Galwan in 2020 (Raimedhi, 2024) or, more recently, in the Tawang district in 2022.

INDIA-CHINA TERRITORIAL DISPUTES

Both territorial conflicts show that India has yet to adequately define its external borders and, at the same time, reveal the region's instability. This is especially relevant given that both India and China are to become leading powers across the Indo-Pacific. Poor relations between both powers have negative dynamics across the entire region and, more broadly, the wider Indo-Pacific.

In terms of the maritime domain, India faces direct geo-political and geo-economic competition from China across the Indian Ocean Region (IOR). The presence of Chinese submarines, research vessels, ships, and listening outposts along the coastline of Pakistan, Bangladesh, Myanmar, and Sri Lanka reveals a clear flank of competition for leadership in an ocean that is vital for India's security, as shown by the 2008 Mumbai attack (Cummings, 2014). The IOR is also essential to guarantee the proper flow of energy and goods throughout its waters (Ghosh, 2025), and to project power in a maritime space central to the twenty-first century and where India seeks to dominate. There are doubts regarding India's naval capabilities (Mishra, 2026), which are limited compared to China, as well as India's own intent to become the leading power in the IOR despite portraying itself as a "net security provider".

This dual security threat is compounded by India's security needs to support its global interests. In this regard, two areas stand out above the rest. The first one is the Middle East and the Gulf countries, due to India's dependence on the region for its oil and LNG supplies accounting 45% of total imports (IEA, 2026) and the nine million Indian nationals residing there (Times of India, 2026). The ongoing war on Iran has highlighted India's clear vulnerability to instability in the region. Iran's closure of the

Strait of Hormuz has caused an energy shock in India, especially linked to liquefied natural gas (LNG) imports from Qatar (Venugopal, 2026). The Strait of Malacca represents the second major security dilemma for India because of its critical role in the flow of goods from East Asia and Southeast Asia to India (Rakha, 2025).

Finally, non-traditional security issues threatening India should not be overlooked. Among them are climate change, resource and water scarcity (Saccoccia and Kuzma, 2024), illegal migration and food shortages. These constitute serious problems for India that could worsen going forward and thus must be addressed. Water management is particularly crucial given the country's water stress and its population growth levels (World Bank Group, 2026).

2.4. INDIA'S GLOBAL AMBITIONS AND COMMITMENT TO THE GLOBAL SOUTH

India's global ambitions have expanded greatly in recent decades, as well as its and foreign policy activism. In parallel to its economic rise the country has adopted an increasingly prominent role on the global stage.

Historically, India has always played a prominent role in shaping the regional order and as a key actor throughout the decolonization process that began after the end of the Second World War.Examples of this are India's support for the Bangladeshi nationalist movement in its war of liberation against Pakistan in 1971, or the Nehru's pivotal role at the Bandung Conference in 1955 or its leadership in creating the Non-Aligned Movement in 1961 or the Group of 77 in 1964.

Indian activism has historically been based on the principles of non-alignment, aimed at guaranteeing and maximizing its greatest possible autonomy and decision-making capacity in foreign policy. This has allowed it to optimize India's key objectives: maintaining its territorial integrity and regional stability, as well as guaranteeing its economic development. These objectives have not changed in essence, but an additional objective has been added: to become a global leader in a shifting geo-political order

The end of the Cold War not only brought about the fall of the Soviet Union and thus the disappearance of a major ally for India, but it also triggered a major global geo-political transition. Against this background, India embarked on a new, tectonic shift in foreign policy.

At the beginning of the 1990s, amidst a new economic opening of New Delhi, a new quest for global

partners - both commercial and political - was required. Thus, India was forced to re-engage with the world, seeking trade and political partners in a new, dynamic, and extremely complex geopolitical environment. India's first major foreign-policy initiative was articulated through the Look East Policy in 1992 (Sinha, 2016), which sought greater economic and diplomatic integration with Southeast Asia, a region with which India had historical ties.Alongside Southeast Asia, India intensified its participation in multilateral organizations such as in the United Nations (UN), the Group of 20 (G-20) in 2008, and the BRICS in 2009, seeking to become a leading actor in the new global architecture.

In addition to its global engagement, India began developing various cooperation and consultation agreements with key partners. India signed the India–United States Civil Nuclear Agreement in 2008 with the US , which placed both countries back on the path of cooperation. India signed numerous strategic partnerships at the turn of the 21st century including with France (1998), Germany (2000), the EU (2004) and with Brazil (2006), among others. Alongside these strategic agreements, India has joined very diverse groupings amidst the Global South such as BIMSTEC in (1997), made up of Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand, the Shanghai Cooperation Organization (2017), with members as diverse as China, Iran and Pakistan or the I2U2 grouping (2021), with Israel, the United States and the United Arab Emirates (UAE). India has also elevated its relationship with ASEAN, with which it established a strategic partnership in 2012.

India's ability to maintain ties with a wide range of organizations and partners is striking (Rossow, 2025). Perhaps this capacity emerges from the plurality of the Indian state itself and from the experience accumulated by different governments in managing a country with mutually conflicting positions, at times. This has granted it with global legitimacy across a wide range of international fora. This also stems from India's wish to contribute to shaping world order.

Within this commitment to global leadership, three areas deserve special attention. The first is the growing importance of technology as a key element in India's foreign policy. This technology is focused on areas such as IT, digitalization, biotechnology, artificial intelligence, quantum computing and solar energy, through different global initiatives such as the International Solar Alliance, and bilateral initiatives

such as the EU-India Trade and Technology Council (TTC), the U.S.-India TRUST Initiative, the UK-India Technology and Security Initiative (TSI) (Bhandari, 2026), among others. In other words, India is leveraging its significant expertise in these areas to strengthen its foreign policy.

The second variable centers on India's commitment to becoming the natural leader in the Indian Ocean Region. Initiatives such as the Indo-Pacific Oceans Initiative (IPOI) and MAHASAGAR indicate this wish. However, there is still a long way to go.

Finally, India's commitment to becoming the voice of the so-called Global South has emerged with unusual strength. As Arya argues, this group is united by a colonial past and by the economic marginalization of developing countries in Asia, Africa, and Latin America. Beyond this, however, one aspect often overlooked in the West is not only the impact of colonization but also the sense of having been excluded from the level playing field in the design of the international order. For this reason, the claims for global institution reforms promoted by India are perfectly acceptable to a large number of Global South countries.

As Ashok Sajjanha, Indian Ambassador to Brazil (2026), argues, there are four major tools for cooperation with the South, all related to the country's technological power: Digital Public Infrastructure (DPI) and the "India Stack"; health and pharmaceutical leadership; the Global Development Compact; and climate justice and the energy transition.

The G20 summit in Delhi in 2023 followed the footsteps of Nehru's efforts decades earlier to support decolonization and a fairer, more equitable distribution of global power. During the final G-20 Summit in New Delhi, the Modi government succeeded in securing the African Union's admission to the G-20, hereby granting a voice to Africa's main regional organization and undoubtedly symbolizing India's commitment to the Global South. The virtual "Voice of the Global South" summits held in 2023 and 2024, respectively, also mark India's ambition to establish itself as a global leader. However, doubts remain as to whether India will be able to lead a Global South that is so in need of economic resources, infrastructure and political stability (Lohiya, 2026) especially given that it faces major competitors for that kind of leadership, such as China and Brazil (Jain, 2025).

