







CONTENTS

1. INTRODUCTION: WHAT DOES GERMAN INDUSTRY STAND FOR – A VALUE PROPOSITION 1.1. Innovation and Technology 1.2. Stronghold of SMEs, the German 'Mittelstand' 1.3. Internationalization	4 5 6 7			
2. HOW CAN THE GERMAN INDUSTRY CONTRIBUTE TO THE SAUDI VISION 2030?	8			
2.1. The Opportunity	9			
2.2. German Industry in KSA 2.3. The "German Vision 2030 Realization Committee" (GVRC)	10 11			
3. GERMANY'S CONTRIBUTION				
3.1. Workforce Development, Education and Training	13			
3.2. Digital Transformation	14			
3.3. Industry 4.0 3.4. Logistics and Transportation	15 16			
3.5. Energy Industry	17			
3.6. SME Development	18			
3.7. Healthcare	19			
3.8. Export Development	20			
4. SUMMARIZING	21			
IMPRESSUM	22			

INTRODUCTION

1. WHAT DOES GERMAN INDUSTRY STAND FOR - A VALUE PROPOSITION

Germany is not only the engine of economic growth in Europe, but also a highly globalized economy. The very low unemployment rate of 5.5%, including youth unemployment rate of only 3.9% are indicators of the country's economic dynamism. A legitimate question that springs up to one's mind is: what are the key ingredients of Germany's economic strength?

1.1. Innovation and Technology

Germany is globally known for its top quality products and services. Made in Germany is the result of the joint efforts involving many parties, public as well as private. It is a combination of money strategically invested, smart institutional landscapes, and the interaction among different sectors:

- 1) The government and private sectors jointly invest more than 80 billion Euros per year in Research and Development (R&D) more than any other European nation. Roughly two-thirds are allocated by the private sector. More than 600,000 people are employed in the field of R&D in different institutions and firms.
- 2) The cooperation and technology transfers between scientific universities and think-tanks on the one hand, and private companies on the other is a particular challenge. Important pillars of the institutionalized transfers are renowned organizations like the Fraunhofer Society, Max Planck Society or Steinbeis Foundation, that works at the intersection between the private and public sectors. In addition, competitive tendering procedures for German and European R&D funds are triggering market-focused projects.
- 3) Not only white collar workers are needed in the industry: the German technical and vocational training and education system, the so-called 'dual system', implemented by private firms and public part-time schools, is uniquely managed by the German Chamber organization and meets the needs of employers particularly well. Chamber-certified graduates are typically sought after across the country and beyond. No wonder that the 'dual system' itself is adapted and implemented by other countries worldwide.
- 4) These investments pay off: Germany is among the global leaders in the field of R&D and innovation. The 'Global Competitiveness Report' of the World Economic Forum highlights that in many respects Germany is one of the world's top innovators. The country has one of the highest numbers of patents per capita. But not only high-tech matters: German innovation often results in widespread productivity gains across manufacturing and services industries. As a consequence, the country also infuses its existing industries with new ideas and technologies.

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1.2. Stronghold of SMEs, the German 'Mittelstand'

According to German statistics, mere 99.6% of all German firms are defined as small and medium-sized enterprises. They employ 61% of the workforce, provide for 82% of the vocational training positions and generate some 33% of the German industry's aggregated turnover. As impressive as these figures are, they do not yet mirror the 'secret' behind the famous German 'Mittelstand'.

Three main characteristics symbolize the success of German SMEs:

- 1) The Mittelstand is innovative and versatile. It is not only high-tech firms that represent German SMEs, but also traders, freelance experts and craftsmen. They might be young or well-established; on average, they are more innovative than their European peers: more than 42% of German SMEs innovate products and processes per year, compared to 30% in the EU. Many of them are concentrating on specialized niche products, either high or low tech, or are integral parts of the global value chains of large firms ("hidden champions"). Through this, the Mittelstand enables large companies to implement innovative and complex products, services and industrial solutions.
- 2) The Mittelstand is internationally active and competitive. Nearly 45% of German SMEs are directly or indirectly involved in global value chains. Among the medium-sized firms more than 50% are directly exposed to international clients and suppliers. But even small firms generate on average more than 20% of their turnover across borders already. European integration has strongly contributed to this 'internationalization' of the German Mittelstand.
- 3) The Mittelstand is a trademark of sustainability. German SMEs are typically characterized by an entrepreneurial culture with management coinciding with ownership, hence 'uniting' responsibility with the willingness to take risks. This facilitates quick reactions to changing market conditions and nurtures continuity as well as sustainability. The Mittelstand very often has deep regional roots, with a low staff turnover, and therefore a contributing factor to lower youth unemployment.

