



PRESIDENCY OF
THE REPUBLIC OF TÜRKİYE
**INVESTMENT
OFFICE**

WHY INVEST IN TURKISH PHARMACEUTICALS INDUSTRY?



AGENDA

1 - Executive Summary

2 - Turkish Pharmaceuticals Industry Outlook

3 - Growth Drivers in Türkiye

4 - Opportunities in Turkish Pharmaceuticals Industry

5 - Site Assessment



EXECUTIVE SUMMARY

TÜRKİYE HAS A GROWING PHARMA INDUSTRY
OFFERING OPPORTUNITIES IN MANY AREAS



FAVORABLE INVESTMENT ENVIRONMENT



- Strong macroeconomic growth with increasing income per capita and a burgeoning middle class
- Favorable demographics with a dynamic, young and skilled talent pool supporting the industry
- Increasing life expectancy and spending in healthcare
- Strong government support through manufacturing and R&D incentives

ROBUST GROWTH IN THE SECTOR



- With Healthcare Transformation Program and Universal Healthcare Insurance launched in 2003, Turkish government assures free healthcare coverage to 95% of the population
- Turkish pharmaceuticals market has seen a robust growth over the past decade – ranks 18th largest in the World with \$6Billion in value
- Export opportunities due to Türkiye's proximity to regional markets

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OFFERING OPPORTUNITIES IN MANY AREAS



LUCRATIVE OPPORTUNITIES IN SUB-SECTORS



- Türkiye's localization program in action to reduce import dependency and increase local production
- Heavy investments in healthcare infrastructure and services
- Strong government support for biotechnology
- Ideal location for clinical trials and a favorable regulatory environment aligned with international standards

STRONG INTERNATIONAL PRESENCE



- Global pharmaceutical companies have been present in Türkiye with significant manufacturing activities, using Türkiye as a hub to access regional markets
- Successful partnerships with local companies to grow in the region, capitalizing on locals' experience and networks

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TURKISH PHARMACEUTICALS

TURKISH PHARMACEUTICALS INDUSTRY IS THE 22nd LARGEST IN THE WORLD WITH \$8.4BN VALUE



Country	Market Size (\$B)
 USA	428.3
 China	228.1
 Japan	97.8
 Germany	80.9
 France	43
 UK	38.7
 Canada	35.4
 India	32.1
 Russia	31.5
 Italy	31
 Spain	30.1

Country	Market Size (\$B)
 Brazil	25.4
 S. Korea	23
 Mexico	14.5
 Australia	13.9
 Poland	12
 S. Arabia	11.7
 Indonesia	9.1
 Switzerland	8.9
 Netherlands	8.7
 Austria	8.6
 Türkiye	8.4

**GLOBAL MEDICINE
SPENDING TO
EXCEED \$11
TRILLION BY 2030**

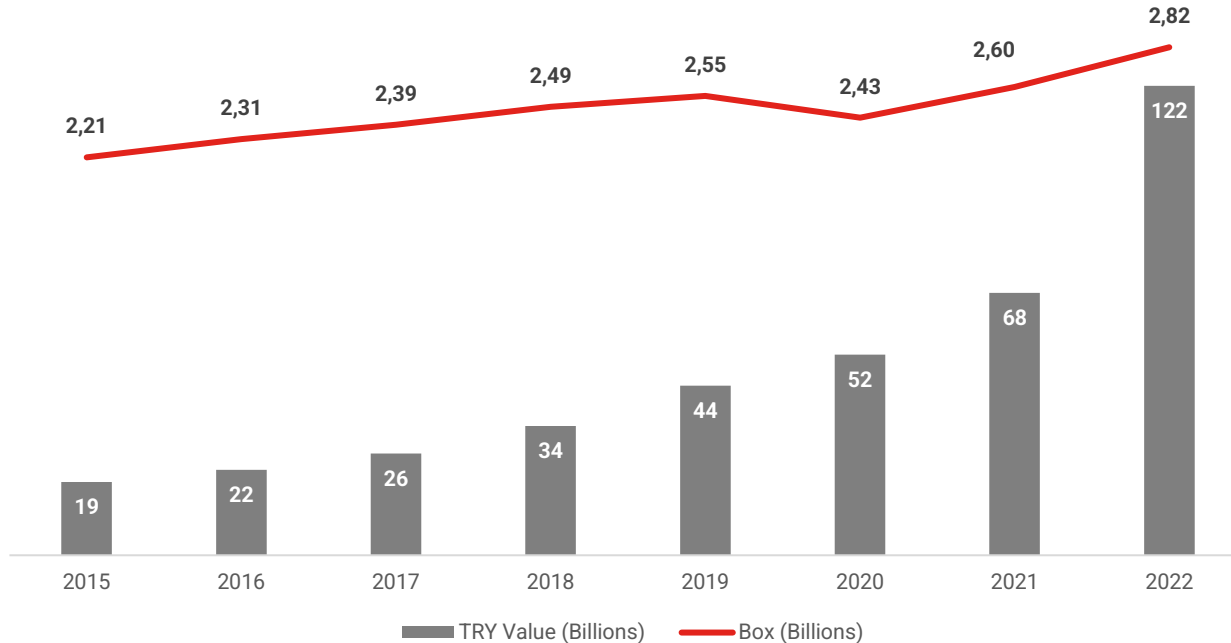
**DEVELOPED
MARKETS
EXPECTED TO GROW
BY 1-4% WHEREAS
EMERGING
MARKETS TO GROW
BY 5-8%**

