

WHY INVESTING TURKISH MACHINERY INDUSTRY?

INVEST.GOV.TR





EXECUTIVE SUMMARY

TURKEY HAS A GROWING MACHINERY INDUSTRY OFFERING OPPORTUNITIES IN MANY AREAS...





FAVORABLE INVESTMENT ENVIRONMENT

- Strong macroeconomic growth with increasing income per capita and a bourgeoning middle class
- · Favorable demographics with a dynamic, young and skilled labor force supporting the industry
- Cost-competitive labor and energy prices
- Strong government support through manufacturing and R&D incentives



STRONG INTERNATIONAL **PRESENCE**

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



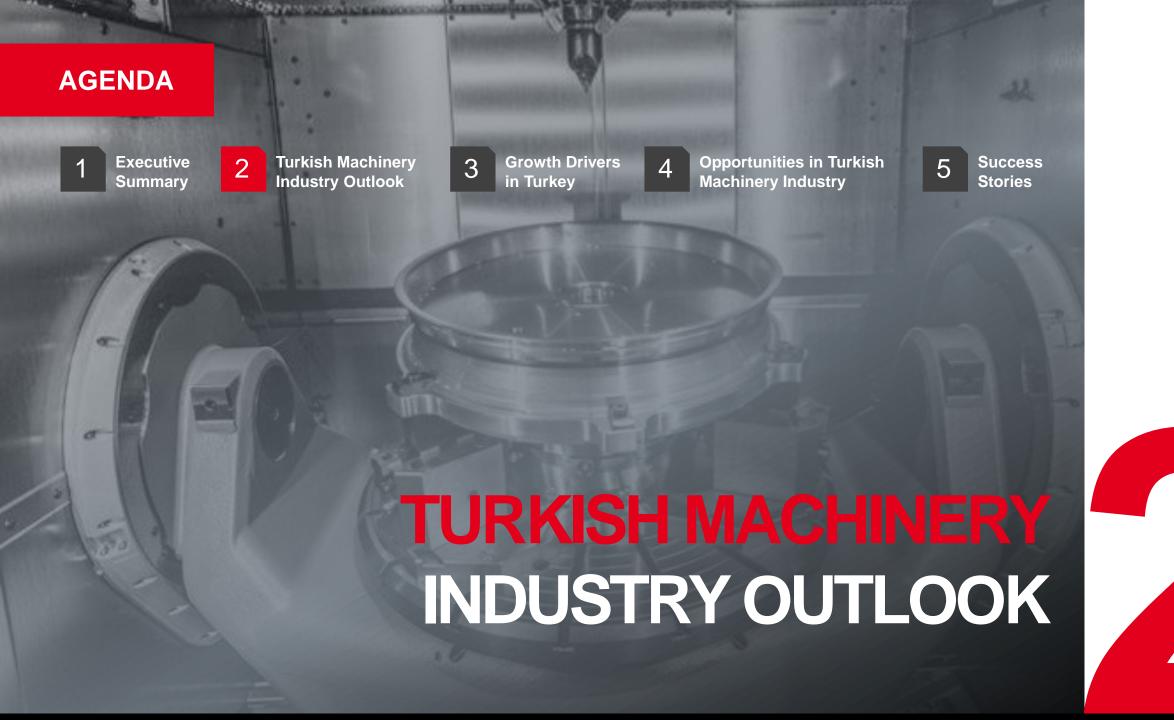
LUCRATIVE OPPORTUNITIES IN SUB-SECTORS

World-scale domestic demand and strong industrial base offer ample opportunities in agricultural machinery, construction & mining machinery, energy equipment such as electric motors & turbines, food processing & packaging machinery, HVAC, lifting & handling equipment, metalworking & machine tooling, pumps & compressors, textile machinery



ROBUST GROWTH IN THE SECTOR

- Turkish machinery industry has been robustly growing over the past decade with approx. 5% CAGR
- · Customer industries, such as plastic & rubber, automotive, construction, textile and electrical machinery are robustly growing and therefore further supporting the growth of machinery sector
- Export opportunities due to Turkey's proximity to regional markets





TURKISH MACHINERY INDUSTRY

TURKISH MACHINERY SECTOR HAS MORE THAN **QUADRUPLED ITS REVENUES TO USD 21 BILLION AND** DOUBLED ITS WORKFORCE TO 244K OVER THE PAST DECADE

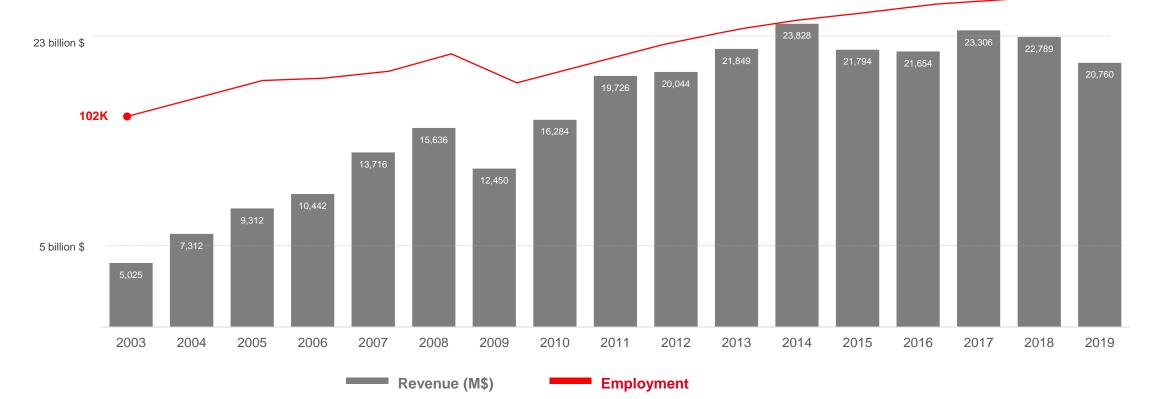


AN **UNPRECEDENTED AVERAGE GROWTH OF 25% IN** 5 YEARS

TURKEY SHOOK OFF GLOBAL CRISIS WHILE DOUBLING ITS **REVENUE & REACHING VALUE-ADD RATIO OF 25%**

DECREASE IN REVENUE MAINLY CAUSED BY THE 40% INCREASE IN CURRENCY

244K



END-USE INDUSTRIES

SUSTAINABILITY OF GROWTH IN CUSTOMER INDUSTRIES DRIVING TURKEY'S MACHINERY INDUSTRY...