1.3. Internationalization

- 1) Competitiveness: For five consecutive years, Germany has been ranked among the top 5 competitive economies worldwide (World Economic Forum). While it is fair to say that among the 12 groups of indicators, Germany does not always score among the leading countries, it is noteworthy though that it does in two pillars: firstly, the quality of the country's overall business networks and the quality of individual firms' operations and strategies are rated the third-best worldwide. Secondly, the report once again provides evidence that Germany features an environment that is conducive to innovative activities, supported by both the public and the private sectors. Here again, it is outperforming its peers from the EU and North America.
- 2) Logistics: Being located at the crossroads of traditional intra-continental trading routes, Germany has developed world-class logistics facilities, comprised not only of roads, ports, water and railways, but also of the respective handling and management capacities. No wonder that Germany tops the World Bank's Logistics Performance Index! Smooth and efficient logistics are a key precondition for a highly globalized economy like Germany to remain competitive bearing in mind that 'German quality' often comes with a higher price tag. Today, German logistics services and their respective expertise are successful export products on their own.
- 3) Foreign Trade Promotion: For decades, Germany was able to establish and expand a successful network of Foreign Trade Promotion Institutions. Complementing the German Embassies, the German Chambers abroad operate in more than 90 countries. "Germany's Secret Economic Weapon" (The Wall Street Journal, 2013) promotes bilateral business relations and acts as first contact point for newcomers in foreign markets. Another important element of export promotion are the many international trade fairs that regularly take place in Germany such as in Frankfurt, Hannover, Munich or Düsseldorf, to name but a few.
- 4) Financing of global business relations through customized banking solutions: in a diversified landscape of regionally-rooted though globally active business community, financial institutions need to meet particular expectations and challenges. In times of global financial disruptions, the German network of public saving banks, complemented by SME focused commercial banks, is a conducive 'lubricant' for internationalization of the German industry. Risk management is facilitated by renowned export credit agency, Euler Hermes, backed by state-owned banks, KfW and DEG, acting as equity partners for investment in challenging environments.

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2. HOW CAN THE GERMAN INDUSTRY CONTRIBUTE TO THE SAUDI VISION 2030?

The Vision 2030 is an all-encompassing national approach of enormous size and aims to re-structure and realign the country's economy, governance and society. In order to accomplish this formidable task step by step, many programs are ready to start or are already under way. The most prominent among those is the National Transformation Program (NTP), a 110-page list of policies and targets for ministries and governmental bodies which should be fulfilled by 2020. This transformation plan 2020 can be understood as paving the way for the challenges ahead. It includes 543 specific initiatives and comes with a price tag of SAR 270 billion (\$72 billion), excluding adjustment costs by the private sector.

2.1. The Opportunity

The recent economic difficulties have been challenging for Saudi Arabia. However, these have been understood as a turning-point to initiate a reform package encompassing much more than the mere needs of countering the negative effects of the oil-price crisis. The Vision 2030 is an approach to engage in long-term plans and recognize the great amount of economic potential KSA undeniably has. The Vision 2030 can be seen as a promising chance for KSA and an overall kick-start in economic, social and governance terms, which usually take multiple decades to be introduced.

Saudi Arabia's Vision 2030 is designed to target three main themes of state interest. The first theme, "A Vibrant Society", has its focus on the building of a society in which its citizens live happily and productively in accordance with Islamic principles and are supported by an effective social and health care system.

The second theme of the Vision 2030, "An Ambitious Nation", conceives a restructuring and evolution of government and governance. In order to be an ambitious nation, the public sector and the government will lead changes to promote effectiveness, transparency, accountability and enabling high-performance.