2.5. GLOBAL GOVERNANCE AND MULTILATERALISM: THE ROLE OF INDIA AND THE EU IN SHAPING THE NEW WORLD ORDER

Today, a shared global concern between the EU and India is having to position themselves vis-à-vis an increasingly antagonistic US-China relationship. Both countries are keen to find a 'middle path' that allows them to secure their strategic autonomy against an increasingly fragmented and transactional world order. For the EU, the concept of 'strategic autonomy' was originally tied to gaining independence in the security and defence realms, over time it has acquired a stronger geopolitical connotation in an increasingly hostile political environment (European Parliament Research Services - EPRS, 2022). For India, 'strategic autonomy' means that on the fundamental issues – national security, world trade, climate change – New Delhi will cooperate and engage with all those that it can work with, taking only its interests into account. It will cautiously partner with the great powers rather than take sides between powers (Menon, 2021 and Aatmanirbhar Bharat).

Both Europe and India remain committed to economic openness, multilateralism and territorial integrity, all of which are under threat against a decaying multilateralism. New Delhi is supportive of global multilateralism under the precondition of reforming the post-World War II Bretton Woods institutions to make them truly representative and aligned with the reality of today's global power shifts. One of India's long-standing claims is a United Nations Security Council (UNSC) reform to make it more inclusive. This would mean granting India a permanent seat at the UNSC, together with the other G4 members, namely Brazil, Germany and Japan. In parallel, India has opted for a partnership diversification strategy which relies on interests-based alignment with different partners across issue areas, otherwise known as minilateralism.

India has proven adept at building minilateral partnerships across a wide range of issue areas and amidst very diverse organisations. One of the most salient traits of its current multi-alignment strategy has been its capacity to adapt its 'minilateral agenda' vis-à-vis its 'like-minded' partners in the Quadrilateral Security Initiative (QUAD) while skilfully acquiescing with Russia/China-led minilateral groupings, such as the SCO or BRICS+ (Sánchez-Cacicedo, 2023). India is likely to persevere on its path as a multi-aligned emerging power and legitimate leader of the so-called Global South and a friend

of 'the West', going forward.

While there have been recurrent attempts at conveniently packaging both the EU and India as 'natural' partners, reality proves otherwise as New Delhi's acquiescence with Russia's invasion of Ukraine has proven. However, the shift towards a virulent form of international politics against a highly unpredictable US foreign policy since January 2025, has brought the EU and India closer together. Proof of this is the recent conclusion of the EU-India FTA after decades-long negotiations. Both partners are investing in building a strategic relationship in unchartered territory beyond their historical economic-based interests to include talent mobility, public-private collaborations, as well as a much stronger cooperation along technological and security lines.

Europe is also keen to diversify its partnerships and to seek counterweights to China's growing leverage amidst its Indo-Pacific partners, which includes India. Brussels currently considers India a "vital" partner among the emerging poles and among the Global South countries (Sánchez-Cacicedo, 2026a). The EU is further leading in terms of its trade agreement network with over 40 individual agreements with more than 70 countries; among these, the EU has just concluded negotiations with Australia and Indonesia while it has a deeper commercial engagement with Japan, Singapore, South Korea and Vietnam, all of which are located across the Indo-Pacific (European Commission).

The EU-India alignment is likely to endure based on basic hedging needs against the "China factor" and a highly weaponized commercial and security environment. They will continue to coalesce on issues of global concern such as the need for trustworthy AI standards, the climate change agenda, building resilient supply chains or energy security. An illustrative example of this growing strategic alignment that projects itself internationally is their joint participation in the India-Middle East-Europe Corridor (IMEC) amidst a broader coalition of partners that seek increased connectivity in transport, as well as in the digital and energy realms (Ghanem and Sánchez-Cacicedo, 2024). Going forward, we are likely to witness the mushrooming of joint EU-India participation across a growing range of issue areas and in multiple formats, as highlighted in the next chapter.

1. To see updated data, see: https://www.worldometers.info/world-population/india-population/

2. Datos obtenidos en: https://satp.org/datasheet-terrorist-attack/india-jammukashmir/J-and-K-Fatalities-1988-2000

CHAPTER 3

SPAIN-INDIA: ONGOING COOPERATION AND THE POTENTIAL FOR A STRATEGIC RELATIONSHIP

In this second chapter, we delve into the nature of the Spain-India relationship, its ongoing evolution and the scope for cooperation, going forward. The chapter starts off by framing the Spain-India relationship under the EU-India umbrella, considering its implications for the bilateral relationship between India and Spain when it comes to trade, as well as for scientific, research and technology cooperation. Thereafter, we look at the specifics of the Spain-India bilateral relationship and how it has leapfrogged since 2012 but, even more prominently so, since the visit of Spain's President Sánchez to India in October 2024. Once the key landmarks in the Spain-India bilateral relationship have been identified, we focus on key functional sectors of particular interest for the nature of the India-Spain relationship.

A strategic EU-India umbrella

Against the background of a fragmented world order and a deepening crisis in global multilateralism, the consolidation of a strategic EU-India relationship is much welcomed. Historically, the relationship has been dominated by its economic and trade dimensions. The finalization of the EU-India FTA in January 2026 after decades of negotiations since 2004 constitutes a landmark moment for the deepening of their strategic collaboration, going forward. The EU is India's third largest trading partner, accounting for 11.5% of India's total trade in goods, and one of its top investors in Foreign Direct Investment (FDI). India is the EU's 9th largest trading partner with 2.4% of the EU's total trade in goods in 2024. Notwithstanding, the trade balance is favourable to India both in terms of goods and services (European Commission, 2026).

The exponential trajectory in trade between the EU and India is noteworthy: trade in goods has in-

creased by almost 90 per cent in the last decade (Ibid). Yet, as noted by Suvish Viswanathan, Head of Marketing UK and Europe for Zoho - an Indian global technology company with offices across Europe, India and other regions of the world-: 'the [EU-India] relationship is no longer only about access to markets, but about how two distinct ecosystems interact: one characterised by scale, engineering capacity and innovation, and the other by regulatory maturity, governance and trust' (Interview S. Viswanathan, 2026).

Both actors are at different steps of the value chain: India produces labour-intensive products while the EU produces high tech and capital-intensive ones (Financial Times, 2026). This is the case for most developed economies with whom India is strengthening its bilateral economic relationship, including Spain. The EU-India FTA also has strong implications for the bilateral Spain-India relationship by 'accelerating industrial collaboration, supply chain integration, and investment flows, making India a more attractive hub for Spanish companies in manufacturing and exports, and Spain a stronger gateway into the European market for Indian firms', as noted by Shreyashee Nag, a Senior Director for an Indian multinational IT company with offices in Madrid and Barcelona (Interview Nag, 2026).

