

# HATTAT HOLDING



## HEMA FOUNDRY

YOUR SOLUTION SUPPLIER  
SINCE 1973

# HATTAT HOLDING



<p><b>Hema Endüstri</b></p> 	<p><b>Hema Otomotiv &amp; Hema ZF/TRW</b></p> 	<p><b>Hattat Traktor</b></p> 	<p><b>Hema Foundry</b></p>  	<p><b>Hema Driveline &amp; Hydraulics</b></p>  <p><b>Pune, INDIA</b></p>	<p><b>Diamond of Istanbul</b></p> 	<p><b>Hattat Enerji</b></p>  
<p><b>AUTOMOTIVE, AG, CE</b></p>	<p><b>AUTOMOTIVE, AG, CE</b></p>	<p><b>AGRICULTURE</b></p>	<p><b>CAST IRON, HPDC</b></p>	<p><b>AG</b></p>	<p><b>REAL ESTATE</b></p>	<p><b>ENERGY</b></p>

**Çerkezköy / TURKEY**

# MILE STONES

1976

Gear pump manufacturing

1973

Foundation of «Hema Hidrolik» by Hattat brothers in December

1978

Hydraulic lift manufacturing

1982

Mehmet Hattat acquired all the shares of the company

1984

Heavy duty commercial vehicle steering system production

1992

Production of LCV & passenger car brake system with Continental Teves

1996

JV with TRW for passenger cars & light commercial vehicle steering systems

1998

Name changed into Hema Endüstri A.Ş.

Hema Hidrolik  
MAKİNA SANAYİİ VE TİCARET A.Ş.



Hema Hidrolik  
MAKİNA SANAYİİ VE TİCARET A.Ş.



**HEMA**  
ENDÜSTRİ A.Ş.

Hattat, Emin, Mehmet, Ahmet

# MILE STONES

**1999**

Production of hydraulic cylinder for flap, rudder and elevator



**2001**

Transfer of DBH site from UK Poole in November



**2002**

Production of Agricultural Tractors



**2004**

Foundation of Hema Energy in November



**2004**

Groundbreaking ceremony for Diamonds of Istanbul in August



**2009**

Foundation of Hema Foundry (Cast Iron, Aluminum)