CAGR 2009-2019



2nd largest plastics producer after Germany in Europe

TEXTILE 3.6%

6th largest clothing supplier in the world, 3rd largest clothing supplier to Europe

ENERGY 5.3%

5th largest electricity market in Europe – with 88.5 GW of installed capacity.

FOOD & **BEVERAGES** 2.3%

Largest sector

in Turkey with a

USD 70 billion

production

15th largest automotive manufacture r globally, producing over 1 million vehicles

AUTOMOTIVE

4.2%

(F)

ELECTRICAL EQUIPMENT 2.6%

Largest TV and white goods manufacturer in Europe

AGRICULTURE 7.7%

7th largest agricultural producer in the world



650K+ dwelling units built per year

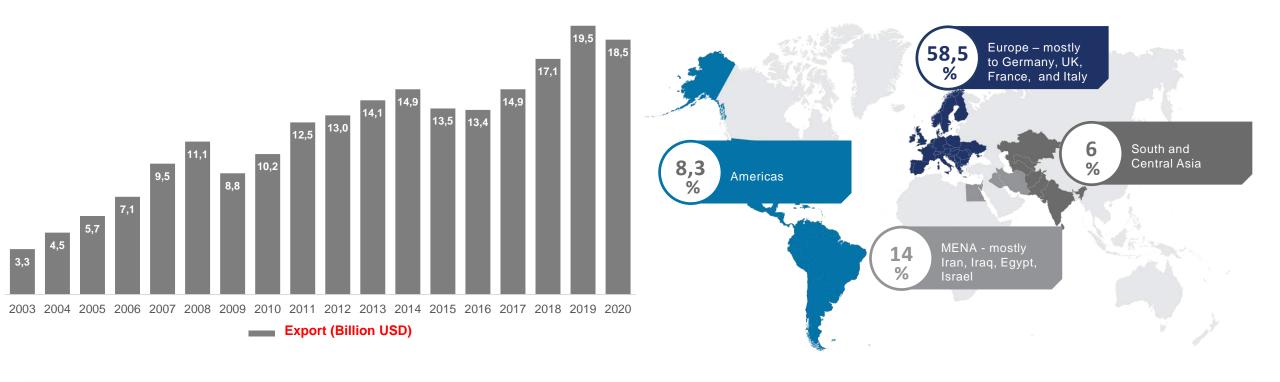
FOREIGN TRADE

TURKEY'S EXPORTS HAVE GROWN FIVE TIMES SINCE 2003, MAKING IT ONE OF THE TOP PERFORMERS IN THE WORLD MACHINERY TRADE









FOREIGN TRADE

TURKEY HAS ALMOST TRIPLED ITS IMPORTS TO **USD 28 BILLION AND NOW IS THE 24TH LARGEST** IMPORTER IN THE WORLD









PROXIMITY TO KEY MARKETS

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



TURKEY

HAS GEOGRAPHICAL PROXIMITY TO SOME OF THE

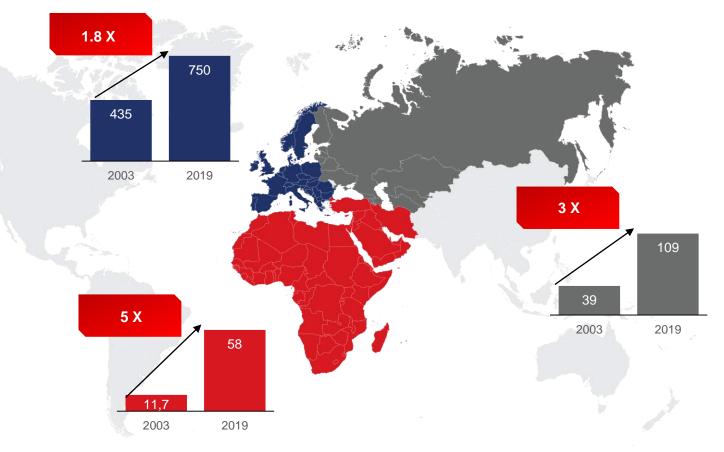
HIGHEST GROWTH **MARKETS**

IN MACHINERY AND IS CONVENIENTLY **POSITIONED AS A**

MANAGING AND **MANUFACTURING HUB**



IMPORT NUMBERS (IN BILLION \$)



MAJOR PLAYERS

THERE ARE OVER 17K COMPANIES IN TURKISH MACHINERY SECTOR WHERE BOTH LOCAL AND INTERNATIONAL **PLAYERS ARE ACTIVE**



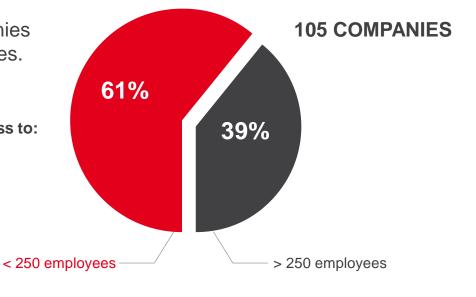


OVER 60% OF MACHINERY REVENUE IS MADE BY SMALL AND **MEDIUM ENTERPRISES**

75% of the companies have <10 employees.