This complementarity in their economies facilitates the strengthening of commercial ties, as well as the potential to venture into new strategic domains such as digital health and overall DPI, technology or defence cooperation, as discussed later in this chapter. However, Maximiliano Nocetto Pinto, TR India Global Operations Centre Director Técnicas Reunidas, one of the largest Spanish multinationals in the energy and clean fuels sector with offices in India, referred to how the EU-India FTA constitutes a key strategic opportunity, noting that its impact is expected to grow significantly as awareness and visibility continue to expand across India (Interview Nocetto Pinto, 2026).

The nature of the EU-India relationship is not only deepening but also broadening in scope. This stems from both actors' desire to increase their industrial capabilities as well as their strategic alignment (Sánchez-Cacicedo, 2026b). The announcement of the EU-India TTC in April 2022, a mechanism only otherwise in existence between the EU and the United States (US), has marked a turning point. The TTC has been conceived to make the strategic partnership more operational in new domains such as in the development of trusted technology and towards the

green transition. It is, however, hard to separate the EU-India TTC from each actor's broader framing of their industrial, economic security, digital and trade policies (Kathuria and Sánchez-Cacicedo, 2025). To date, two official meetings of the EU-India TTC have taken place, in May 2023 and February 2025, respectively. There is likely to be a third meeting in the summer of 2026, following the successful EU-India 16th Bilateral Summit from January 2026.

The establishment of an EU-India institutional framework around cooperation in science, technology, research and innovation further trickles down to EU Member States. Aside from the EU-India TTC, the EU has, once again, renewed the EU-India Agreement on Scientific and Technical Cooperation from 2000 for another five years; it is now valid till 2030 (Kreutzer et al., 2025). This umbrella provides the necessary back-up for India to be part of subsequent EU Research & Innovation programmes such as Horizon 2020 (2018-2021) and Horizon Europe (2021-27), in certain instances through joint funding.

In addition, the EU-India Connectivity Partnership adopted in 2021 includes a people-to-people

Source: European Commission (2025)

segment which foresees advanced cooperation on human capital development, capacity-building and mobility actions for researchers through the Marie Skłodowska-Curie Actions (MSCA), the European Research Council (ERC) and India's matching programmes (Ibid). Spain is the fourth largest recipient of Indian researchers among Member States in the ongoing Horizon Europe programme, as illustrated in the diagram below [there is no data available yet on European researchers potentially going to India]. María Ángeles Martí Martínez, SVP Head of Tanker, Transport and Mission Programs - Defence and Space - at Airbus in Spain, refers to the knowledge base of a large pool of highly-skilled engineers produced by Indian universities, part of a growing middle class which Europe should consider working with due to the scarcity of graduating engineers from European universities (Interview Martí Martínez, 2026). Not in vain, the EU has recently created the first-ever "European Legal Gateway Office" in India, a pilot programme that aims to create a secure, legal, and streamlined pathway for Indian Information and Communication Technology (ICT) talent to work and research in the EU (European Legal Gateway Office India).

Spain and India: a potentially thriving bilateral relationship

In terms of the bilateral relationship between Spain and India, it stems back to 1956 with the official establishment of an Embassy of Spain in New Delhi in 1958. The official visit of Spain's Royals in 2012 constituted a launching pad for the evolution of relations. Thereafter, a Cooperation Agreement was signed between the Ministers of Defence which constitutes the base of an increasing engagement between both countries' Armed Forces, as well as both actors' defence industries (Spanish Ministry for Foreign Affairs, the European Union and Cooperation -MAEUEC, 2026). Indian Prime Minister Modi's visit to Spain in 2017 assisted in creating an upward spiral in bilateral relations culminating in two recent visits by Spanish President Sánchez in 2024 and the most recent one to attend the AI Impact Summit held in New Delhi during February 2026. In fact, this calendar year has been labelled as the "Spain-India Dual Year of Culture, Tourism and Artificial Intelligence" to mark the 70th anniversary of the establishment of diplomatic relations between the two countries with the aim to promote bilateral technology, innovation, business and people-to-people ties (Spain-India Council Foundation, 2026).

Bilateral trade between both

countries accounts for EUR 2 bn in exports and EUR 6 bn in imports for Spain, which shows a clear trade balance in favour of India (Ibid.) The trade volume is still not significant for either partner, though Spain ranks as India's sixth trade partner among EU Member States and India constitutes Spain's second Asian trade partner after China (Spanish Institute for Foreign Trade-ICEX, 2026a). Notwithstanding, Spain's proportion of Indian imports is dismal compared to other European Member States (Indian Trade Portal, 2026). Spain's imports from India are mainly organic chemical products, mineral fuels, machinery and garments while it mainly exports machinery, aircrafts and its parts, as well as electrical equipment to India (MAEUEC, 2026). The future implementation of the EU-India FTA would constitute a big advantage for Spain's exports to India, 88 per cent of which would benefit from the removal of tariffs on key exports such as on olive oil, food stuffs, machinery, chemicals and pharmaceuticals. This could further help in balancing out Spain's trade deficit with India, which amounts to almost EUR 4 bn (ICEX, 2026a).

In terms of bilateral investment, while flows are still not highly predictable, this has increased in recent years. In September 2025, Spanish investment in India reached EUR 1.9 bn while Indian investments in Spain accounted for EUR 0.6 bn. In addition, over 250 Spanish companies are operating in India with a focus on infrastructure, renewable energies and automobile components. In addition, over 80 Indian companies are present in Spain, particularly in the IT, pharmaceutical and automobile sectors (MAEUEC, 2026).

India's GDP growth rates, among the highest among G20 economies for 2026 and 2027 projections (OECD, 2026), combined with its thriving startup ecosystem make it a highly attractive trade and investment partner for Spain and vice versa. As noted by Nocetto Pinto, TR India Global Operations Centre Director at Técnicas Reunidas, it is key for us [Europeans] to become fully aware of the scale of the Indian market and its immense potential for opportunities, which comes with the need to invest, to understand, to settle and to find the right way to engage with it. He further referred to the size and potential of India's middle class in absolute terms if not in relative ones, as well as to the country's young population with 65 per cent under 35, which carries immense potential (Interview Nocetto Pinto).

In terms of the nature of the relationship, there has been a historical emphasis on the cultural and

scientific dimensions, increasingly on the technological aspect. Spain and India signed an Agreement for Cultural and Educational Cooperation in 1982. The India House (Casa de la India) was set up in Valladolid, Spain, in 2003, while The Instituto Cervantes opened an office in New Delhi in 2009. The Spanish Agency for Development Cooperation (AECID) has signed seven agreements with Indian universities across the country (including in Hyderabad, Jaipur, Pune, Varanasi and in New Delhi) to have a lecturer in Spanish. In addition, there is a substantial number of Hispanic scholars in India. During a visit by Spain's Foreign Minister Albares to India in 2022, both countries signed a Joint Declaration of Intentions for Cultural and Academic Cooperation to upgrade this dimension of the bilateral relationship (Spanish Ministry for Foreign Affairs, the European Union and Cooperation -MAEUEC, 2026).