The third theme, "A Thriving Economy", focuses on the development and diversification of the Saudi Arabian economy.

Of course one of the main targets is to diminish Saudi Arabia's dependency on oil and the problematic link of its economic growth in relation to the oil price. Also, Saudi Arabia uses vast quantities of its natural resources for domestic demands. In that regard, Saudi Arabia aims to restructure its energy mix, increase gas capacities, decrease local oil demands for water and electricity production and invest in renewable energy sources in addition to energy efficiency.

One of Saudi Arabia's exemplary challenges is the future structure of the labor market. Two thirds of the employed Saudis work in the public sector. In addition, the demographic developments produce a pyramid with a dominant youth percentage: around 48% of the population is currently less than 25 years old. This high percentage of young people has put great pressure on the labor market and neither the public nor the private sector can absorb the demand. The unemployment rate of skilled and unskilled male Saudi nationals is an estimated 10 - 11.6% and female nationals around 32% in 2016. With an overall annual population growth of 1.5% in 2015, the demographic trend is expected to be longer lasting. This situation can be used as a demographic dividend as long as the growing number of individuals entering the labor markets is able to find proper occupation. The Vision 2030 includes a program on human capital development. Investments in improving the education for men and women alike will be continued and increased. By the year 2030, five Saudi Arabian universities are planned to be among the 200 top international univer-

sities in global rankings (already 2 are in according to the Shanghai Ranking 2018, 4 are in the top 400). Curricula and teacher training are to be adapted in such a way that market needs are more effectively incorporated. More scholarship opportunities will be awarded to prestigious international universities and awarded in fields of national interest. Saudi women, representing more than 50% of the national university graduates, will be invested in and supported to increase their role in developing society and the economy. Their participation in the workforce is benchmarked to increase from 22% to 30% by 2030.

On the other hand, the private sector will be strengthened and diversified. For example: small and medium-sized businesses (SMEs) are planned to be turned into major economic contributors. An increase of their overall GDP share from 20% to 35% is foreseen in order to create sustainable jobs, support innovation and boost exports in new and already developed industrial branches. A governmental body, the SME Authority, has been established to foster and encourage entrepreneurship, to create business-friendly regulations, access to funds and credits, and to facilitate international partnerships and government's bids.

Saudi Arabia aims to improve its overall competitiveness and reduce the costs of doing business, facilitate the flow of private investment and public-private partnerships, improve the business environment and ensure the enforcing of contracts. The Kingdom also strives to become the logistic hub of the region.

Furthermore, Saudi Arabia will invest in and reinvent its manufacturing sector to become more attractive for both local and foreign investors. The investments will also help to improve the cleverness of manufacturing: the aim is to establish intelligent, value added products and increase the number of smart production sites. Special business zones and economic cities in highly competitive locations will be established or improved to boost investment flows and ensure long-term engagements. The list of important improvements to diversify, privatize and create opportunities in the economic sector is staggering and aimed to move Saudi Arabia's current position as the 19th largest economy into the top 15.

2.2. German Industry in KSA

The engagement of the German industry with the Kingdom of Saudi Arabia dates back to the years that followed the founding of the Kingdom. Companies like Siemens, for example, imported the first power plant equipment in the early 1930s. During the course of further internationalization of the German industry in the 1970s, more firms started to explore opportunities in the Kingdom, leading to the establishment of the German-Saudi Arabian Liaison Office for Economic Affairs (GESALO) by a Government-to-Government Agreement in 1978. Until now, GESALO is among the very few dedicated bilateral trade promotion institutions in the Kingdom, and by far the largest in terms of staff compliment.

For several consecutive years, Germany was the third largest supplier of goods to Saudi Arabia. The bilateral trade volume between the two countries reached a record of 11 billion Euros in 2015. In fact, this figure is much higher if one considers the integrated production and accounting processes of the German industry, and the role of some European countries as logistics hubs. German exports are especially concentrating on machine-building and electrical industries, as well as cars, trucks or their respective spare-parts. In addition, the exports of pharmaceuticals, medical devices, special chemicals, processed food and other consumer products are on the rise.