Growth requires access to:

- Market
- Technology
- International finance



10 OF THE LARGEST 25 PLAYERS **ARE INTERNATIONAL & EXPORT RATE IS 40% ON AVERAGE**

40% **EXPORT ON AVERAGE**



























































AGENDA

1 Executive Summary

2 Turkish Machinery Industry Outlook

Growth Drivers in Turkey

4 Opportunities in Turkish Machinery Industry

5 Success Stories

GROWTH DRIVERS IN TURKEY

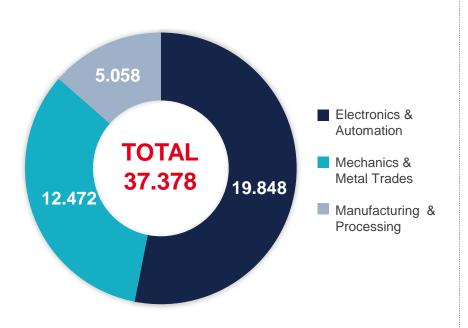


SKILLED & COST-COMPETITIVE LABOR FORCE

TURKEY'S EDUCATION SYSTEM UPGRADED TO SUPPORT A SKILLED LABOR POOL..

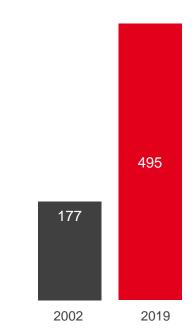


ANNUAL NUMBER OF UNIVERSITY **GRADS IN MECHANICAL FIELDS** (2019)

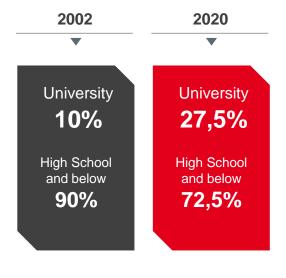


NUMBER OF GRADS FROM VOCATIONAL & TECHNICAL HIGH SCHOOLS

(in thousands)



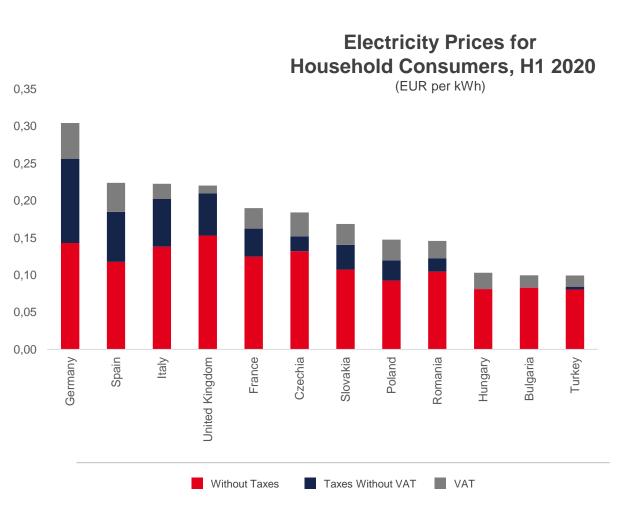
LABOR FORCE BY **EDUCATION LEVEL**



COMPETITIVE ENERGY PRICES

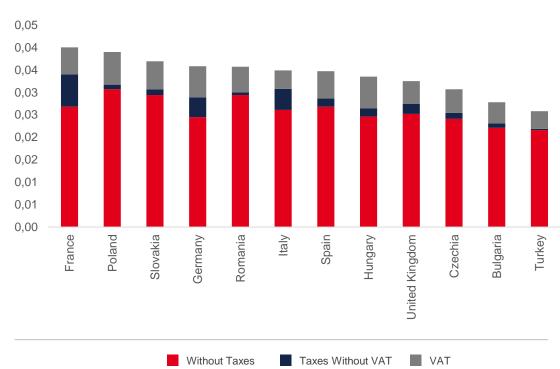
ELECTRICITY AND NATURAL GAS PRICES IN TURKEY HAVE BEEN COST COMPETITIVE IN COMPARISON WITH THE EU...





Natural Gas Prices for Non-Household Consumers, H1 2020

(EUR per kWh)



INCENTIVES

MACHINERY SECTOR INVESTMENTS AND R&D ARE CONSIDERED AS PRIORITY INVESTMENTS AND CAN BENEFIT FROM VARIOUS LUCRATIVE INCENTIVES...





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) (500K-900K 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).

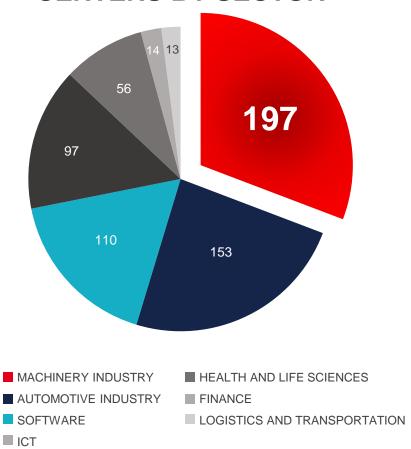
	Incentive Schemes					
Main Incentive Tools	General Incentives	Regional Incentives	Incentives for Large Scale Investments	Incentives for Strategic Investments	Project-Based Incentives	R&D Incentives
Corporate Tax Reduction				•		
VAT / Custum Duty Exemption		•				
Social Security Premium Support						
Income Tax Withholding Support*						
Interest Support**						
Land Allocation						
Partnership (Equity Investment by Gov.)						
Guarantee of Purchase by Gov.						
Energy Cost Support						

R&D INCENTIVES

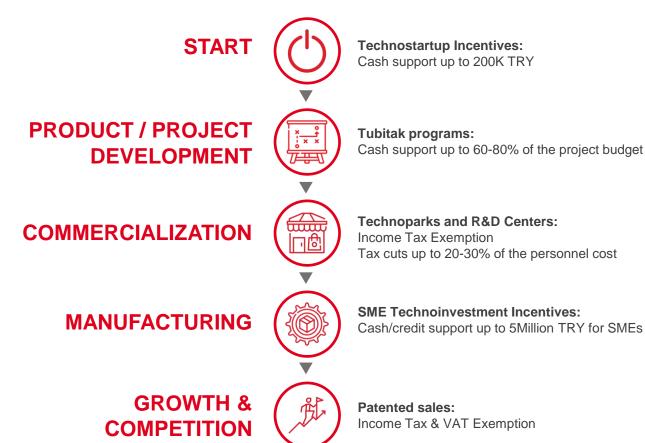
EXCLUSIVE INCENTIVES INCLUDE SUPPORT TO TECH ENTREPRENEURS TO CREATE INNOVATIVE HIGH VALUE-ADDED ACTIVITY, WHICH WILL BE KEY TO CATCH UP WITH THE NEW INDUSTRIAL REVOLUTION