TURKISH PHARMACEUTICALS MARKET

TURKISH PHARMACEUTICALS MARKET HAS EXPERIENCED A 6X GROWTH SINCE 2015 TO REACH 122 BILLION TRY



Turkish Pharma Sales



REIMBURSEMENT RATE OF 94.6%

ORIGINATOR DRUGS DOMINATE MARKET WITH 59% SHARE IN VALUE AND 35% IN UNITS

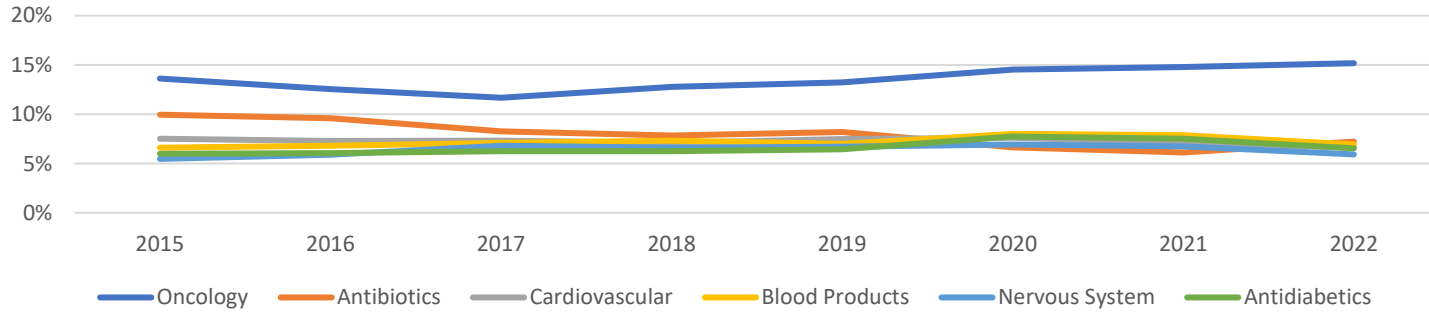
IMPORTED DRUGS HAVE 45% MARKET SHARE IN VALUE, 10% IN UNITS

TURKISH PHARMACEUTICALS MARKET

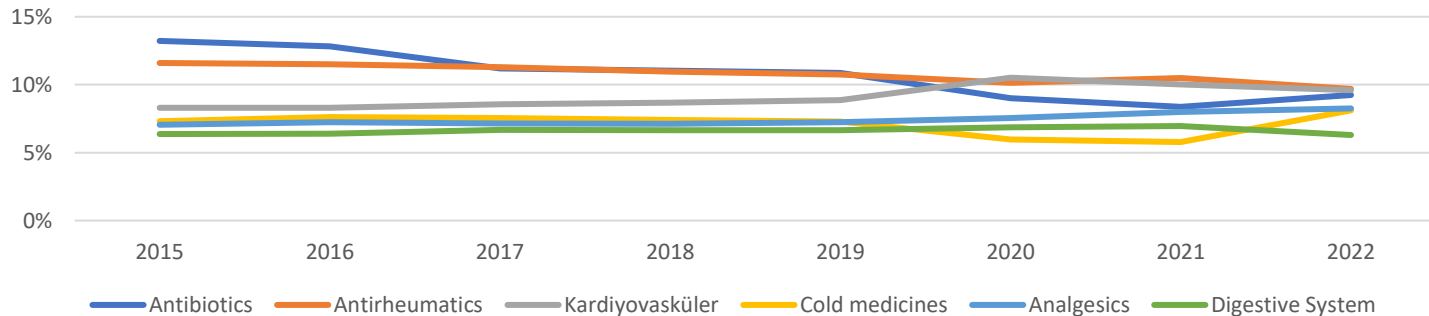
80% OF PRESCRIPTIONS ARE CLASSICAL DRUGS – ONCOLOGY HAS THE LARGEST MARKET SHARE IN VOLUME



MARKET SHARE BY THERAPEUTICAL CLASS IN VALUE



MARKET SHARE BY THERAPEUTICAL CLASS IN UNITS



FOREIGN TRADE

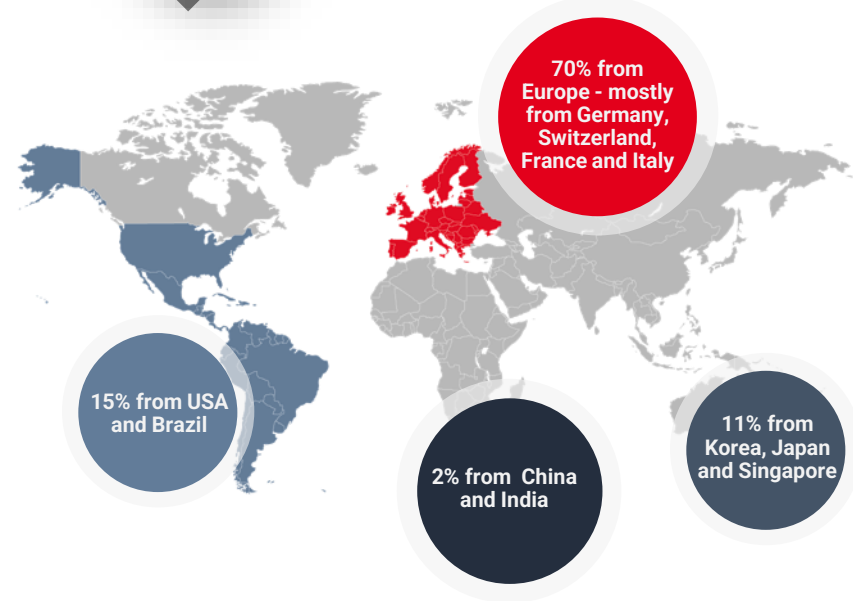
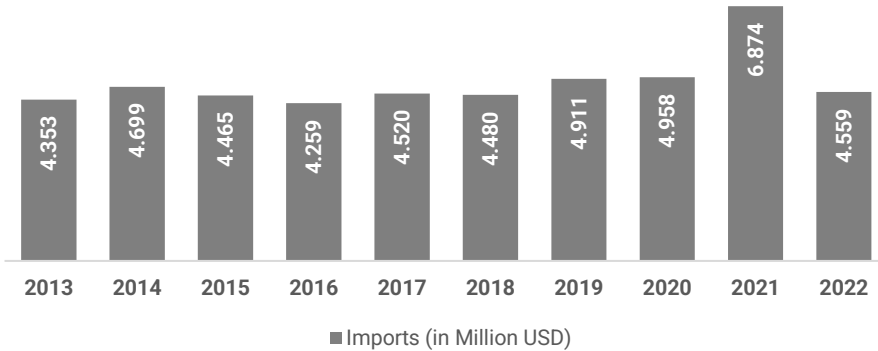
TÜRKİYE IMPORTS USD 4.4 BILLION – 48% OF THE TOTAL MARKET
– AND NOW IS THE 26TH LARGEST IMPORTER IN THE WORLD



**TÜRKİYE MOSTLY IMPORTS
ORIGINATOR DRUGS, VACCINES,
BLOOD PRODUCTS, BIOSIMILARS**



**WITH THE FOLLOWING
BREAKDOWN BY
COUNTRIES:**

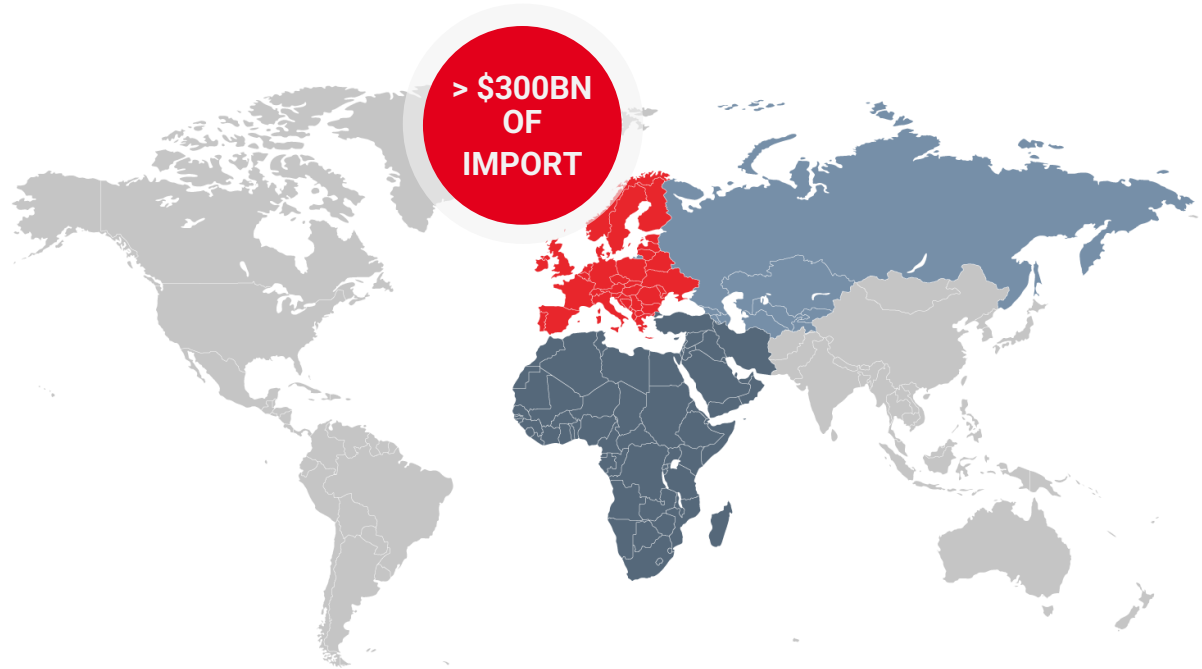


PROXIMITY TO KEY MARKETS

TÜRKİYE IS WELL CONNECTED WITH THE REGION THROUGH CUSTOMS UNION WITH THE EU AND FREE TRADE AGREEMENTS WITH 28 COUNTRIES



TÜRKİYE HAS GEOGRAPHICAL PROXIMITY TO SOME OF THE HIGHEST IMPORT MARKETS IN PHARMACEUTICALS AND IS CONVENIENTLY POSITIONED AS A MANAGING AND MANUFACTURING HUB