In what concerns scientific and technological cooperation, a first agreement between Spain's CDTI- a Business Public Entity under Spain's Ministry of Science, Innovation and Universities that promotes innovation and technological development of Spanish companies – was signed with India's Technology Development Board (TDB) in 2006. A Framework Agreement on Science and Technology would follow in 2007 followed by subsequent meetings of the Bilateral Commission in Science, Technology and Innovation with specific agreements reached in the fields of biotechnology, renewable energy and multisectoral technological cooperation (Alvear, 2020). CDTI now has a technical delegation at the Spanish Embassy in New Delhi in India and has played a crucial role in intensifying collaboration between innovation companies and technological centres from both sides (Grijalba, 2026).

On an operational level, the creation of the Indo-Spanish Innovation Programme (ISIP) has proven key to the promotion and financing of technological development and innovation projects between the Spanish and Indian corporate and public sectors. As of 2025, ISIP has undertaken 44 joint technological projects amounting to EUR 36.3 M with Spain's CDTI contributing with 55 percent of the funding (Ibid.). The programme has eventually become multi-sectoral: it integrates different knowledge areas ranging from applied engineering to biotechnology. The latest joint call from December 2024, valid till June 2025, focussed on five strategic and high-impact sectors, namely: a circular economy, digital health, digital transformation, artificial intelligence and advanced materials (Grijalba,

2026). This model is increasingly adopting a bottom-up approach where it is the corporate sector, universities and innovation centres that are increasing their agency and pushing for new projects.

Both Spain and India are enjoying thriving startup ecosystems; Barcelona (6th) and Madrid (8th) rank among the top 10 most popular startup hubs in Europe in 2025 (Deep Ecosystems, 2025), while Bengaluru-Karnataka ranks 14th, New Delhi 29th, and Madrid and Mumbai are tied in 40th position in the Global Startup Ecosystem Ranking for 2025 (Startup Genome, 2026). Olga Hortigüela Pernía, Partner and Co-Director of Ion & Olga Servicios India S.L with 13 years of entrepreneurial experience in India, highlights how India is a country of entrepreneurs, where there is no such thing as the idea of failure hereby-related (Interview Hortigüela Pernía, 2026). India's "StartUp initiative" is a flagship initiative of the Government of India launched in 2016. It is 'intended to catalyse startup culture and build a strong and inclusive ecosystem for innovation and entrepreneurship in India' (Indian Department for Promotion of Industry and Internal Trade – Department for Promotion of Industry and Internal Trade - DPIIT, 2025). This has a mirror image in the Spanish Institute for Foreign Trade (ICEX)-run "Rising UP in Spain" initiative which aims to attract FDI to Spain and to support foreign companies and entrepreneurs to set up a business in Spain (ICEX, 2026b).

It is also worth highlighting the dependence of both the Indian and Spanish economies on Small and Medium Enterprises (SMEs) [labelled as Micro, Small, Medium Enterprises – MSMEs - in India]. In Spain 66 per cent of exporting companies are SMEs (KPMG, 2025) while In India, MSMEs account for 48,58 per cent of exports and 31,1 per cent of GDP (Ministry of Finance India, 2026). Not in vain, the recently concluded EU-India FTA has a whole chapter dedicated to SMEs to facilitate doing business in each other's markets, enhancing their ability to benefit from the FTA considering that SMEs have less resources to deal with tariff reductions, the removal of regulatory barriers and the overall regulatory environment (European Commission). The Spain-India example is no different; there is a need to increase financing to encourage the internationalization of SMEs and to promote structural reforms that reduce fiscal, labour and regulatory pressure.

India's strong investment in Research and Innovation (R&I) throughout this past decade is a

welcome development that should push Spain to increase its collaboration in R&I activities in the country. According to the World Intellectual Property Organisation's (WIPO) Global Innovation Index, Spain and India went from ranking 27th and 81st in 2015, respectively, to ranking 29th and 38th in 2025. In fact, India ranks as one of the fastest climbers among middle-income economies when it comes to R&I. Spain stands out in infrastructure innovation (ranking 11th), while India does so in knowledge and technology outputs (ranking 22nd) in 2025 (WIPO, 2025). This goes to show the synergies in the Spain-India relationship. Shreyashee Nag, Senior Director for an Indian multinational IT company with offices in Spain noted, however, that while the [bilateral] relationship is positive, it remains largely transactional. There is a need to make it strategic; this transformation would imply a deeper collaboration in technology, manufacturing and innovation (Interview Nag).

3.1. BIOTECHNOLOGY AND DIGITAL HEALTH

Spain and India already have over a decade-long history of collaboration in the field of biotechnology. Spain's CTDI signed an MoU with India's Department of Biotechnology (DBT) in 2011, which has been in force since 2012. India is investing greatly in biotechnology as a key pillar in its growth story: it remains one of India's most promising 'sunrise sectors'. India's bioeconomy has risen from USD 10 bn (EUR 8.5 bn) in 2014 to USD 165.7 bn (EUR 141 bn) in 2024 with a target of USD 300 billion (EUR 256 bn) by 2030 (Biotechnology Industry Research Assistance Council - BIRAC, 2025). The sector contributes 4.25 per cent to GDP with a compound annual growth rate (CAGR) of 17.9 per cent over the past four years (Ibid.). In Spain biotechnology constitutes the fourth industrial sector by investment rate while financing increased by 26 per cent in 2024 in comparison to 2023 (Spanish Bioindustry Association – AseBio, 2025). Spain's biotechnology sector is vibrant and highly specialised, it is internationalized and it generates jobs for qualified employees. The country is in a favourable position to make biotechnology one of the vectors of its leadership in innovation and towards achieving industrial sovereignty (Ibid.).

Europe has placed biotechnology at the heart of its industrial and technological agenda. Industrial biotechnology has further been hailed as crucial in the EU's quest to consolidate itself in the domains of bioeconomy and biopharmacy, where there is still a substantial gap between innovation and industrial scalability. To accelerate their growth, Spain and the EU, by extension, must reinforce the mechanisms that connect scientific talent and industry, consolidate their financial instruments and establish regulatory frameworks that align with innovation (Ibid.).

It is worth highlighting India's launch of its BioE3 (Biotechnology for Economy, Environment and Employment) Policy in 2024 to foster High Performance Biomanufacturing and Biofoundry. This initiative is meant to steer India on the path of accelerated 'Green Growth' by promoting a 'Circular Bioeconomy' with a wide-ranging focus on i) bio-based chemicals and enzymes, (ii) functional foods and smart proteins, (iii) precision biotherapeutics, (iv) climate resilient agriculture, (iv) biofuels and carbon capture, and (vi) futuristic marine and space research (Indian Department of Biotechnology). The integration of Artificial Intelligence (AI) and quantum computing is at the heart of an expanding biotechnology domain, including in synthetic biology.