BREAKDOWN OF R&D CENTERS BY SECTOR



INCENTIVES THROUGH INNOVATION LIFECYCLE



INCENTIVES - HAMLE

HAMLE; TECHNOLOGY FOCUSED INDUSTRIAL MOVEMENT PROGRAM





The Technology Focused **Industry** Movement Program has been launched in 2019



Complete support for high-value added, medium-high tech and high-the products manufactured in certain sectors with local resources and capabilities ;Machiney, Computer, Electronics, Chemicals etc.



R&D incentives, KOSGEB incentives and investment incentives will be given through a single platform / www.hamle.gov.tr



The products will be supported from concept phase to marketing



The investments supported in the program shall receive strategic investment incentives.



Investments over TRY 50 million will be able to benefit from **project** based investment incentives



The Ministry of Industry and Technology will create schedules within the scope of investor calls for each sector.



Application Process in 3 Stage Stage 1 PRE APPLICATION (1 MONTH) **Stage 2 DETAILED APPLICATION** (3 MONTHS) Stage 3 FINAL DECISION (1 MONTH)



The purchasing guarantee mechanism will also operate in projects where the state is the buyer

VALUE-ADDED MANUFACTURING

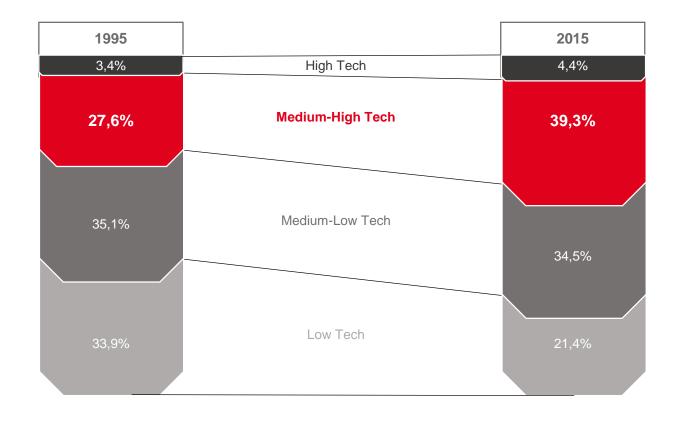
WITH THE SUPPORT OF TURKISH MACHINERY INDUSTRY TURKEY'S PROGRESS IN VALUE-ADDED MANUFACTURING IS ALSO VISIBLE IN THE EXPORTS COMPOSITION



Classification of

Turkish Manufacturing

Exports by Technology Intensity



DIVERSIFIED MANUFACTURING

TO FURTHER VALUE-ADDED MANUFACTURING, THE METAL INDUSTRY ESTABLISHED A STATE-OF-THE-ART TECHNOLOGY CENTER, AN INITIATIVE, WHICH IS STRONGLY SUPPORTED BY THE GOVERNMENT







230+MEMBERS **LOCAL & INTERNATIONAL PLAYERS**





B/S/H/



























SIEMENS

GROUPE RENAULT



An ecosystem of 30+ globally recognized technology providers, solution integrators, universities and institutions



A platform that brings the latest disruptive technologies of Industry 4.0 from Americas, Europe and Far East together to:



Create an ecosystem connecting members from various metal industries with global players



Set the aspiration for future industrial development of members in an innovative environment



Develop capabilities to accelerate transformation and reach full industrial potential

10,000 M2 CENTER

10x traditional model factories 30K+ ANNUAL PARTICIPANT TRAINING CAPACITY **5**x

> the number of students of a mid-sized university

70K+ USE CASES 2 production lines

covering 70+ use cases on discrete manufacturing & continuous process **CORE PARTNERS**

McKinsey & Company



Source: Employers' Association of Metal Industries https://www.mext.org.tr invest.gov.tr | 18 **AGENDA**

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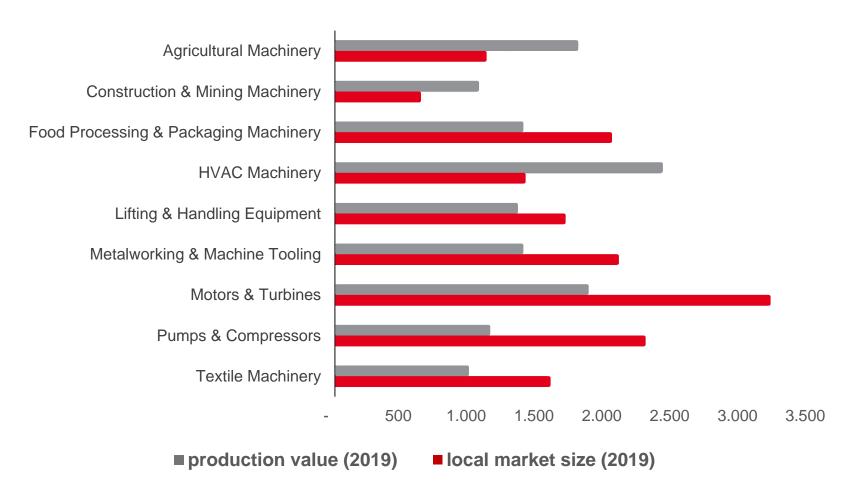