FOREIGN TRADE

TÜRKİYE'S PHARMA EXPORTS MORE THAN DOUBLED SINCE 2010

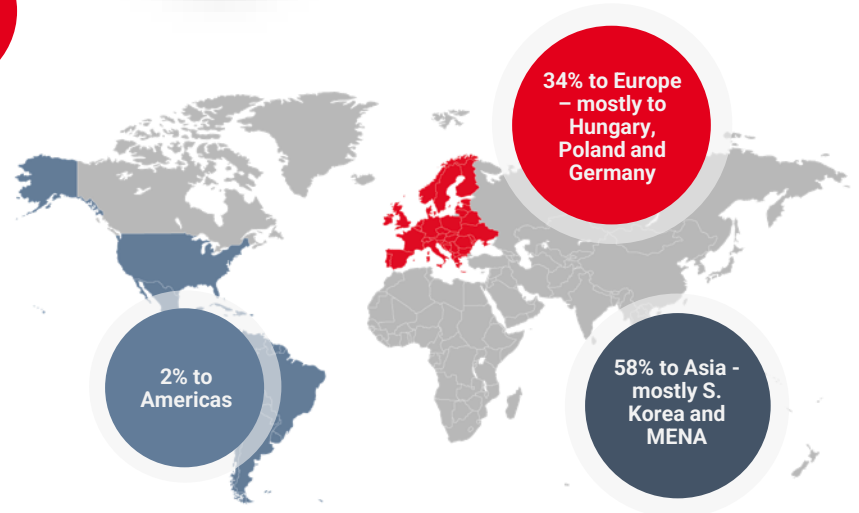
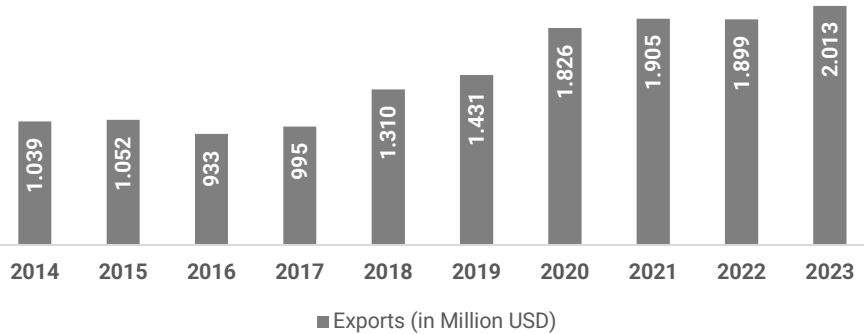


TÜRKİYE EXPORTS TO 169 COUNTRIES – HALF OF THE EXPORTS IS TO MENA AND CIS COUNTRIES



DIVERSIFYING ITS EXPORT MARKETS TO EUROPE AND USA:

**93%
growth
in 10 years**



MAJOR PLAYERS

TÜRKİYE IS HOME TO A TOTAL OF 116 PRODUCTION FACILITIES WITH 103 PHARMACEUTICAL AND 13 RAW MATERIAL PRODUCTION FACILITIES



TÜRKİYE HAS BEEN A FULL MEMBER OF PIC/S SINCE 2018, ICH MEMBERSHIP IS EXPECTED IN 2020



THERE ARE OVER 70 PHARMA MANUFACTURERS WHERE 14 OF THEM ARE MULTINATIONALS

12K PRODUCTS

OVER 44K EMPLOYEES

42 ACCREDITED R&D CENTERS

92 OUT OF TOP100 PHARMA COMPANIES ARE IN TÜRKİYE



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ROBUST ECONOMY

TRACK RECORD GROWTH AND BRIGHT FUTURE WITH PROVEN RESILIENCE

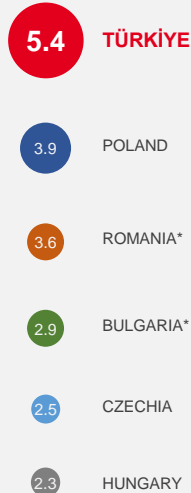


11th largest economy in the World

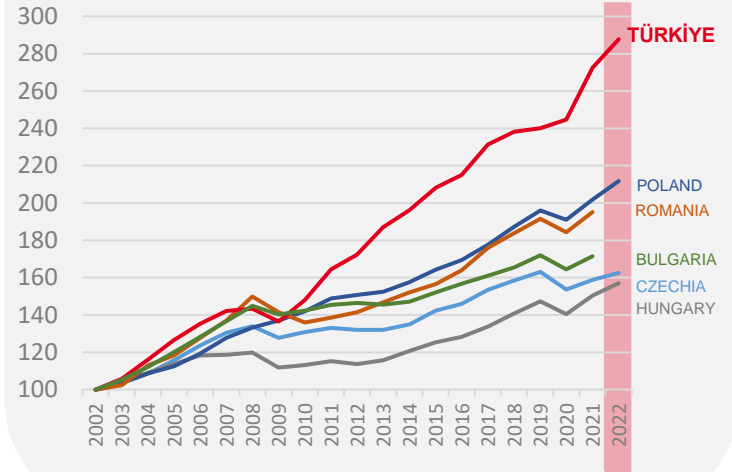
RANKING OF ECONOMIES BY GDP AT PPP

2003	2019	2022
1. USA	1. CHINA	1. CHINA
2. CHINA	2. USA	2. USA
3. JAPAN	3. INDIA	3. INDIA
4. GERMANY	4. JAPAN	4. JAPAN
5. INDIA	5. GERMANY	5. GERMANY
6. RUSSIA	6. RUSSIA	6. RUSSIA
7. FRANCE	7. INDONESIA	7. INDONESIA
8. UK	8. BRAZIL	8. BRAZIL
9. BRAZIL	9. UK	9. UK
10. ITALY	10. FRANCE	10. FRANCE
11. MEXICO	11. MEXICO	11. TÜRKİYE
12. INDONESIA	12. ITALY	12. ITALY
13. SPAIN	13. TÜRKİYE	13. MEXICO
14. CANADA	14. S.KOREA	14. KOREA
15. S.KOREA	15. SPAIN	15. CANADA
16. S.ARABIA	16. CANADA	16. SPAIN
17. IRAN	17. S.ARABIA	17. S.ARABIA
18. TÜRKİYE	18. IRAN	18. EGYPT

AVERAGE ANNUAL GDP GROWTH (%) 2002-2022



REAL GDP GROWTH (INDEX: 2002=100)