Trade figures are normally an indicator of the economic cooperation between two countries. They neither include trade in services nor operations of German investors on the ground. Both are though important for the German industry in the Kingdom of Saudi Arabia: today, more than 800 German companies are active in the Kingdom and engage in various industries; many of them operate through local partners; some 200 are invested in the country and employ around 40,000 staff. Some of the German household brands are expanding their local footprint in areas such as electronics, engineering, consulting, machinery, IT, construction and related materials and equipment. Especially noteworthy is the strong presence of German logistics firms in the Kingdom, with DHL and DB Schenker being the most prominent ones.

2.3. The "German Vision 2030 Realization Committee" (GVRC)

On December 1st, 2016, German business leaders in Saudi Arabia launched a "German Vision 2030 Realization Committee" (GVRC) to demonstrate the commitment of German companies to the Kingdom and its visionary transformation. The Committee represents major German investors in Saudi Arabia, many of them being present in the Kingdom for decades and having a strong local footprint in the country. GVRC is facilitated and fostered by the German-Saudi Arabian Liaison Office for Economic Affairs (GESALO), the official representative of the German industry in the Kingdom of Saudi Arabia.

The GVRC aims to

- Illustrate the role of the German industry to achieve the goals of the Saudi Vision 2030,
- Serve as an active dialogue partner for Saudi-German cooperation, and
- Act as a communication platform for best practices and potential replication by the German business community at large.

3. GERMANY'S CONTRIBUTION

3.1. Workforce Development, Education and Training

On its way towards economic diversification, KSA has accurately brought to light in the Vision 2030 how important it is to develop vitally needed industry skills among its labor forces. Saudi's industrial tissue, in order to achieve the set targets of reducing oil dependence and increasing newer industrial value-added chains on its soil, is consequently preparing its youth but also workers on the job to acquire innovative skills and enhance domestic talents. Germany has a historically proven track of an exceptional dual-education system that has played a pivotal role in fostering the country's industrial development. The successful German manufacturing industry has steadily been able to rely on a pool of well-educated workforces, trained prior to and on the job to meet today's very challenging industrial competition. In a nutshell, Germany's dual education system relies on:

- Long-established history of an unbeaten dual-education program that remains one of the country's key educational assets.
- Proposed programs and curricula being constantly updated to match the swiftly changing industrial requirements of today's world.
- Intricate and constructive cooperation between educating institutions and companies.
- High social acceptance in Germany of manual and technical jobs, which enjoy respect and glance within society as creator of much esteemed added-value in the country.

HOW CAN GERMANY HELP?

- Make use of and extend the already unfolded efforts by renowned German companies active in KSA (e.g. V-LINE, Siemens) to boost vocational education and training (VET) in the Kingdom along German standards.
- Replicate the existing VET success stories from German companies in Saudi to these other sectors where Germany excels that match with KSA's targeted key sectors.
- Enhance the general cooperation between both countries in VET related issues for more joint German-Saudi initiatives to take shape.
- Further support and increase the sending of young Saudi professionals to Germany for them to gather knowledgeable experience in renowned companies and deepen their already acquired skills (see recent cooperation with MiSK Foundation).

3.2. Digital Transformation

It is commonly agreed upon that the digital world is nowadays an irreplaceable ingredient for economic growth. The Saudi Vision 2030 rightly positions the topic of digital transformation at the core of its economic diversification efforts and unfolds ambitious plans to make of the Kingdom a digital hub. As far as it is concerned, Germany started early on with its digital transformation, being now a leading digital nation, which can now look on an impressive series of successes achieved through notably:

- Supportive and proactive institutions at the different levels of legislation
- Forward-looking policies inviting citizens and societal stakeholders to take part in the process.
- Successive substantial investments in the multi-layered requested infrastructures.
- Academic spheres steadily working in close cooperation with market leaders in the digital world (e.g. SAP, DETASAD) to always stay at the edge in terms of technological developments.

HOW CAN GERMANY HELP?

- Propose and organize regular meetings with Saudi counterparts at the multiple institutional levels to share experience and provide continuous support towards a smooth digital transformation.
- Establish and further foster existing academic ties between key institutes in Germany and KSA to support the development and spread of digital knowledge for a smooth digital transformation to take place.