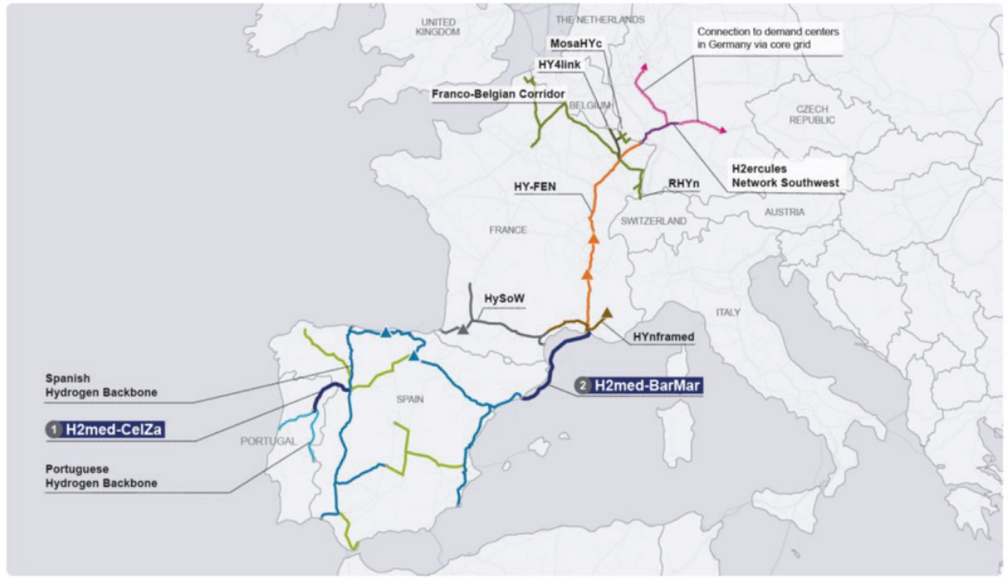
In terms of bilateral collaboration between Spain and India on biotechnology, a series of projects have been launched within the ISIP since 2020. The bulk of these projects had a digital health focus with an emphasis on neonatal health, food biotechnology and personalised medicine (Grijalba, 2026). Notwithstanding, the CDTI's latest call for joint projects focussed specifically on biotechnology with Indian entities from December 2019 was broad encompassing with a focus on health biotechnology, industrial biotechnology, nanobiotechnology, agribiotechnology, biofuels and bioenergy, as well as biocomputing and biomedical engineering (CDTI, 2019).

3.2. GREEN TECHNOLOGY AND SUSTAINABLE DEVELOPMENT

Adapting to a green transition has become ubiquitous. Spain aims to become carbon neutral by 2050; the country has become a world leader in renewables. Energy generation in Spain stemming from renewable energy has gone from 35.6 per cent in 2015 to 56.8 per cent in 2024 with a prominence of solar and wind energy sources. Moreover, renewable energy currently constitutes 66 per cent of the overall installed power (Red Eléctrica, 2025). Notwithstanding, Spain continues to be highly dependent on external energy sources

(68.6 per cent) with a mix of oil and gas, despite the growing relevance of renewables in its energy mix (Marín, 2026). Thus, an energy transition can bring not only a reduction in CO2 emissions but also in outside energy dependency and help promote the development of new industries. However, there are also significant challenges vis-à-vis the intermittency of renewables, the need for investment in storage systems and intelligent grids, as well as the stability of the electrical system (Ibid.).

In line with its green transition objectives, Spain continues to strategically invest in new sources of energy as is the case of green hydrogen. The Roadmap for Hydrogen was approved by the Spanish government in 2020 with the aim of replacing 25 per cent of the conventional industrial hydrogen with renewable hydrogen (Spanish Ministry for the Green Transition and the Demographic Challenge-MITECO). Further, the EU's REPowerEU Plan from 2022, a European Roadmap to increase European energy sovereignty and to accelerate the green transition, includes producing 10 million tonnes of renewable hydrogen combined with importing 10 million tonnes by 2030 (European Commission, 2022). For this purpose, there is a network of green hydrogen corridors planned across Europe, including the H2Med corridor that links the Iberian Peninsula with Europe, as illustrated in the visual below. H2med is expected to transport 2 million tons out of the 20 million tons of green hydrogen that Europe should consume by 2032 (H2med).



Spain was allocated EUR 1.2 bn from the NextGenEU funds to create five clusters or 'green hydrogen valleys' (La Moncloa, 2024a). It is expected that seven large green hydrogen projects will emerge from this; these should mobilise EUR 6bn in investments (La Moncloa, 2024b).

India too needs to guarantee its energy security through outside sources with 36.8 per cent net energy imports out of the total energy supply in 2023 (International Energy Agency). The country aims to become a net zero economy by 2070, having managed to increase its access to renewable energy consistently despite its over-dependence on coal, which accounted for 74 per cent of its total energy generation in 2023. In contrast, renewables accounted for 19.7 per cent of its total energy generation sources in 2023 (Ibid.). India has further become a leading oil refining country which explains why oil products together with biofuels and waste became its largest sources of energy in final consumption over coal and electricity during 2023 (Ibid.).

Against this background, India is aware of the need to embrace its transition towards clean energy and reduce its dependency on fossil fuels in the long-term. The real challenge is not to have it hinder its mid- and long-term economic ambitions, including that of becoming a developed economy by 2047. However, India faces imminent threats such as severe pollution rates in major Indian cities (Air Quality Index ranking) combined with the vulnerability of energy global supply chains, particularly after the onset of the wars on Ukraine and on Iran, respectively. India's National Green Hydrogen Mission (NGHM) was launched in 2023 with the ambition to reduce its fossil fuel imports and to reduce its Greenhouse Gas (GHG) emissions by 2030 as outlined in the visual below.

India aims to position itself as a global hub for green hydrogen production, use and export. The Indian Ministry of New and Renewable Energy (MNRE) announced in October 2025 that three major ports in India located in Gujarat, Tamil Nadu and Odisha as Green Hydrogen Hubs under the NGHM will serve as integrated centres for production, consumption, and future export of green hydrogen, as per the map above. The Mission further aims to foster public-private partnerships for R&D through the Strategic Hydrogen Innovation Partnership (SHIP) de-

signed to support the development of advanced, globally competitive hydrogen technologies through collaborative research between public institutions, industry, and academic organisations (Press Information Bureau, 2025). The EU is considering supporting the promotion of Green Hydrogen and Green Ammonia in India as a priority area under the Global Gateway and the EU-India Clean Energy and Climate Partnership (European External Action Service - EEAS).

The EU-India Clean Energy and Climate Partnership (CECP) from 2016 provides an overarching umbrella for Spain-India cooperation. On an operational level, the EU-India TTC Working Group 2 on "Green and Clean Energy Technologies" is meant to pave the way for more hands-on engagement going forward. Following the second EU-India TTC meeting in 2025, the focus is most strong on joint R&I within the framework of trusted partnerships and industry linkages, including in the recycling of batteries for electric vehicles (EVs), marine plastic pollution, and in the development of more efficient technologies to produce hydrogen from biogenic waste (Kathuria and Sanchez-Cacicedo, 2025). The Joint Statement resulting from the EU-India Bilateral Summit held in January 2026 outlined the intent to create an EU–India Task Force on Green Hydrogen, as well to undertake an EU-India Wind Business Summit in 2026 (Council of the European Union, 2026). Both Spain and the EU are partners of the International Solar Alliance coalition launched by India and France in 2015.