OPPORTUNITIES IN SUB-SECTORS

TURKEY OFFERS SOLID FUNDAMENTALS TO MAKE PROFITABLE INVESTMENTS IN THE MACHINERY SUB-SECTORS







Source: MAKFED analysis 2019 values invest.gov.tr | 20

AGRICULTURAL MACHINERY

TURKEY'S AGRICULTURAL MACHINERY MARKET HAS REACHED TO USD 1.8 BILLION IN 2019 - 4TH IN EUROPE



KEY FACTS



Strong industrial base over 10% share in Europe's production with over 50K units in 2020



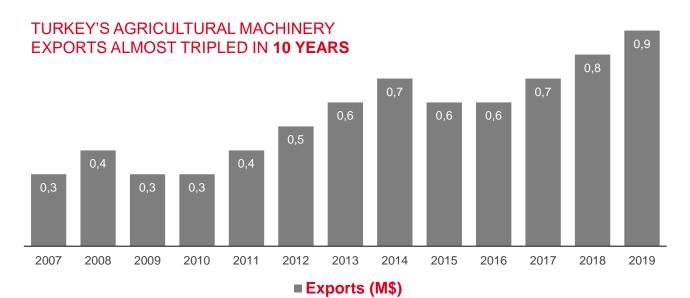
Strong local market with 48K units in 2020 - largest tractor sales in Europe, 4th in the world, 75% of the local market supplied by local players



Over 70% of the imports are higher -value tractors and harvesting machinery investment opportunity for production



Agricultural machinery manufacturing ecosystem with local and international players with a total of 22K employees



80% OF EXPORTS GOES TO NORTH AMERICA (40%) **AND EUROPE(40%)**

DRIVEN BY TURKEY'S AGRICULTURAL **ECODEMANDNOMY AND FRAGMENTED STRUCTURE:**



Agricultural GDP USD 80 Billion



Agricultural land 23 Million ha



Arable land 6.1 Million ha



Average enterprise size 7,6 ha

























CONSTRUCTION & MINING MACHINERY

TURKEY'S CONSTRUCTION MACHINERY **EXPORT HAS REACHED USD 1.4 BILLION IN 2019**



KEY FACTS



Strong local market - 3rd largest growth in the world after China and India for the last eight years



Local and international companies exist - local market supplied by 35% local production and 65% import



Europe's 10th largest manufacturing base with strong players, USD 626 million local market and USD 1.4 billion of exports in 2019



Strong & international supplier base - Construction machinery industry can benefit from the supplier base of automotive manufacturing industry in Turkey, which is a European manufacturing hub and has reached 1.3 million units



Local demand driven by public infrastructure and urbanization projects - opportunity for smaller sized construction machinery



Access to international markets enabled through Turkish construction companies - 44 contractors in ENR250 list



































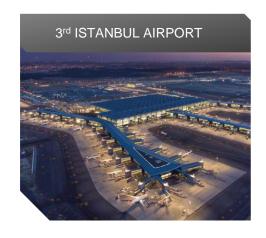




CONSTRUCTION & MINING MACHINERY



TURKEY INVESTED USD 100 BILLION TO INFRASTRUCTURE PROJECTS IN THE LAST 5 YEARS...









..ANOTHER USD 325 BILLION IS EXPECTED BY 2023













ENERGY EQUIPMENT

TURKEY'S ENERGY EQUIPMENT (ELECTRIC MOTORS & TURBINES) MARKET HAS REACHED USD 3.2 BILLION IN 2019



KEY FACTS



5th largest electricity market in Europe; highest growth in Europe with 5.3%



Over USD 75 billion of energy investments made in the last 10 years

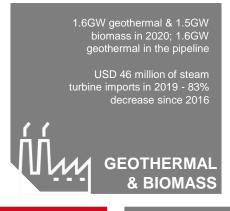


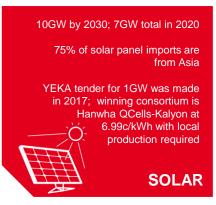
Electricity demand and supply to grow by 50% by 2030 renewable and local energy resources are priorities

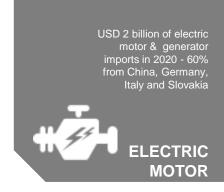


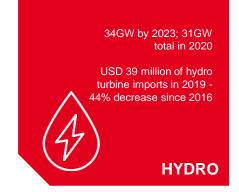
Opportunities in production of wind/hydro/steam turbines and generators



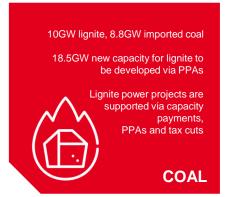








27.5% of the Akkuyu Nuclear Power Plant will be completed by the end of this year. The start of operation for the first of the plant's by 2023. Akkuyu and 2nd nuclear project will lead to USD 16 billion of products & service Nuclear supply chain in Turkey to develop through international partnerships **NUCLEAR**



FOOD PROCESSING & PACKAGING MACHINERY

TURKEY'S FOOD PROCESSING & PACKAGING MACHINERY MARKET HAS **REACHED USD 2 BILLION IN 2019**



KEY FACTS



Strong industrial base with a production value of USD 2 billion clustered in Istanbul, Konya, Ankara, Gaziantep and Izmir



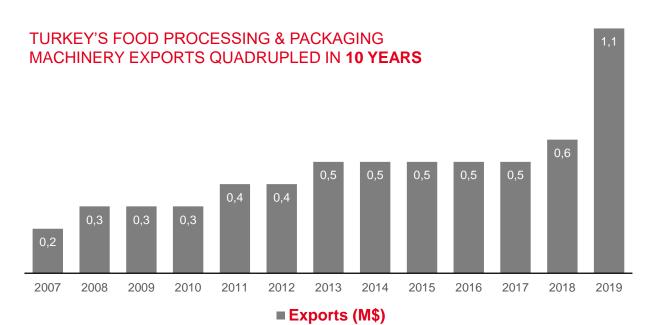
Demand driven by the strong packaged food and beverages market in Turkey - USD 16 billion export in 2019



USD 1,8 billion of import in 2019 - major imports are machinery for industrial preparation of food or drink, for treating material by heat change and machinery for filtering or purifying water