**2014**

Foundation of new steering system plant. Capacity is 220.000 pcs/year



**2016**

Foundation of Hema Driveline & Hydraulics India



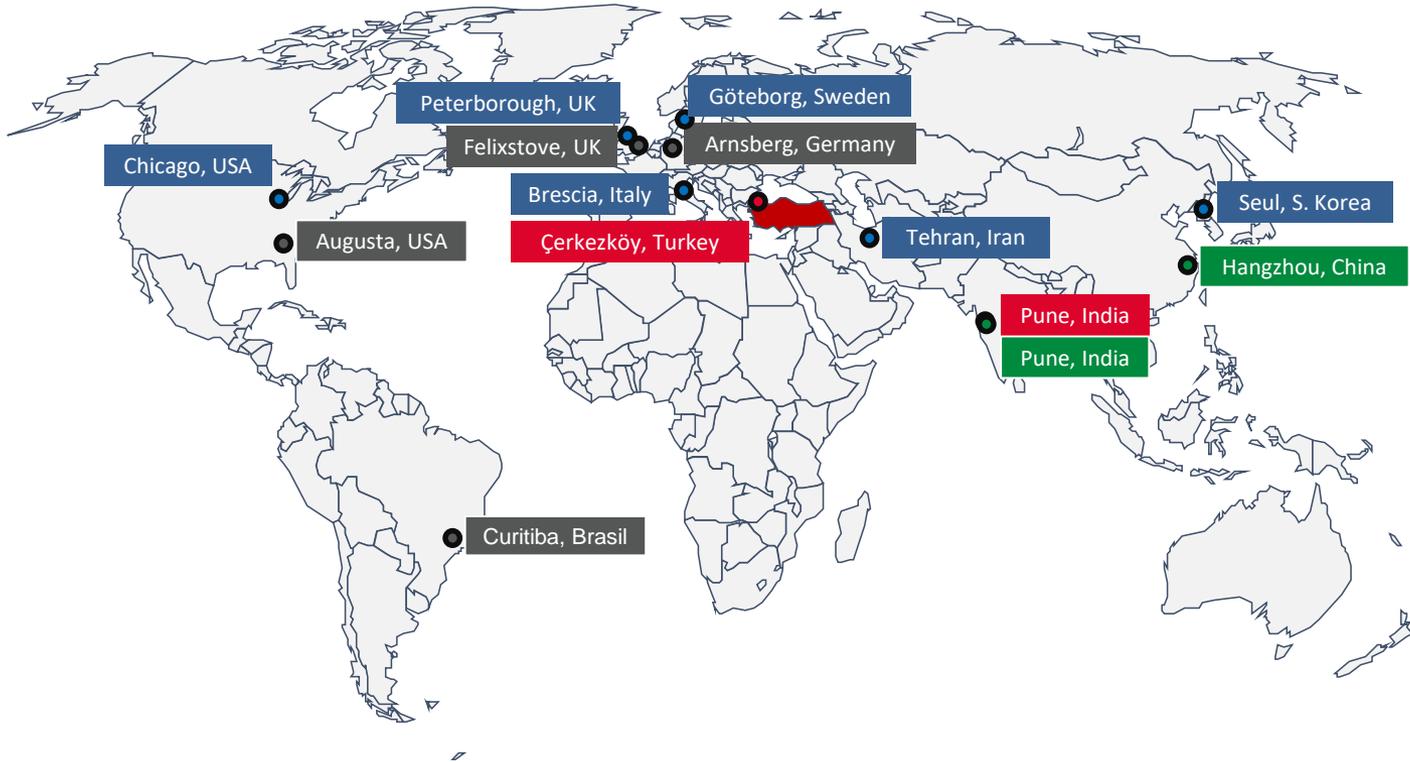
# WORLDWIDE LOCATIONS

**MANUFACTURING FACILITIES**

**LOGISTICS CENTERS**

**REPRESENTATIONS**

**PURCHASING OFFICE**



# LOCATION



# HATTAT HOLDING - Çerkezköy Premises





A Joint Venture since January 1996

Shareholders: 80%



20%



# CUSTOMERS

## 1- HYDRAULIC STEERING GEARS



**DACIA – DUSTER (H79)**



**RENAULT – MEGANE I (X64)  
RENAULT – SYMBOL (X65)**



**FIAT – PALIO  
FIAT – ALBEA  
FIAT – DOBLO  
FIAT – 131 PR&P  
FIAT – MCV/D200**



**FORD – TRANSIT CONNECT (V227)  
FORD – TRANSIT (V184-347/8)**

## 2- MECHANICAL STEERING GEARS



**RENAULT – MEGANE II (84)  
RENAULT – CLIO (85)  
RENAULT – FLUENCE / MEGANE  
(L38/B32)  
RENAULT – MEGANE SEDAN( LFF)**



**FORD – TOURNEO COURIER (B460)**



**FIAT – 131 MANUAL  
FIAT – DOBLO MANUAL**

# CUSTOMERS



DUSTER



MEGANE II



CLIO III BC 85



SYMBOL X 35



MEGANE III B32



FLUENCE L38



MEGANE SEDAN



TRANSIT



TRANSIT CONNECT



TOURNEO COURIER



DOBLO



ALBEA



FIORINO



PALIO



LINEA

# 10 Million Steering Gears



**August 2017**

# HEMA TRW PRODUCT LINES



# TEST CAPABILITY



**FUNCTIONAL TEST**



**TORQUE TO FAILURE TEST**



**FATIGUE TEST**



**IMPACT TEST**



**MUDDY WATER TEST**



# **BRAKING SYSTEMS & MACHINING PLANT - HISTORY**

**START OF PRODUCTION IN 1996**

**ACHIEVED PROJECTS WITH CONTI-TEVES LICENCE**

- FIAT PALIO, SIENA, WEEKEND
- FIAT DOBLO
- FORD TRANSIT CONNECT

**DESIGN & DEVELOPMENT SINCE 1999**

- PEUGEOT J10
- BMC MEGASTAR-LEVEND
- INTRALL LUBLIN ZI60M
- VALTRA

**SUBCONTRACT BUSINESS WITH TRW SINCE 2011**

- RENAULT W98

**NEW LICENCE WITH TRW**

- FORD B460





**CALIPERS**



**BOOSTERS**



**DRUM BRAKES**



**VARIOUS CYLINDERS**

# CUSTOMERS

## 1- DRUM BRAKES AND CALIPERS



FORD – TRANSIT CONNECT (V227)  
FORD – TRANSIT (V184-347/8)  
FORD – TOURNEO COURIER (B460)