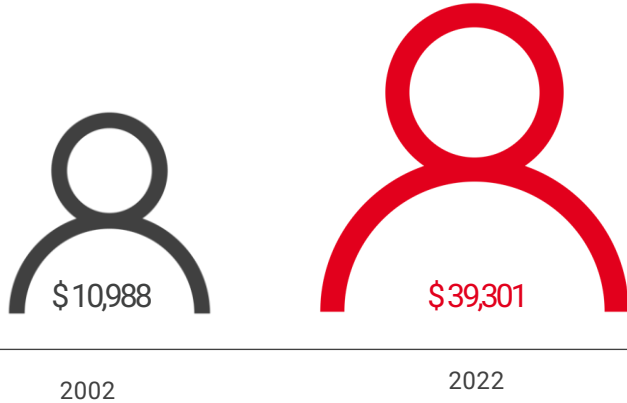
DOMESTIC MARKET

IMPRESSIVE ECONOMIC GROWTH LEADING TO A SIZEBLE MIDDLE CLASS WITH INCREASING PURCHASING POWER



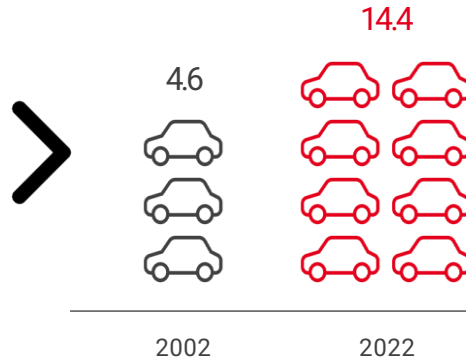
Income per capita

(GDP per capita, current prices at purchasing power parity)



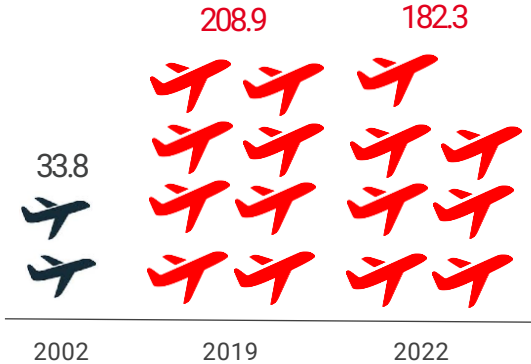
Stock of Automobiles

(millions of passenger cars)



Aviation Passenger Count

(millions of passengers)

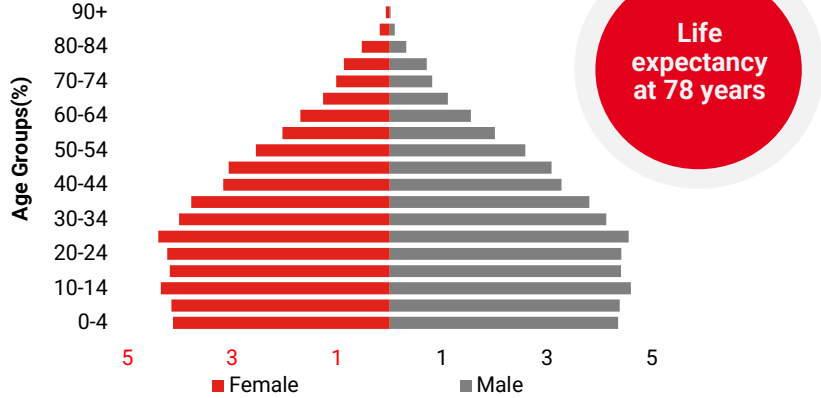


FAVORABLE DEMOGRAPHICS

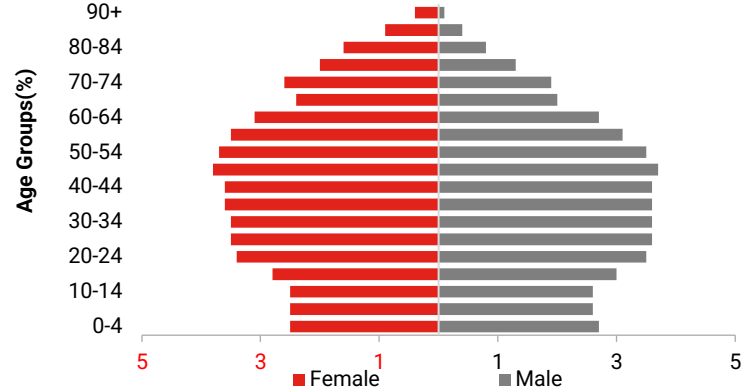
HALF OF POPULATION AT AGE 30



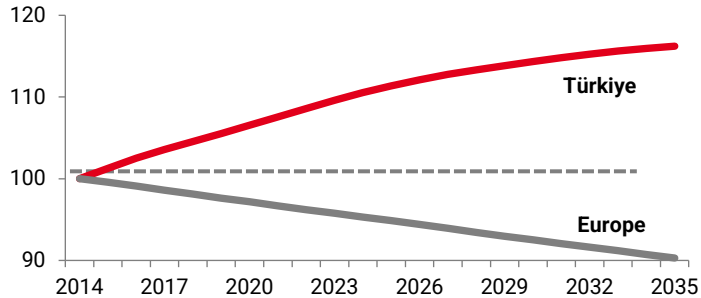
TÜRKİYE



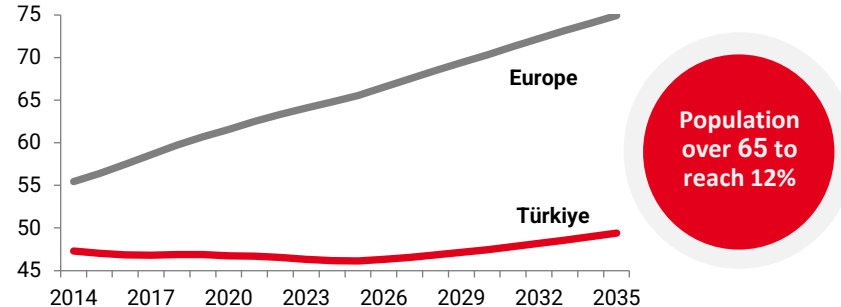
EUROPE



Working Age Population (15-64) (Index: 2014=100)



Total Dependency Ratio (% Age 0-14 & 64)/Age 15-64)

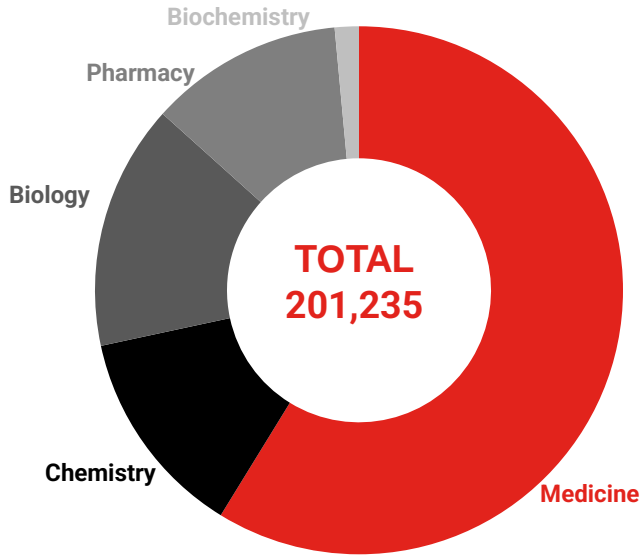


SKILLED & COST-COMPETITIVE LABOR FORCE

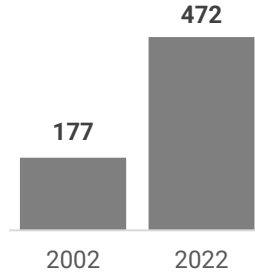
TÜRKİYE'S EDUCATION SYSTEM UPGRADED
TO SUPPORT A SKILLED LABOR POOL



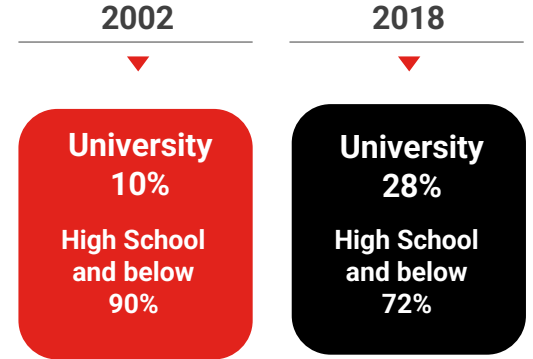
UNDERGRADUATE & GRADUATE ENROLLMENT IN RELATED FIELDS (2023)