Turkey is a manufacturing base for international food giants like Unilever, Kraft, Nestle, Danone, Ferrero with over 15K employees



...WHERE 80% OF EXPORTS ARE MACHINERY FOR



Processing & milling of grains and cereals



Industrial preparation of food or drink



Milking machines and dairy machinery

...AND TOP5 **EXPORT MARKETS ARE**



UZBEKISTAN



IRAQ



KAZAKHSTAN



IRAN



ROMANIA















TURKEY'S HVAC MARKET HAS REACHED USD 2.4 BILLION IN 2019



KEY FACTS



Strong industrial base - USD 3.2 billion in value - Europe's manufacturing base for panel radiator, boiler and AHU's



Strong local market -Europe's largest split AC market with 1.5M units and VRF market with 250K units



Strong local market - Europe's 4th largest with 1.3M boiler units



Demand driven by construction in residential market; efficiency regulations and development in technology in non-residential market



VRF market has grown 6 times with imports - opportunity for high-tech production



Access to international markets through Turkish construction companies - 44 contractors in **ENR250 list**













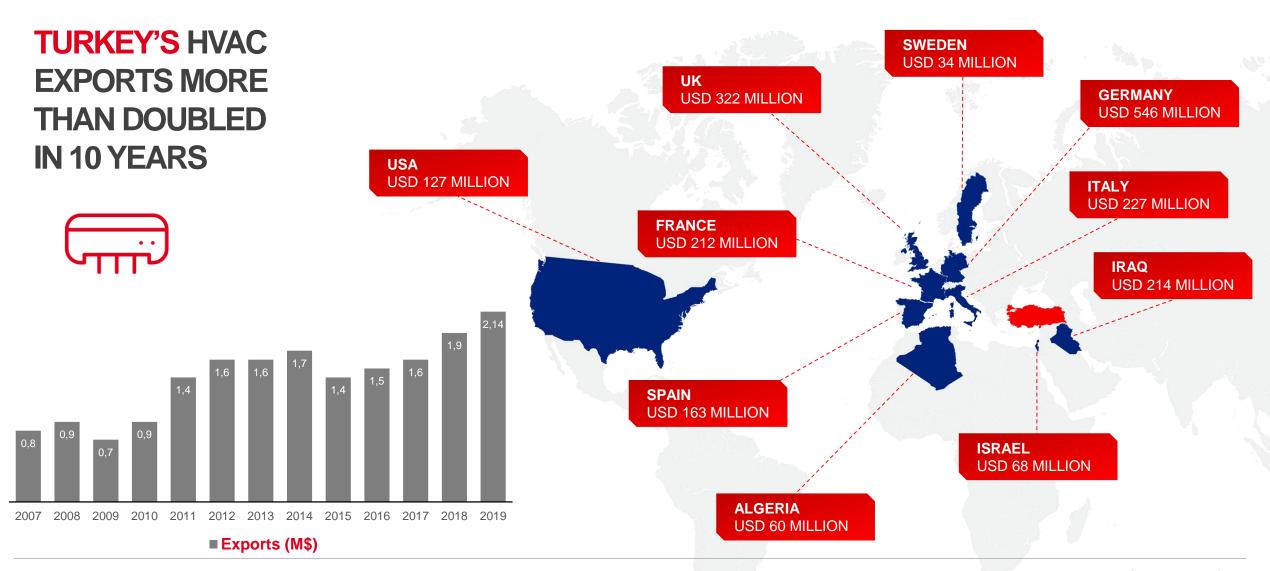




HVAC



...WHERE EUROPE HAS OVER 60% SHARE



LIFTING & HANDLING EQUIPMENT

TURKEY'S MARKET FOR LIFTING & HANDLING **EQUIPMENT HAS REACHED USD 1.7 BILLION IN 2019**



KEY FACTS



Strong industrial base - USD 1.4 billion of production in 2019



Local and international players mostly based in Istanbul, Kocaeli, Bursa, Ankara, Konya, Kayseri and Izmir



Strong supplier base - expertise in automotive, machinery and electronics & control systems



3rd largest elevator market in the world with 30K new units -ThyssenKrupp, Otis, Kone, Schindler, Hyundai present with some level of assembly operations



2nd largest escalator and moving walk market in the world with 2K new units per year



Opportunity for assembly and manufacturing of parts



Strong local market - demand driven by the growth in the industry and infrastructure & construction projects





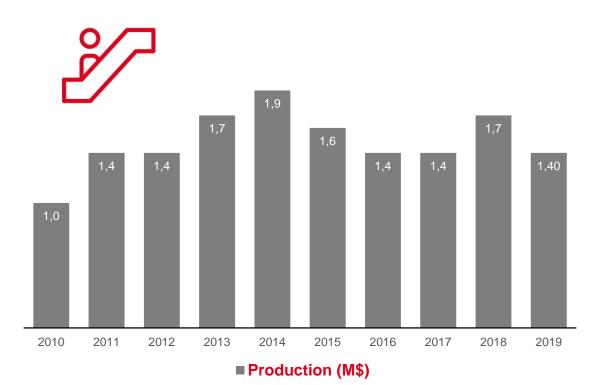




LIFTING & HANDLING EQUIPMENT

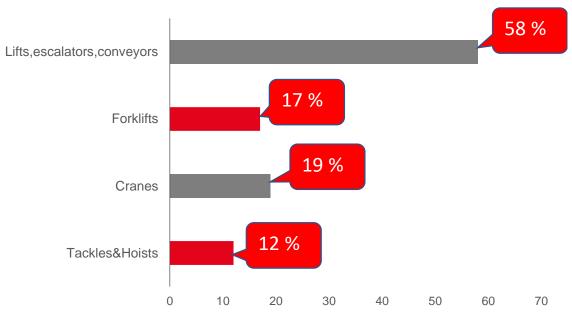


TURKEY'S PRODUCTION OF LIFTING & HANDLING EQUIPMENT HAS **INCREASED BY 40% SINCE 2010...**



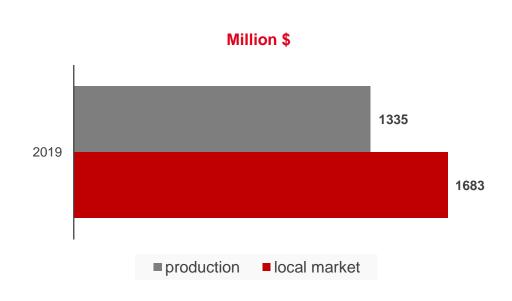
AND EXPORTS HAVE REACHED USD 460 MILLION IN 2019 - AN IMPRESSIVE 60% GROWTH IN TWO YEARS