3.3. Industry 4.0

The German manufacturing industry packed soon enough the strategic task of bringing digitalization close enough to its core manufacturing business and simply become part and parcel of it. Usually referred to as 'Industry 4.0', Germany has now become a leader in the digitalization of the manufacturing industry. To achieve such a leading position, important steps were taken:

- Strengthen existing and extend further needed digital infrastructures along the value-added chains of production.
- Timely address the right industrial topics with full swing e.g. smart production, cyber-security, 3D-printing, Big Data in addition to block chain, to name but a few.
- Promote the teaching of requested IT skills at the different levels of the value-added creation chains (from school up into the job and beyond).
- Provide a suitable framework for the digital world to thrive and rightly complement Germany's successful manufacturing industry.

HOW CAN GERMANY HELP?

- Enhance the interactions between German and Saudi leading manufacturing companies to boost the pooling of digital good-practices and overcome remaining challenges.
- Support and accompany the academic exchanges between both countries for the digital manufacturing industry to become part and parcel of KSA's economic tissue.

3.4. Logistics and Transportation

On the 2016 World Bank Logistics Performance Index (LPI) Germany ranks at place 1. Being a powerhouse of international trade and exporting goods as well as services all around the globe, Germany can fully rely on the most efficient logistics and transportation system world-wide. Parallel to this success, KSA strives as well to make increased use of its unique geo-strategic position between different trade routes and become a reference hub in the region. Germany achieved its current position as a leading logistics and transportation platform through notably:

- Proven long history and thus extensive successful experience in the field of logistics and transportation.
- Massive investments made in this strategic field and the respective requested infrastructures.
- Many world-leading companies present on the market such as DB Schenker, DHL, Lufthansa, Talke, etc.

HOW CAN GERMANY HELP?

- Enhance the number of partnerships with Saudi companies for them to fully benefit from German expertise and experience in the logistics and transport sector.
- Contribute to the further development of suitable labor forces for the sector in KSA through appropriate German-based vocational education and trainings.

3.5. Energy Industry

With regard to energy and the corresponding industry linked to it, the Vision 2030 unfolds ambitious goals of enhancing the use of renewable energies for energy production. The advantages for the Kingdom are multiple when addressing green sources of energy, notably by making use of its intrinsic natural assets with notably excellent solar radiations but also by diverting more oil and gas for third purposes (be it as commodities at international market prices or feedstock for the petrochemical industry). Germany has been and still is a worldwide renowned frontrunner in the development of clean energy sources. Germany was successful in its drive towards renewables thanks to:

- Flexible regulatory framework that has been adapted according to the milestones reached but also able to react to new upcoming challenges.
- Supportive policies fostering the spread of renewable technologies triggering in turn a decrease in price and affordability on citizens' side.
- In-depth cooperation between academia and the concerned industry to remain at the forefront of technological novelties making use of state-of-the-art renewables.

HOW CAN GERMANY HELP?

- Technology transfers from an industrial but also an academic perspective to develop complete value-added chains in the Kingdom and build up the required work-forces.
- To boost cooperative ties in this strategic energy field and invite Saudi counterparts to Germany to visit and see first-hand potential technologies applicable for KSA.
- Support marketing KSA as a natural solar market via suitable German trade fairs.

3.6. SME Development

The Vision 2030 defines an ambitious contribution of Saudi SMEs to economic development. German SMEs are not only the backbone of its economy (see 2.2), but even more they are highly internationalized. Hence, different from experiences in other countries German SMEs were able to major all financial and economic crises of the past. The following elements are important ingredients – without being limited to it -for an eco system that is conducive for the development of resilient SMEs:

- A regulatory framework that levels bureaucratic hurdles to the capacities of SMEs.
- A sufficiently high supply of qualified manpower, even outside of urban areas.
- Domestic 'anchor' purchasers (big companies) that appreciate the proximity of regional SME suppliers and grant projects and orders to these.
- A domestic infrastructure that 'makes a difference' when it comes to competing with international competition.
- Local/regional financial service providers that tolerate the needs of owner-driven investment decisions and 'small tickets'.