Suvish Viswanathan from Zoho notes how the greatest potential in Spain-India economic ties lies in sectors that combine economic activity with long-term transformation; this includes renewable energy, together with technology, digital services, infrastructure, mobility, advanced manufacturing and education (Interview Viswanathan). Not in vain, both countries have undertaken joint research and experts' exchanges in electric mobility and green hydrogen for some time now under the "Spain-India Action Plan 2021-2025". Today, the CDTI has an ongoing R&I initiative on renewable energies as well as in water research together with the Indian Ministry of Renewable Energies (MNRE) focussed on industrial research and experimental development led by the corporate sector (CDTI, 2026).

There are key Spanish multinationals operating in the energy transition domain in India, including in the green hydrogen and photovoltaic sectors. Maximiliano Nocetto Pinto highlighted Técnicas Reunidas' long-standing presence in India since 2008, where the company has progressively expanded its footprint in India's major oil and gas projects, as well as in the energy transition and green energy space. Over time, this engagement has evolved from project-based collaboration with local companies providing services to Técnicas Reunidas, into the establishment and consolidation of its own fully integrated Global Operations Center. Today, TR India forms part of the company's global operations network, contributing engineering capabilities, project execution support and talent development across the multiple geographies in which the company operates. This evolution illustrates how international collaboration and long-term strategic vision can serve as an effective platform for capacity-building, knowledge transfer and the adoption of global operational and organizational models in which both the Indian private and public sectors continue to show a strong interest (Interview Nocetto Pinto). This further goes to show the strong potential for B2B collaboration between Spain and India.

3.3. DIGITAL PUBLIC INFRASTRUCTURE AND CUTTING-EDGE TECHNOLOGIES

India's hosting of the AI Impact Summit during February 2026 illustrates its wish to play a role at the high table of digital governance and geo-politics of technology against the backdrop of a quasi-bipolar dominance of the US and China. In

this respect, Europe is very much aligned, also seeking to be part of the global discussion on standards setting around trustworthy AI and international data governance. India and the EU are collaborating through the Global Partnership on Artificial Intelligence (GPAI) to bridge AI theory and practice: they aim to maximise the benefits (e.g. via Large Language Models (LLMs) in languages other than English) while preventing its misuse. Both actors realize that they need to ramp up their AI ecosystems as well as their collaboration in building resilient supply chains, including in cutting-edge technological sectors, such as Quantum, High-Performance Computing (HPC), semiconductors and space. The aim is to increase collaboration across the entire value chain, linking enhanced research and innovation to business engagement and market operationalisation (Council of the European Union, 2026).

Since 2011, the EU and India have collaborated on cybersecurity, ICT standardisation, internet governance, R&I, and 5G infrastructure under the India-EU Joint ICT Working Group. The "EU-India Strategic Partnership: Roadmap to 2025" from 2020 highlighted common standards for digital transformation and personal data protection, fostering cooperation on new technologies, such as quantum computing, AI and blockchain, as well as the intention to strengthen collaboration between European and Indian ICT ecosystems (European Parliament, 2020). The notion of ecoystem is central: ideally, policymakers, industry leaders, startups, and investors need to come together to support the successful development of joint collaborations. The future creation of "Blue Valleys" between India and its Member States for selected strategic value chains to accelerate private sector engagement through investment facilitation, standard alignment, and structured business collaboration is a welcome development (Council of the European Union, 2026).

The EU-India TTC's Working group 1 on "Strategic Technologies, Digital Governance and Digital Connectivity" aims to deliver on existing joint tasks in the sector in a more effective manner. Delivering on trustworthy and sustainable AI, strengthening the semiconductor ecosystems following the MoU on Semiconductors signed in 2023, HPC, 6G and joint cooperation in DPI and cybersecurity are currently on the EU-India (EEAS, 2025). The establishment of soon-to-be 19 Euro High-Performance Computing (EuroHPC JU) AI Factories across 16 Member States can be of significance to EU-India collaboration (Europe-

an High Performance Computing Joint Undertaking-EuroHPC). AI factories provide high-quality expertise and new opportunities to develop Europe's deep-tech capabilities, which could also be of interest to India's technological ecosystem. The joint EU-India GANANA project was launched in February 2025: it aims to promote cost-effective HPC use in pharmaceuticals, risk prediction, and natural disaster preparedness (GANANA). Spain hosts a Supercomputing Centre in Barcelona which is part of the EuroHPC network, it has been developed with national capabilities and funded by Quantum Spain (Grijalba, 2026).

The EU and India converge around rules-based digital governance, open-source frameworks, and inclusive digital systems. Yet they also diverge when it comes to innovation and regulatory issues related to cross-border data flows, data governance (data protection and privacy), and intellectual property rights. Suvish Viswanathan from Zoho argues that the opportunity, therefore, is not only to expand trade volumes but to develop shared operating models across sectors that allow both ecosystems to scale more effectively together (Interview Suvish Viswanathan). There is lots of potential in strengthening capacity-building and training, particularly linked to R&I on ICTs. The Europe-India Innovation Partnership launched in 2018 has brought together startups and entrepreneurs, startup incubators and accelerators, investors, corporate partners, and EU and Indian policymakers (European Commission, 2020). Spanish companies need to make sure to hop on to the EU-India bandwagon when it comes to innovation and joint ecosystem-building in ICTs.

Digitalization and technological advancements lie at the heart of India's leapfrogging opportunities when it comes to its development trajectory. The country's Digital Public Infrastructure story has gained global prominence for its achievements in a short time span. The "India Stack" has allowed for 96.8 per cent of the Indian population to have a digital ID (Aadhaar), there is a smartphone penetration of 73 per cent and over three-quarters of India's population over the age of 15 have access to an account at a financial institution or via mobile money (Alonso et al., 2023). It is estimated that by 2030 the economic value added from DPIs to India's GDP could reach 2.9-4.2 per cent, already at 0.9 per cent in 2022 (NASSCOM and Arthur D. Little, 2024). This has further enabled society-wide transformation of India's social service provision in education [DIKSHA], digital health

[ABDM] and agricultural [VISTAAR] services by allowing for digital and financial inclusion.

The Unified Payments Interface (UPI) has become the major driving force in the overall growth of digital payment transactions in the country accounting for 70 per cent of digital payment transactions in FY 2023-24, way ahead of credit or debit cards (Sánchez-Cacicedo, 2024). Since its launch in 2016, it has further grown to become the world's fifth largest payment network by volume, behind only Visa, Alipay, WeChat Pay, and MasterCard; UPI is currently accepted in six countries, including France, Singapore and the UAE (Paytm, 2026).

One of India's ambitions is to export its DPI to the world via its Citizen Stack, particularly to Global South countries but not only. The Modular Open-Source Identity Platform (MOSIP), a non-profit initiative, hosted by the International Institute of Information Technology, Bangalore (IIITB), is already adopted by 27 countries and has more than 182 million active users (MOSIP). Spanish entities should consider the possibility of engaging in triangulation projects with India on DPI deployment across regions of interest to Spain, such as Latin America, Northern Africa or the Middle East.