USD 808 MILLION IMPORT IN 2019 - ALMOST 70% FROM CHINA, GERMANY & ITALY

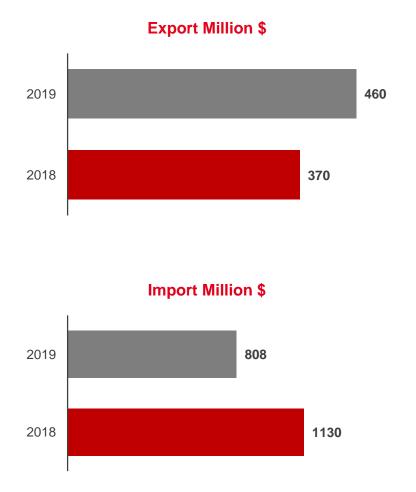


LIFTING & HANDLING EQUIPMENT









METALWORKING & MACHINE TOOLING

TURKEY'S METALWORKING & MACHINE TOOLING MARKET HAS REACHED TO USD 2.1 BILLION -11TH LARGEST IN THE WORLD



KEY FACTS



Strong industrial base - largest in Central and Eastern Europe with **USD** 1.36 billion of production in 2019



Strong in laser machine tools, forging & punching machine tools (including presses) -80% of the exports



Exports have reached USD 841 million in 2019 - 30% growth in the last three years industry diversifying its export markets to Russia, Germany, USA, Poland, France, Canada.



Almost 30% of the USD 1.6 billion import in 2019 is for machining centers, transfer machines and lathes - mostly from Germany, Japan and Italy



Investment opportunity for CNC tools supplier base for CNC tools exist

DEMAND IS DRIVEN BY INDUSTRIES WHERE TURKEY **HAS A STRONG PRESENCE**

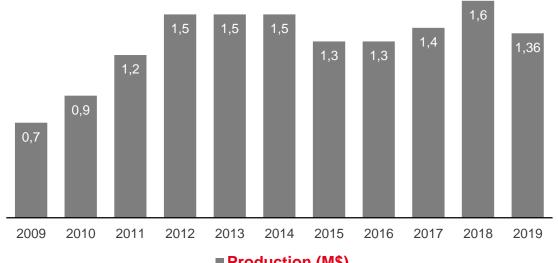








TURKEY'S METALWORKING & MACHINETOOLING MANUFACTURING DOUBLED SINCE 2009



PUMPS & COMPRESSORS

TURKEY'S MARKET FOR PUMPS & COMPRESSORS HAS EXCEEDED USD 2.3 BILLION IN 2019



KEY FACTS



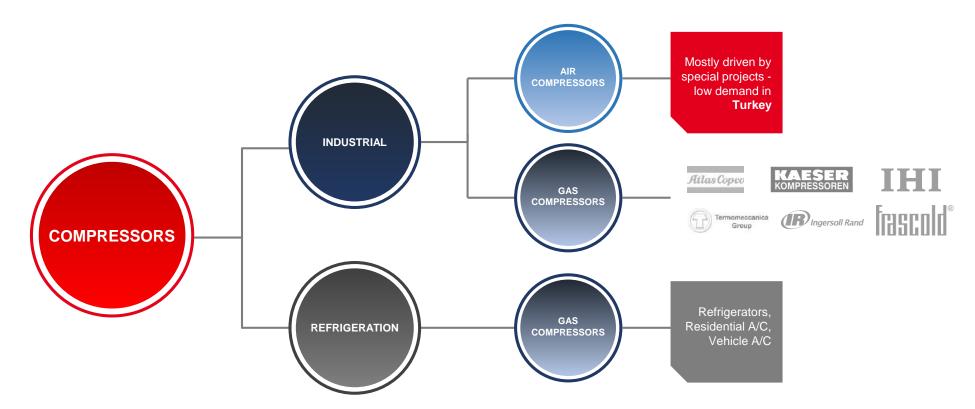
Industrial base - **USD 1.1 billion** of production in 2019; mostly based in Istanbul, Konya and Izmir



Majority of the companies are small-sized - over 9K employees in 500 companies



Strong local market - demand driven by the growth in the industries, municipal infrastructure investments, construction and agriculture