HOW CAN GERMANY HELP?

- Rendering inter-institutional advice for the development of a SME-friendly regulatory framework.
- Designing (and implementing) vocational training and education schemes and institutions that generate graduates that are nation-wide employable, in both big and SME companies.
- Supporting the development of SME-oriented financial/credit schemes.
- Developing supply/buyer platforms that trigger local supplies and value-addition.
- Supporting Saudi Arabia's ambition to attract a larger number of SME investors internationally.

3.7. Healthcare

As G20-members, both KSA and Germany aim at proposing their citizens state-of-theart healthcare services and coverage. In that respect, Germany has long be a pioneer in researching, developing and implementing healthcare services in additional to medical appliances and pharmaceuticals that have brought about many world leaders to the market. The German know-how in this strategic field is notably based on:

- The substantial money and energy invested in research and development by the public and private sectors.
- Accordingly, world famous institutes (e.g. Max Planck, Fresenius) that are supported in their turn by not less renowned companies (e.g. Draeger, Siemens Healthineers) working in pair for the best of patients' health.
- The tremendous experience basis, cumulated, refined and extended throughout the decades, from a management, a research or even resources point of view.

HOW CAN GERMANY HELP?

- Put at the Saudi counterparts the rich German healthcare knowledge throughout targeted circles' meetings for the multiple professionals involved (from hospitals managers to company leaders but also researches, to name but a few).
- Pay regular visits to one another to learn and experience firsthand what each side has to offer and where improvements can be jointly tackled.
- Make use of the wide-range of German companies active in the healthcare sector to strengthen KSA's own footprint in the branch and enhance its learning-curve.
- Further support the development of appropriate curricula along German standards matching the rising demand of labor forces for the Saudi healthcare market.

3.8. Export Development

Like no other country worldwide Germany, has been successfully developing strong and resilient export-oriented small and medium-sized companies, together with a number of global corporate powerhouses. Acknowledging that this is a process, which requires a holistic approach over a series of many years if not decades, the following German experiences could be relevant against the Saudi Arabian background:

- -Making SMEs ready for exports requires having a strong, private sector driven counseling body. Typically intermediary organizations like Chambers of Commerce and Industry together with sectoral business associations are acting as competent source of knowhow in this regard.
- Development and implementation of a long-term strategy for promoting SMEs and its products overseas, for instance through a dedicated and targeted marketing program, incl. presence on international trade fairs and advocacy by high-level Government Officials (e.g. leading business delegations).
- Establishment of professional trade promotion offices in key overseas markets, with a strong private sector ownership (compare: German Chambers Abroad).

HOW CAN GERMANY HELP?

- Institutional counseling program by the German Chamber Organization as well as state-owned Germany Trade and Invest, incl. support during the startup phase of a dedicated Saudi export promotion body in Germany.
- Saudi Pavilions on International Flagship Trade Fairs in Germany, supporting international outreach and direct customer contacts.
- Partnership Program between German/Saudi think-tanks/universities and private sector bodies, easing transfer of technology between academia and private sector
- Organization of buyer missions from Germany to KSA.

4. SUMMARIZING...

... despite a history of close to 100 years of joint business relations, the German-Saudi economic cooperation still has room for development, both in terms of width and depth. The Vision 2030 offers a broad range of potential areas of engagement. While Germany does not offer globally-benchmarked 'excellence' across all sectors and fields, it is fair to say that it can serve as an ideal partner for jointly working on some of the indicators and fields of activities mentioned in the Vision and its related programs. This White Paper highlighted some topics and areas where German companies and German (business) organizations stand ready to support their Saudi friends and Partners. The "German Vision 2030 Realization Committee" (GVRC), as facilitated by the German-Saudi Arabian Liaison Office for Economic Affairs (GESALO), is willing and happy to be a contact point for further discussions.

IMPRESSUM

This White Paper has been developed by GESALO based upon input from the Steering Committee comprising of representatives of the following companies:

- Siemens & Siemens Healthineers
- thyssenkrupp
- Linde
- V-Line
- Airbus
- Detasad
- SAP
- DB Schenker.

Full responsibility for all possible shortcomings is taken by GESALO.

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