A distinctive trait of the Indian IT ecosystem is how publicly-supported technology initiatives – the India Stack, India's DPI rollout, AI Mission, National Quantum Mission and Semiconductor Mission – have integrated private market-led innovation from the beginning via New Delhi's techno-legal approach. According to a Senior Director at an Indian multinational IT company with a presence in Madrid and Barcelona, Spain already plays a role as a top-tier technology and industrial partner for India but this role is not yet fully recognised or leveraged in the same way it is with countries like Germany or France. So there is a perception and awareness gap despite its recognition of its capacities in areas like renewable energy, high-speed rail and advanced transportation systems. This can be perceived as a hindrance but also as an opportunity (Interview Nag).

AI and technological cooperation lie at the centre of the ongoing roll-out of Spain-India Dual Year agenda. The internet of things (IoT) and digital transformation (smart mobility, smart grids, smart cities, etc.) have been part of recurring multisectoral joint calls since 2021 between the CDTI and the Department of Science and Technology (DST) in India, dependent on the Indian Ministry of Science and Technology through the Technology Development Board

(TDB) (CDTI, 2026). The EU-India MoU on Semiconductors needs to be implemented in the coming years. This implies an upcoming mutually beneficial EU-India collaboration in R&D for chip design, heterogeneous integration, sustainable semiconductor technologies and technology development for semi-conductor manufacturing (Council of the European Union, 2026). Spain must ensure its active participation in this cutting-edge opportunity.

Spain has solid multinationals operating in cutting-edge technology and infrastructure-building in India. When it comes to Indian ICT companies providing services in Spain, Suvish Viswanathan from Zoho highlights how Spain has made significant progress in supporting digitalisation, with a growing alignment between public policy and business needs. Yet, certain structural challenges remain linked to adoption and to ensuring that digital transformation translates into consistent, scalable and long-term operational value. In his view, there is still a need for simplification, clearer guidance and more practical mechanisms that support companies throughout the implementation process. In addition, there is variability across regions in terms of execution and administrative processes, which makes understanding the regional dimension particularly relevant (Interview Viswanathan).

According to Shreyashee Nag, Senior Director for an Indian multinational IT company with offices in Spain, the country is a highly mature market in terms of technology adoption and supply chain capabilities. This maturity brings strong competition and well-established ecosystems. At the same time, Spanish companies are increasingly open to collaborating with global technology partners, especially in areas related to digital transformation, which reflects a favourable business mindset. The Spanish environment is perceived as generally stable and structured. A key practical challenge is the language factor, however: while communication at the senior leadership level is typically smooth, Spanish becomes critical at the operational and middle-management levels, where most project execution happens. In addition, documentation—such as master service agreements and contractual frameworks—is often primarily in Spanish, which can add complexity for international teams. Business success in Spain thus requires strong local integration, including language capabilities and cultural alignment, to effectively navigate and deliver at scale (Interview Nag).

To finalize, the dual use of criti-

cal technologies cannot be ignored, particularly since it raises fears of technological transfer and intellectual property rights, against a global rise in export controls measures. India and the EU have just launched negotiations towards a Security of Information Agreement (SoIA), as agreed in the 16th Bilateral Summit held in January 2026 (Council of the European Union, 2026). This should certainly ease future defence cooperation between both actors, as well as between India and EU Member States, including Spain. This will be addressed more specifically in the next section; it is worth noting here how it is increasingly common to find specific clauses in corporate contracts between Spanish and Indian companies in order to control technological knowledge transfer (Grijalba, 2026). The case of Airbus, which has its defence equipment procurement in Spain, is illustrative of this. According to María Angeles Martí Martínez, working at Defence and Space at Airbus in Spain, the transfer of intellectual property is highly protected since Airbus operates on a "build to print" manufacturing model. This implies that their local counterpart - part of the Indian TATA Group – has limited scope for maneuver in terms of the nature and amount of how they procure the C295 military transport aircraft based on contractual obligations (Interview Martí Martínez).

3.4. DEFENCE AND SECURITY

The defense and security sectors offer a wide range of opportunities for cooperation. India and Spain, despite their geographic distance, face shared threats and challenges, to varying degrees. At the same time, both countries' commitment to multilateralism provides an excellent starting point for cooperation with significant growth potential, due to the underdeveloped nature of defence cooperation between Spain and India. This is reflected in the minimal proportion of arms transfers from Spain to India between 1950 and 2026 that amounts to 0,20% of the total of Indian imports (SIPRI).

Defence cooperation requires trust and knowing each other well, as well as strategic alignment. A solid security relationship is built over years of exchanges, visits, and a frank and fluid dialogue. Thus, the proposals presented below are conceived as an embryo for genuine cooperation to be sustained over time, capable of withstanding changes in government and potential geo-political shifts.

Security and defence cooperation between Spain and India falls under the 2012 Memorandum of Understanding (MoU) on Defence Cooperation (The Diplomat, 2024). This memorandum was reinforced in 2015 with a complementary agreement on the exchange of classified information, which consolidated the necessary security conditions to expand cooperation between the armed forces and defence industries, and with the signing of another MoU on cybersecurity in 2017. Even though these memoranda provided an excellent basis to launch the initial cooperation (Saldaña, 2026), they must be updated. In addition, it would be useful for Spain to establish a country strategy, including in the defence sector, focused solely on India, as other European countries have done. Some examples to follow could be Germany, with its strategy focused on India entitled Focus on India and France (Elysee, 2026), which is the EU country with the most consolidated defence relations with India.

Based on the above and under the framework of EU-India Security and Defence Partnership signed in January 2026 (European Union External Action, EEAS , 2026), the following short- and medium-term forms of cooperation between the two countries should be explored.

The India-Spain Defence Joint Working Group is a welcome development. Its most recent session was held in New Delhi during February 2025. Its establishment has helped strengthen ties and explore avenues for cooperation at the Ministry of Defence level but it would be advisable to establish a mechanism for annual meetings at the ministerial level among Defence Ministers, supported by more regular and institutionalized spaces for civil society dialogue working on specific issues.

In addition a key milestone that illustrates defence cooperation between the two countries is the export program for the Airbus C-295 military transport aircraft. India has contracted the acquisition of 56 aircraft under a cooperation scheme with Tata Advanced Systems Limited in India (Economic Times, 2024). The plan envisages the initial manufacture of 16 units in Seville and the assembly of the remaining 40 units in the Indian city of Vadodara, with a significant component of technology transfer but with European intellectual property remaining protected.

This agreement has acted as a launching pad to boost exports and authorizations of defence and dual-use material to India, which has increased over the past couple of years. These are concentrated among a group of established Spanish companies in several sectors as

radars and electronic defence, in naval engineering and combat systems; in secure communications and optronics; in remote weapon stations; and in light weapons and ammunition (Saldaña, 2026).

India's approach to Spain as a defence supplier must be analysed in the context of strong competition from other European countries in India's defence sector, such as France and Germany, which are decades ahead. Spain, therefore, starts from a clear disadvantage in relation to its main European partners (Aparicio, 2026). Technology transfer and joint manufacturing are essential components of bilateral cooperation between the two countries, with Spain presenting itself as a reliable and flexible technological partner.