NUMBER OF GRADS FROM VOCATIONAL & TECHNICAL HIGH SCHOOLS (in thousands)



LABOR FORCE BY EDUCATION LEVEL

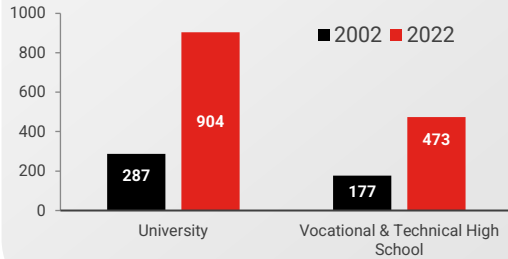


SKILLED AND COMPETITIVE LABOR FORCE

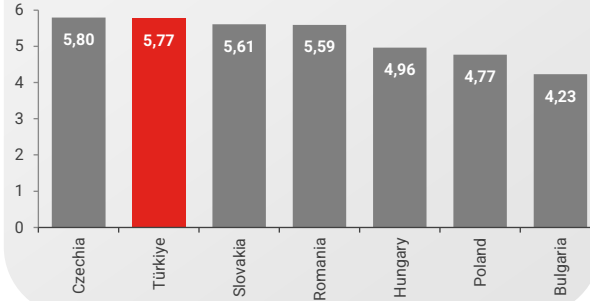
UPGRADED EDUCATION SYSTEM TO ENABLE A SKILLED LABOR POOL AND ADDRESS BUSINESS REQUIREMENTS



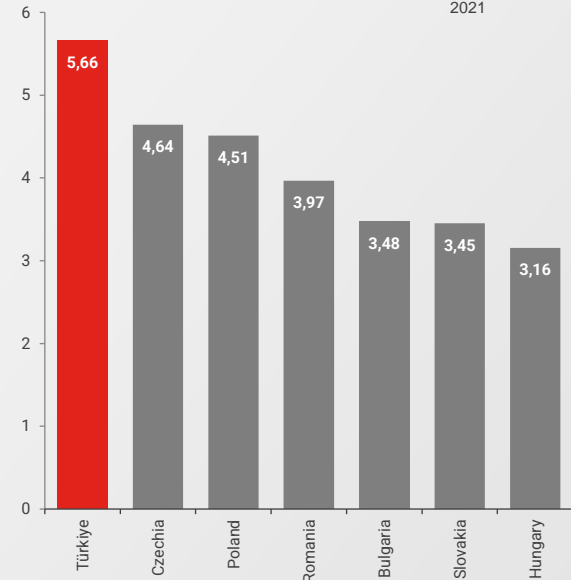
ANNUAL NUMBER OF GRADUATES
(thousands)



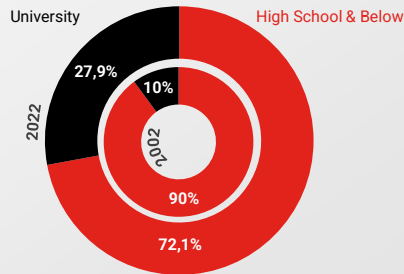
AVAILABILITY OF QUALIFIED ENGINEERS
(10=Available; 0=Unavailable) 2022



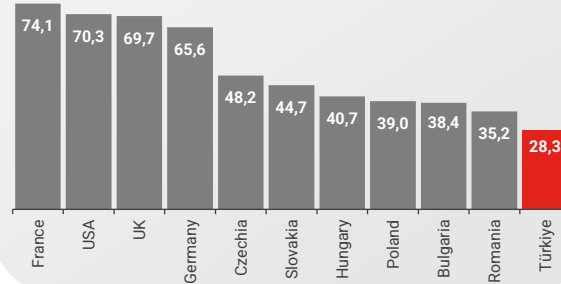
AVAILABILITY OF COMPETENT SENIOR MANAGERS
(10=Available; 0=Unavailable) 2021



LABOR FORCE BY EDUCATION LEVEL



COST OF LIVING INDEX 2022
(New York=100)





MAIN INCENTIVE TOOLS

Tax Deduction: Reduced tax rates for investor's income (50-90 %) until the total deduction reaches a certain percentage of capex. (15-65 % of capex, in the case of project based incentives up to 200% of capex). For R&D investments, all R&D expenditures are deducted from tax base.

VAT Exemption: Investment machinery and equipment imported and/or locally provided within the scope of the incentive certificate will be VAT exempt.

Customs Duty Exemption: Investment machinery and equipment imported within the scope of the incentive certificate will be customs duty exempt.

Interest Rate Support: For investment loans, a certain portion of the interest share will be covered by government. (3-7 % points for TRY-denominated, 1-2% points for forex-denominated loans) (1M-1.8M TRY).

Land Allocation: Government land will be allocated for the investments, if no land is available in OIZs.

Income Tax Withholding Exemption will provide exemption from income tax withholding (only for Region 6).

Main Incentive Tools	General Incentives	Regional Incentives	Incentives for Strategic Investments	Project Based Incentives	R&D Incentives
Corporate Tax Reduction		●	●	●	●
VAT/Custom Duty Exemption	●	●	●	●	●
Social Security Premium Support		●	●	●	●
Income Tax Withholding Support*	●	●	●	●	
Interest Support**		●	●	●	
Land Allocation		●	●	●	
Qualified Personnel Support				●	
Infrastructure Support				●	
Energy Cost Support				●	
Purchasing Guarantee				●	



PROJECT-BASED INCENTIVES

- Cash grant up to 25% of machinery and equipment
- Corporate tax exemption up to 100 percent and investment support up to 200 percent; or a corporate tax exemption exclusively for the profits derived from the investment for the first 10 years following the commencement of operations.
- Income tax withholding support up to 10 years
- VAT exemption for imported or domestically purchased machinery and equipment for projects with an investment incentive certificate.
- Customs tax exemption for imported machinery and equipment for projects with an investment incentive certificate.
- If the investment is built upon a public immovable property, a right of easement or use on that immovable property can be granted in favor of the investor without consideration for 49 years. On condition that the investment is completed and the envisaged employment is provided for 5 years, ownership of the immovable property can be transferred to the investor without consideration upon request.
- Social security premium support for employer's share for up to 10 years
- Compensation of up to 50 percent for energy consumption expenses related to the investment for up to 10 years
- Interest or dividend support for the loans extended in order to finance the fixed investment amount for up to 10 years.
- Salary support for qualified employees for up to five years; eligible support is capped at twenty times the gross monthly minimum wage. Qualified personnel is the key personnel with great knowledge and experience in the industry. These personnel would be critical in order for the investment to provide the promised outcome. We would expect 50 to 100 employees to be eligible for this support for a 1,600 employment, please note that this number can go up with negotiation.
- The Presidency may allow the State to become a shareholder owning up to 49% of the investment amount provided that the acquired shares will be sold back to the investors or be sold via public offer within 10 years.
- The Presidency may decide that all kinds of infrastructure investment can be carried out if the project required.
- Guarantee of purchase for the project-based investment product can be granted, the duration and amount of which will be determined by the Presidency.
- VAT refund for construction expenses
- The Presidency may grant exemption for permission, assignment, license, registrations and other restrictive provisions imposed by other laws for project-based investments.