Source: MAKFED analysis 2019 values, press excerpts, Comtrade HS 8413, 8414

PUMPS & COMPRESSORS



TURKEY'S

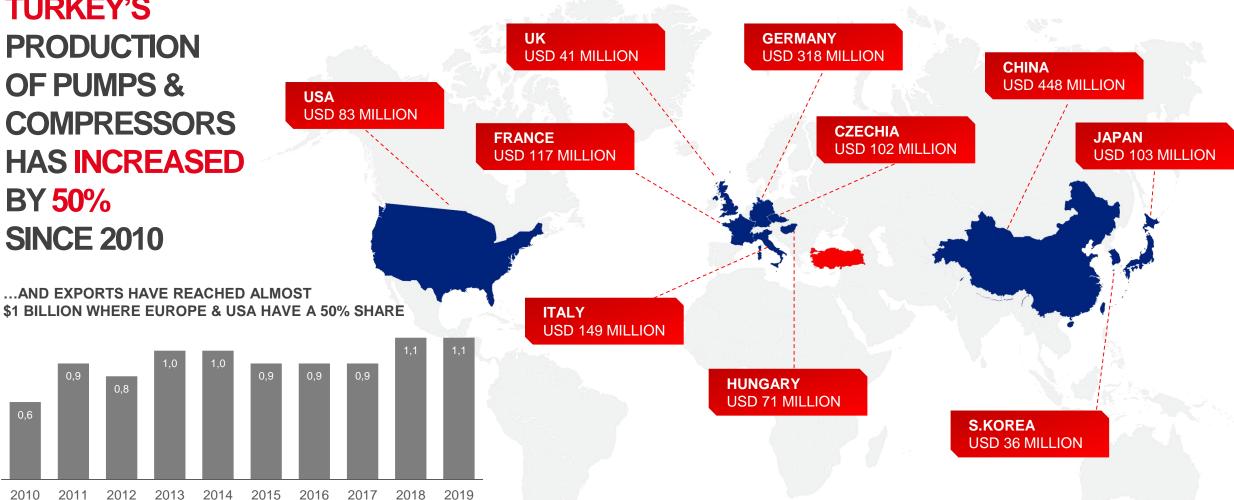
2011

2012

2013

PRODUCTION OF PUMPS & COMPRESSORS HAS INCREASED **BY 50% SINCE 2010**

TURKEY HAS USD 2 BILLION OF IMPORTS WHERE EUROPE HAS AROUND 60% SHARE



■ Production (M\$)

2014

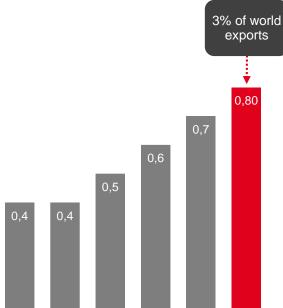
Source: MAKFED analysis 2019 values, press excerpts, Comtrade HS 8413, 8414 invest.gov.tr | 33

TEXTILE MACHINERY

TURKEY'S TEXTILE MACHINERY MARKET



TURKEY'S TEXTILE MACHINERY EXPORTS TRIPLED IN 10 YEARS STILL LOW COMPARED TO \$1.9 BILION OF **IMPORTS**



HAS REACHED USD 1.6 BILLION IN 2019





Strong industrial base especially in knitting and dyeing & finishing machines



Demand driven by textile industry -Turkey is the 7th largest textile exporter with USD 10 billion in 2019 where Europe has around 50% share.



Due to high cost pressure from Asian countries, Turkey's textile industry needs to specialize and increase its added-value while upgrading or renewing its USD 25 billion machinery park - technical textile is an example



2007

Exports (M\$)

2008

2009

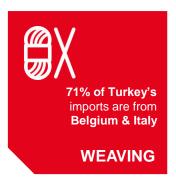


2011

2012

2013

2014



2015

2016

2017

2018



2019







2010

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Success Stories

SUCCESS STORIES

SUCCESS STORIES

MACHINERY GIANTS HAVE BEEN INVESTING IN TURKEY FOR DECADES



B/S/H/

- The company's brand portfolio includes eleven well-known appliance brands like Bosch, Siemens, Gaggenau and Neff as well as the ecosystem brand Home Connect and service brands like Kitchen Stories.
- 38 production sites in Europe, the USA, Latin America and Asia
- At the end of 2020, BSH employed about 60,000 people worldwide.
- BSH achieved record sales of €13.9 billion in 2020.
- At 5.1 percent of total turnover, R&D spending in 2020 remained high with a focus on digital technologies.
- BSH Turkey produced 5.8 million products from Çerkezköy Factories in 2020. 70 % of the production is exported. BSH Turkey is the first company that exports by rail to China from Turkey.

- IHI Corporation Japanese corporation that produces ships, aircraft engines, turbochargers, industrial machines, power station boilers and suspension bridges
- Had a revenue of USD 13 billion in 2020 with 30K employees
- Completed projects in Turkey include Golden Horn Bridge, Fatih Sultan Mehmet Bridge, Osman Gazi Bridge and several reinforcement projects
- Formed a JV with Dalgakıran Makine with an investment of USD 14.4 million to produce turbo compressors in Turkey in 2018 (60 employees)
- Uses Turkey as a base for exports to Europe, the Middle East, and other growing markets.



- Japanese multinational electronics and electrical equipment manufacturing company with a total revenue of USD 40.7 billion in 2019
- Operational in Turkey since 2012 especially in air conditioning, elevators and escalators, factory automation systems, visual information systems and transportation systems as well as electrification
- In 2018, opened its first air-conditioner manufacturing plant of Europe in Turkey with an investment of USD 80 million

Putzmeister

- Established in Germany in 1958, its products include plant and equipment for concrete production, truck mixers, plastering machines. concrete injectors and concrete pumps
- Acquired by Chinese competitor Sany Heavy Industries for USD 402 million in 2012
- Manufacturing concrete pumps and mechanical and hydraulic distributors at its Cerkezkoy plant since 2008





- Established in Italy, its products include washing appliances, built-in and small domestic appliances. Had a revenue of 1.1 Billion in 2019
- Manufacturing in Turkey since 2007 at its Eskisehir plant
- Invested EUR 15 Million for the launch of a new plant in Turkey with an employment of 300 people
- Uses Turkey plant as a base for oven and stove manufacturing, built-in appliances and dryers and exports over 90% of its production
- Qingdao Haier completed the acquisition of the Candy Hoover Group in 2019.

FEDERAL-MOGUL POWERTRAIN

- Established in the USA in 1899, its products include pistons, rings&liners, valve seats&guides, engine bearings and sealing
- Tenneco completed the acquisition of Federal-Mogul in 2018. Tenneco is one of the world's leading designers, manufacturers and marketers of automotive products for original equipment .Tenneco had \$15.4 billion revenue in 2020.and approximately 73,000 employee.
- Operational in Turkey since 1998, currently has two facilities with a total employment of 1600 people
- Has invested a total of EUR 400 million in Turkey by 2017
- 80% of the piston production is exported to Europe and USA as original



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