Building on the existing momentum in defence technology cooperation between Spain and India, building on the C-295 program, this model could be replicated in other defence sectors, such as submarines, ships, helicopters, weapons systems, UAVs, among others. To this end, Spain's defence industry, with public support, must present itself to India as a reliable and solid technological partner vis-à-vis other European competitors.

Both countries have the responsibility to reform key treaties in the field of weapons of mass destruction proliferation and arms control. In this regard, an update in the Treaty on the Non-Proliferation of Nuclear Weapons that integrates India is necessary, considering that India is a non-signatory state and possesses nuclear weapons. Its inclusion in a new treaty could open a period of greater control over nuclear arsenals and materials (Arms Control Association, 2024) and send a message of restraint at the global level.

The current system for maintaining global peace is not functioning properly as we see by the ongoing 60 armed conflicts (Uppsala Conflict Data program). This requires greater involvement from both Spain and India. In the African case, Spain has extensive on-the-ground experience that could be shared with India. Clear areas of cooperation include the protection of civilians, post-conflict stabilization, humanitarian crisis management, and related fields. Indeed, if India wishes to establish itself as a true voice of the Global South and a country in favour of global peace and stability, it must become more pro-active in the world's various geo-political hotspots, leveraging India's vast experience in UN peacekeeping operations (United Nations). Spain should support Indian efforts in this direction.

Both nations have a strong maritime presence. In fact, Spain was the first country in the EU to develop a

strategy focused specifically on maritime security in 2013, demonstrating its European leadership in the maritime domain (Government of Spain, 2013). For this reason, both countries possess rich experience in protecting trade routes, conducting international naval operations, and conducting maritime surveillance, which they can and should share, especially in the management of illicit and human trafficking. India's leadership within the Indo-Pacific Oceans Initiative (IPOI) and Spain's recent inclusion, shows that both countries hold compatible visions of maritime security (Mann 2026) Both countries must be clear that the Indo-Pacific must be governed by UNCLOS, and that freedom of navigation must be guaranteed. At the same time, Spain must remain active within IPOI and demonstrate its commitment to India's leadership.

In addition, Spain has broad experience both in the delimitation of maritime borders with its neighbors and in surveillance, whether through physical presence or remotely. This experience can be shared with India to contribute to sound maritime-domain management, including in maritime domain awareness (MDA) tasks. India and the EU have already cooperated in MDA. Therefore, the development of joint patrols in the Indian Ocean Region would be an excellent opportunity to reinforce cooperation between Spain and India too.

The recent participation of Indian personnel in Exercise Ocean Sky 2025, the multinational air drill held in the Canary Islands (India's World, 2025), constitutes a good starting point to achieve greater mutual knowledge, strengthen ties, and build trust between the two countries. Such actions can be repeated in the future and be extended to naval and land forces. Spain could also join military drills in India more frequently; the country's participation in the Tarang Shakti air exercise in 2024 was a good starting point for greater integration and mutual knowledge between the two air forces (Ministry of Defence, 2024). In parallel, an encouraging message for India would be to increase the presence of defence personnel at the Embassy of Spain in New Delhi . However, there are significant budget and capability limitations that could hinder this proposal.

Spain has extensive experience in the fight against terrorism, as recognized with the opening of the United Nations Office of Counter-Terrorism (UNOCT) office in 2023 in Madrid (MAEUEC, 2023). An exchange of best practices, intelligence-sharing and joint training in counterinsurgency and counterterrorism between

the security forces of both countries would be highly positive. Spain has a solid experience in three key areas in the fight against terrorism: coordination among different security forces, as police bodies have historically dealt with terrorism in Spain; financial measures to pursue terrorist financing; and intelligence-building. In addition, Spain could make available to India its mechanisms towards bilateral cooperation with third countries to fight terrorism in Spain, though this remains a more sensitive arena.

Finally, the cyber and space domains open broad possibilities for cooperation, including governance issues and the challenges caused by the rapid development of cutting-edge technology hereby-related. Building on the existing Spain-India MoU on Cybersecurity, cyber defence should become a clear avenue of cooperation between the two countries, as they share vulnerabilities. Joint personnel training, the exchange of best practices in protecting critical infrastructure, and cooperation among technology companies in the defence sector should be an essential part of any future cooperation between the two countries. In the space domain, India has a significant advantage over Spain due to its greater capabilities. Nevertheless, opportunities are opening to ensure future synergies between the space domain and other defence domains. Cooperation between the corporate sector and academia from both sides across this domain should be encouraged, with public protection and support.

Lastly, within the area of non-traditional security issues, water scarcity appears as one of the main vectors of cooperation between Spain and India. Spain is a country with extensive experience in water management due to the scarcity of rainfall in the southern half of the country and as one of Europe's leading food producers (Euronews, 2025). Spain could cooperate with India to improve both water management for agricultural purposes, as well as the productivity in a sector that is key to the well-being of millions of Indians.

4

CHAPTER 4

CONCLUSION

India's rise symbolizes one of the major geopolitical shifts of the twenty-first century. Despite being weighed down by significant internal and external security challenges, India has consolidated its position as a crucial player in the Indo-Pacific, the gravitational centre of global power.

India's new prominence is based on its geographic, demographic, economic, military, and technological vectors, combined with its global ambitions. The ambition to have a seat at the high table of international politics is giving India a greater international impetus, driven by its intense diplomatic activism against a a shifting world order.

Against this background, Spain must seek a privileged relationship with India—one that consolidates an already genuine and thriving collaboration through stable and solid mechanisms that facilitate long-term cooperation. Spain must cease to be a peripheral partner to India and become a strategic partner. To this end, Spain also needs to be more courageous and pro-active in its international actions and develop a long-term vision for its relationship with India, one that avoids contradictions in its outreach towards that country.

In this new bilateral format between India and Spain, both countries must be ambitious and take advantage of the excellent synergies established in recent decades, which have marked a change for good. The relationship between Spain and India should go beyond commercial interests. Instead, a carousel of new sectors is emerging with unusual strength and could—and should—become the main pillars of cooperation, as explored in this report. Technological cooperation offers an extraordinary potential, particularly against both partners' diversification needs against a fragile EU-US relationship and the ongoing US-China rivalry. This volatile global landscape makes cooperation and the search for new partners an imperative.

Bilateral cooperation must also be elevated to a global level. Both countries defend a fair and balanced multilateral order that requires the reform of global governance. The integration of the Global South into an emerging world order, where India plays a leading role, will be key going forward. In this context, EU-In-

dia cooperation remains essential to creating a level playing field and, above all, a more balanced world order. Both actors will need to protect their strategic autonomy, as well as their diversification strategy. It is undeniable that differences exist, yet shared positions deserve an effort from both sides towards the emerging world order. Hence, a solid engagement with India has become a strategic need and a priority for both Spain and the EU's foreign policy.

Let us seize the momentum and move forward together.

BIOGRAPHIES

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