INCENTIVES THROUGH INNOVATION LIFECYCLE



1500 FTE R&D
PERSONNEL

14 UNIVERSITY
RESEARCH CENTERS

42 ACCREDITED
R&D CENTERS



START

Technostartup Incentives:
Cash support up to 450K TRY



PRODUCT / PROJECT DEVELOPMENT

Call-based Tubitak programs:
Cash support up to 60-80% of the project budget
via ARDEB High-Tech Platforms and/or SAYEM



MANUFACTURING

Technology Focused Industrial Movement Program (HAMLE):
Cash/credit support up to 5 Million TRY for SMEs



GROWTH & COMPETITION

Patented sales:
Income Tax & VAT Exemption

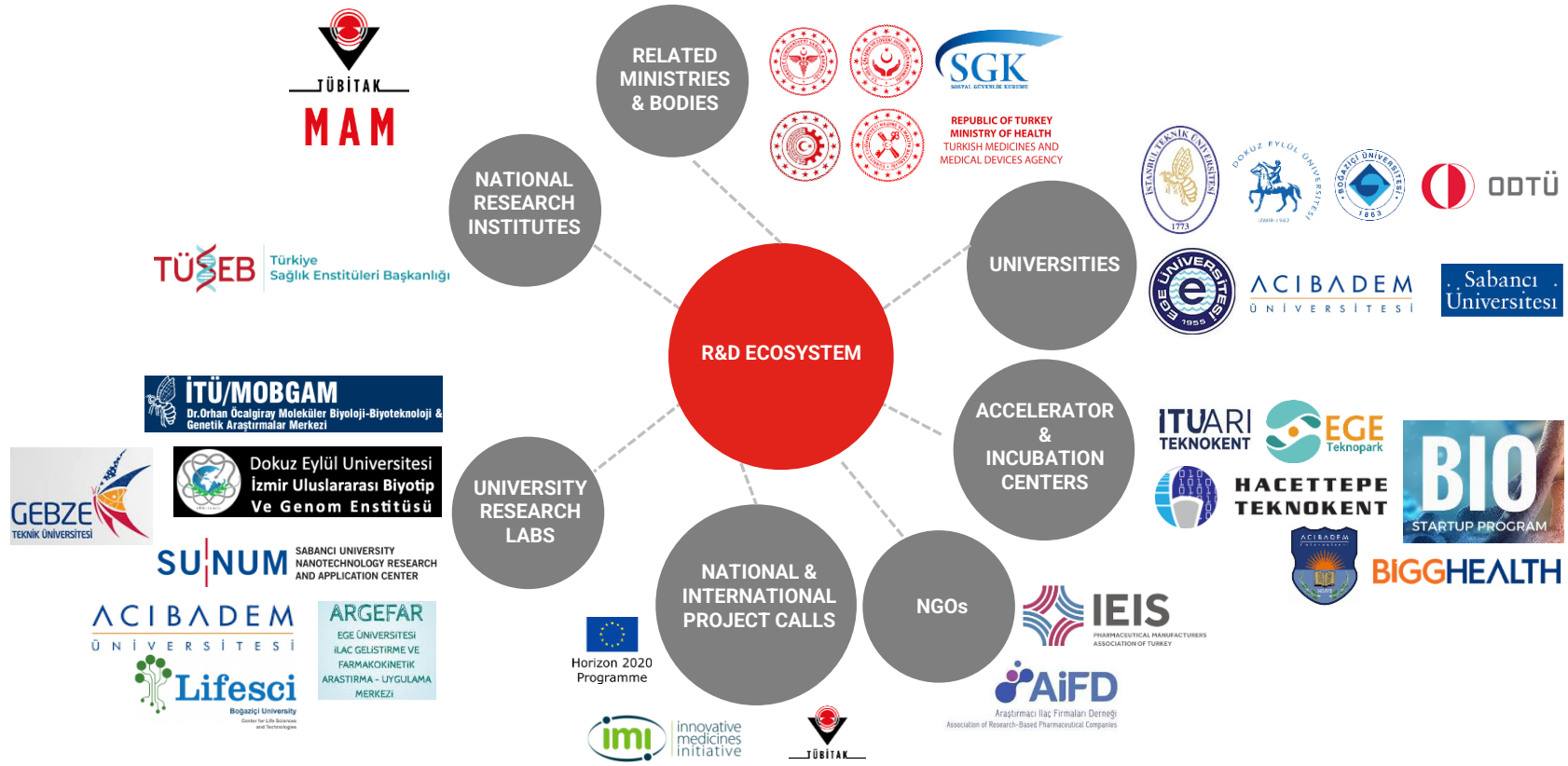


COMMERCIALIZATION

Technoparks and R&D Centers:
Income Tax Exemption
Tax cuts up to 20-30% of the personnel cost
Industrial Doctorate Program

R&D ECOSYSTEM IN PHARMACEUTICALS

TÜRKİYE HAS CREATED AN ECOSYSTEM OF R&D AND ENTREPRENEURSHIP



Please note that this list is by no means exhaustive and is only intended to illustrate some of the major players in the ecosystem.

R&D ECOSYSTEM IN PHARMACEUTICALS

AND TÜRKİYE'S REGULATORY ENVIRONMENT
PROTECTS INTELLECTUAL PROPERTY RIGHTS



Türkiye has been accepting patent applications since 1996, in compliance with the WTO's Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement.



As a candidate country, Türkiye has significantly aligned its technical and IPR legislations with the European Union *acquis communautaire*



IPR PROTECTION IN TÜRKİYE HAS SIGNIFICANTLY IMPROVED OVER THE PAST DECADE..
(SCORE: 10=BEST, 0=WORST)



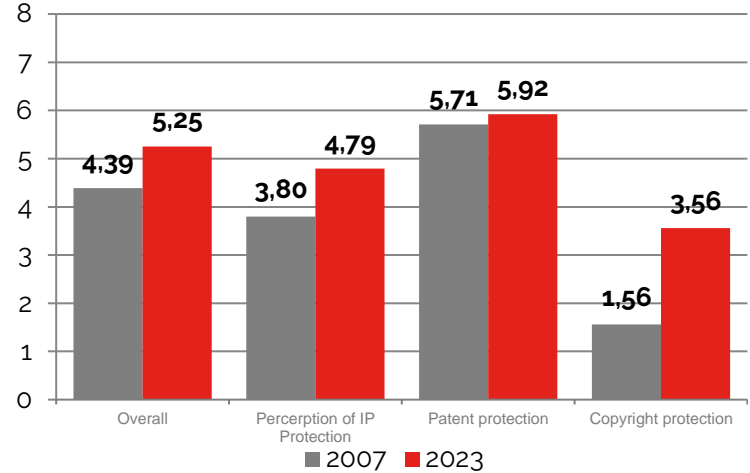
The New Law on the Protection of Industrial Property Rights (2017)

- ✓ Simplifies proceedings, adopting tighter regulations for the protection & enforcement of IPR.
- ✓ Aligns the Turkish patent regime with its obligations as part of the European Patent Convention



Specialized Courts on IPR

- ✓ There are 14 criminal and 14 civil specialized IP courts functioning in Ankara, Istanbul and Izmir



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HEALTHCARE POLICIES

TÜRKİYE INTRODUCED HEALTH TRANSFORMATION PROGRAM IN 2003 TO PROVIDE ACCESS FOR ALL CITIZENS - HEALTHCARE SPENDING DOUBLED TO REACH USD 480 PER CAPITA



Universal Coverage

UNIVERSAL HEALTH INSURANCE INTRODUCED IN 2006



Localization Program

LOCALIZATION PROGRAM LAUNCHED IN 2016



Improving Infrastructure

NUMBER OF HOSPITALS INCREASED FROM 1,156 IN 2002 TO 1,554 IN 2022 (BED CAPACITY 165K TO 264K)



Increasing # of Healthcare Professionals

NUMBER OF DOCTORS INCREASED FROM 92K IN 2002 TO 184K IN 2022 (FROM 1.4 TO 2.1 PER 1000)



Price Reference System & Fixed FX rate

PRICE OF A TURKISH DRUG IS EQUIVALENT TO THE LOWEST OF THE PRICES IN: GREECE, PORTUGAL, SPAIN, ITALY AND FRANCE

BIOPHARMACEUTICALS

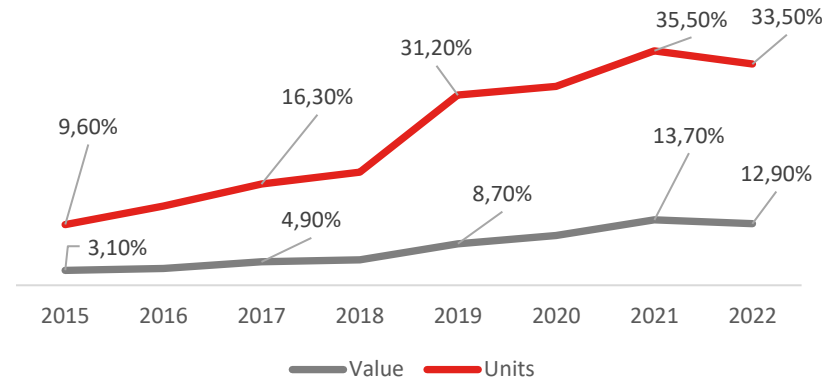
TÜRKİYE'S PHARMA INDUSTRY IS EVOLVING FROM HIGHLY COMPETITIVE AND LOW-VALUE GENERICS MARKET TO BIOPHARMACEUTICALS



KEY FACTS

- **12th Development Plan for 2024-2028** designates medicine and biomedical equipment as priority – biotechnological drugs are of strategic importance
- 244 biologics and 110 biosimilars in the Turkish market are mostly imported – 37% of the total import value in 2022
- **EU biosimilars guidelines** are implemented and **substitution of biosimilars at the level of pharmacy** is granted. **Fast track registration** is granted by the Ministry of Health – around 6 months
- Price advantage for biosimilars: **same price with biologics** whereas that of generics have 60% of the originator drugs
- Research infrastructure incentivized for life sciences, biomedicine and genetics in order to cover end-to-end: target discovery, lead discovery, pre-clinical, clinical trials, filing and market launch.

Share of Biosimilars in Turkish Pharma Market



.. AND TURKISH PHARMA INDUSTRY IS MAKING ITS ATTEMPT TO UTILIZE THIS POTENTIAL SINCE 2016



22 pharma companies working on 2 reference biotech drugs & 40 biosimilars to launch by 2024



KEY FACTS

- **11th Development Plan for 2019-2023** designates medicine and biomedical equipment as priority – biotechnological drugs including vaccines are of strategic importance
- A growing market to reach **USD 200 Million in 2018** – 98% vaccine coverage in infants, 70% in adults – still room for growth
- Research infrastructure incentivized for life sciences, biomedicine and genetics. To cover end-to-end: target discovery, lead discovery, pre-clinical, clinical trials, filing and market launch.
- 13 vaccines that are included in the National Immunization Calendar are reimbursed 100%
- Localization gained speed since 2009 - 3 to 7 year purchase guarantee provided for local production:
- Türkiye's 1st locally produced vaccines: Pfizer in partnership with Birgi Mefar manufacturing pneumococcal vaccine since 2012
- Antigen production for diphtheria-tetanus vaccine started in 2019
- Conjugated pneumococcal vaccine fill-and-finish in

**98% VACCINE
COVERAGE
IN
INFANTS**

**70% VACCINE
COVERAGE
IN ADULTS**

CLINICAL TRIALS

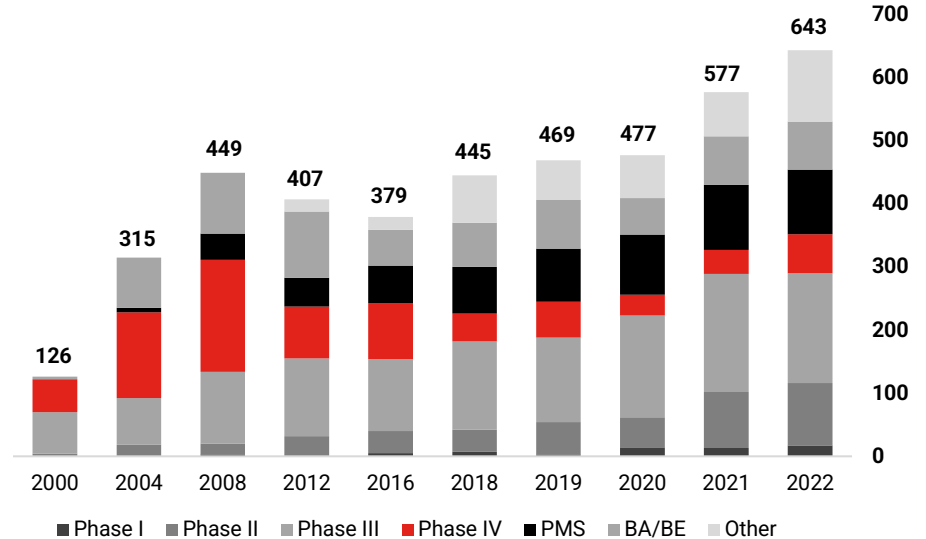
WITH A LARGE NUMBER OF TREATMENT-NAÏVE PATIENTS AND A PRACTICAL REGULATORY ENVIRONMENT, TÜRKİYE IS AN IDEAL LOCATION FOR CLINICAL TRIALS



KEY FACTS

- A developing clinical research profile, supported by new regulations that are in accordance with international standards and European directives
- A large and diverse patient population of almost 85 million, the majority of whom are treatment-naïve
- Türkiye offers a high number of sites with the capacity to conduct clinical research – in universities, private and state hospitals
- Highly motivated research teams trained in GCP, capable of producing high-quality, reliable data
- Comparatively low costs, relative to EU countries and the US

Number of Clinical Trials in Türkiye



Source: Turkish Medicines and Medical Devices Agency
PMS: Postmarketing Studies; BA: Bioavailability/BE: Bioequivalence

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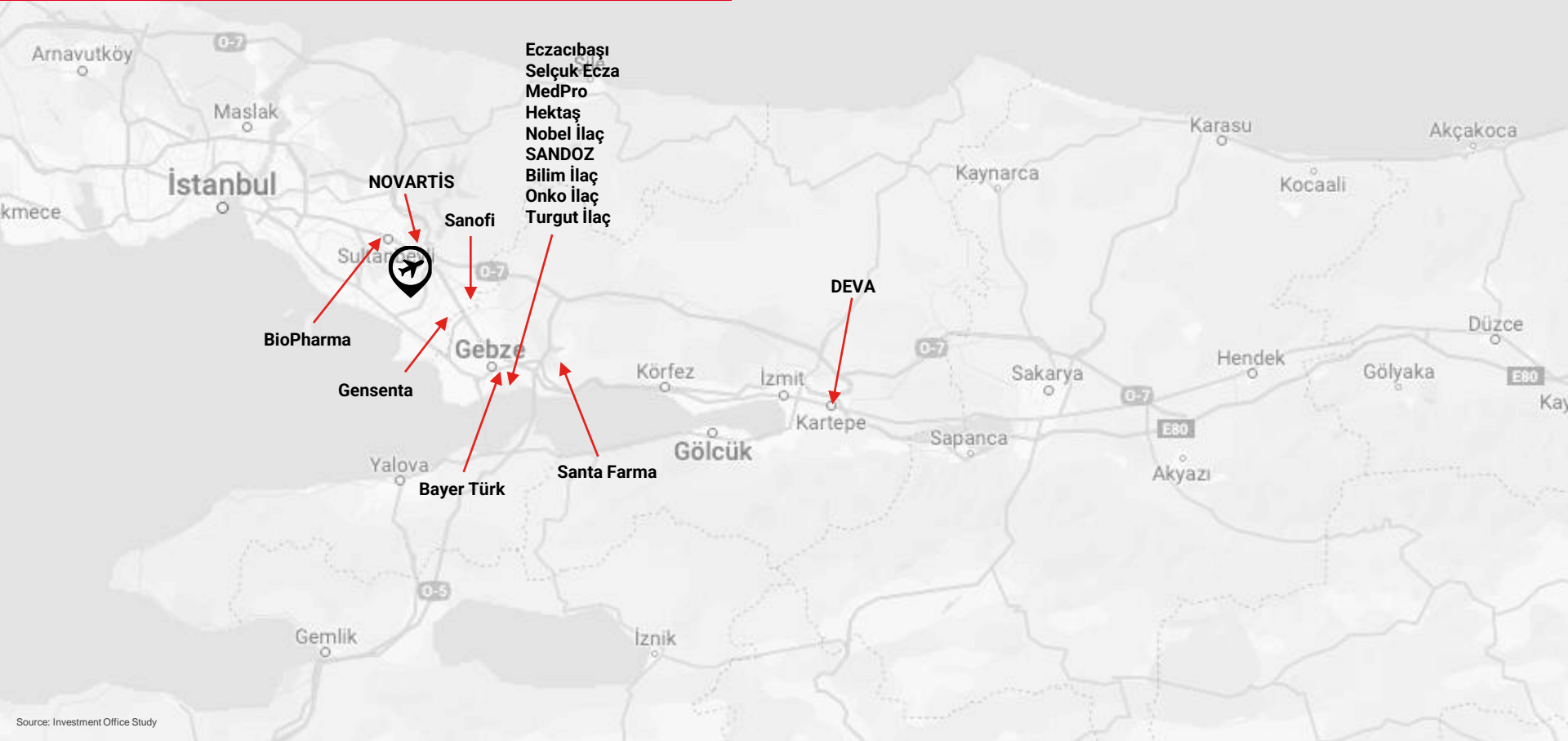
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PHARMA MANUFACTURERS IN TÜRKİYE

PHARMACEUTICAL MANUFACTURING CLUSTERS IN
GREATER ISTANBUL REGION AND TEKIRDAG



PHARMA MANUFACTURERS IN TÜRKİYE

PHARMACEUTICAL MANUFACTURING CLUSTERS IN
GREATER ISTANBUL REGION AND TEKIRDAG



POSSIBLE INVESTMENT ZONES

THERE ARE 3 TYPES OF INVESTMENT ZONES: ORGANIZED INDUSTRIAL ZONES, INDUSTRIAL ZONES AND FREE ZONES



ORGANIZED INVESTMENT ZONES:

- Access to high-quality land at subsidized rates in underdeveloped regions (land or building available)
- One-stop-shop where licenses and permits are issued by professional OIZ managements
- Electricity, water and waste treatment at lower rates
- Compliance with environmental regulations is easier where EIA is jointly conducted
- Cluster enhancing services like vocational training, logistics, business development services, technoparks etc.



INDUSTRIAL ZONES:

- Designed to promote very large-scale and medium/high-tech investments
- Land ownership belongs to the Treasury – land allocation via easement or license of occupancy
- Applications through IZ Management or Ministry of Science and Technology
- Required investments might be considered as public investments and can be financed by the Ministry

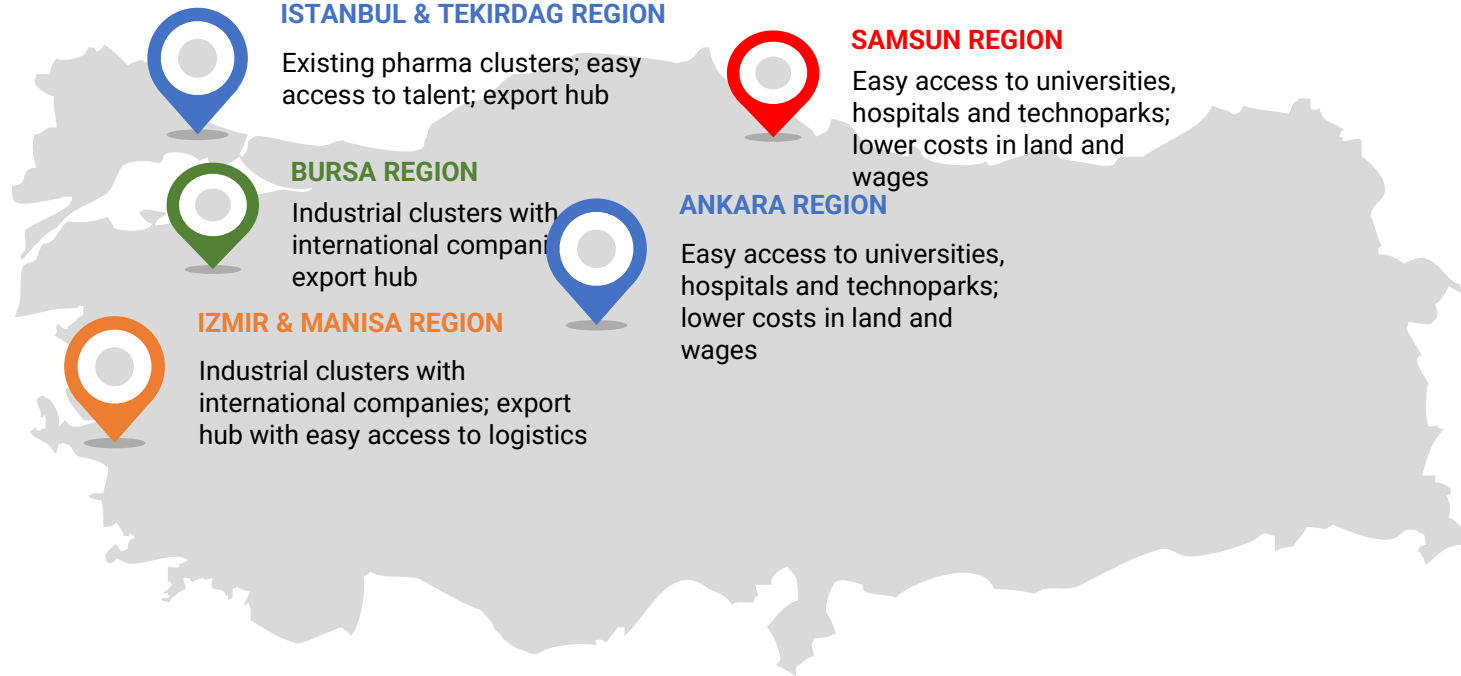


FREE ZONES:

- Special sites that are considered as outside the customs area even though they are within the border
- Designed to promote export-oriented investment and production
- A very high level of incentives such as;
 - 100% exemption from corporate income tax, customs duties, VAT and special consumption taxes etc.
 - 100% exemption from employee income tax if at least 85% of the production is exported

POSSIBLE INVESTMENT REGIONS

SITE ASSESSMENT FOR SEVERAL INVESTMENT REGIONS WITH DIFFERENT ADVANTAGES CAN BE DONE FOR POTENTIAL INVESTORS





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