FIAT – PALIO  
FIAT – ALBEA  
FIAT – DOBLO



Peugeot– J10



LUBLIN Z160M



MEGASTAR

## 2- BOOSTERS



RENAULT – CLIO 4 – X98



FIAT – PALIO  
FIAT – ALBEA  
FIAT – DOBLO



Peugeot– J10



LUBLIN Z160M



MEGASTAR



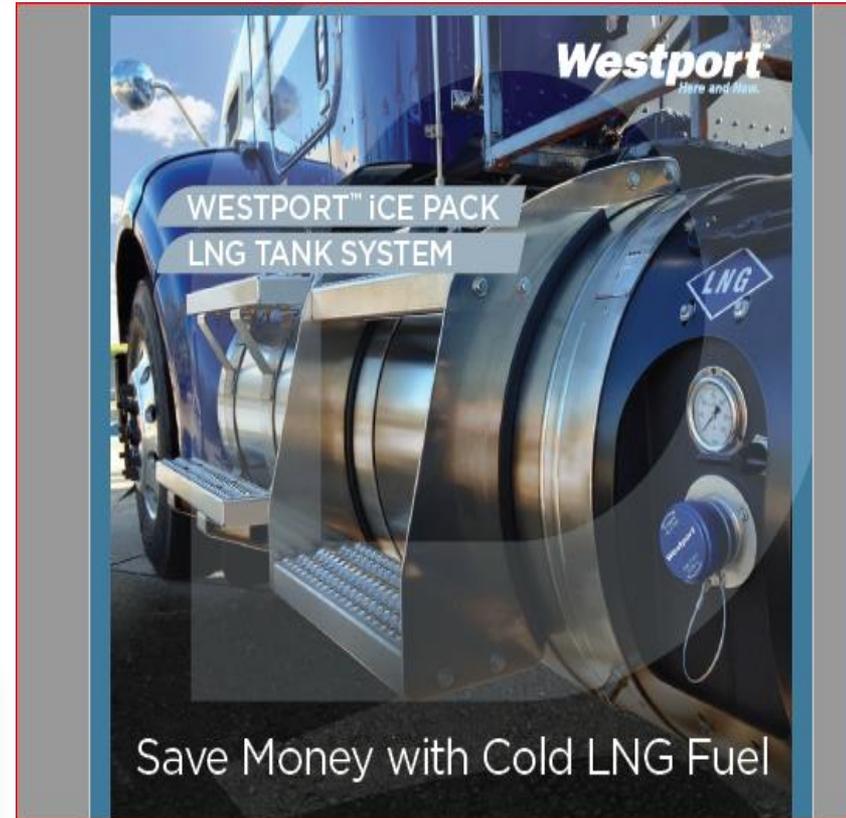
# CUSTOMERS

## Westport™

The global leader in natural gas engines.



### LNG PUMP



# BRAKING SYSTEMS & MACHINING PLANT



## ASSEMBLY

- DRUM BRAKE
- BOOSTER / TMC
- CALIPER
- LNG PUMP



## MACHINING

- NODULAR CAST IRON
- GRAY CAST IRON
- ALUMINUM
- STAINLESS STEEL



## COATING

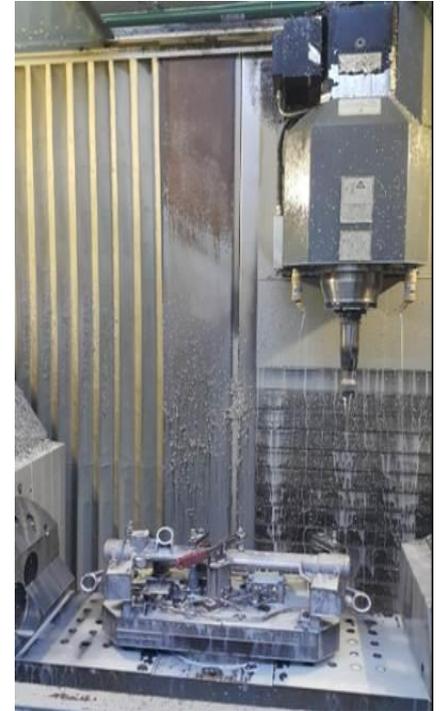
- ZINC PLATING
- E-COATING



## BONDING

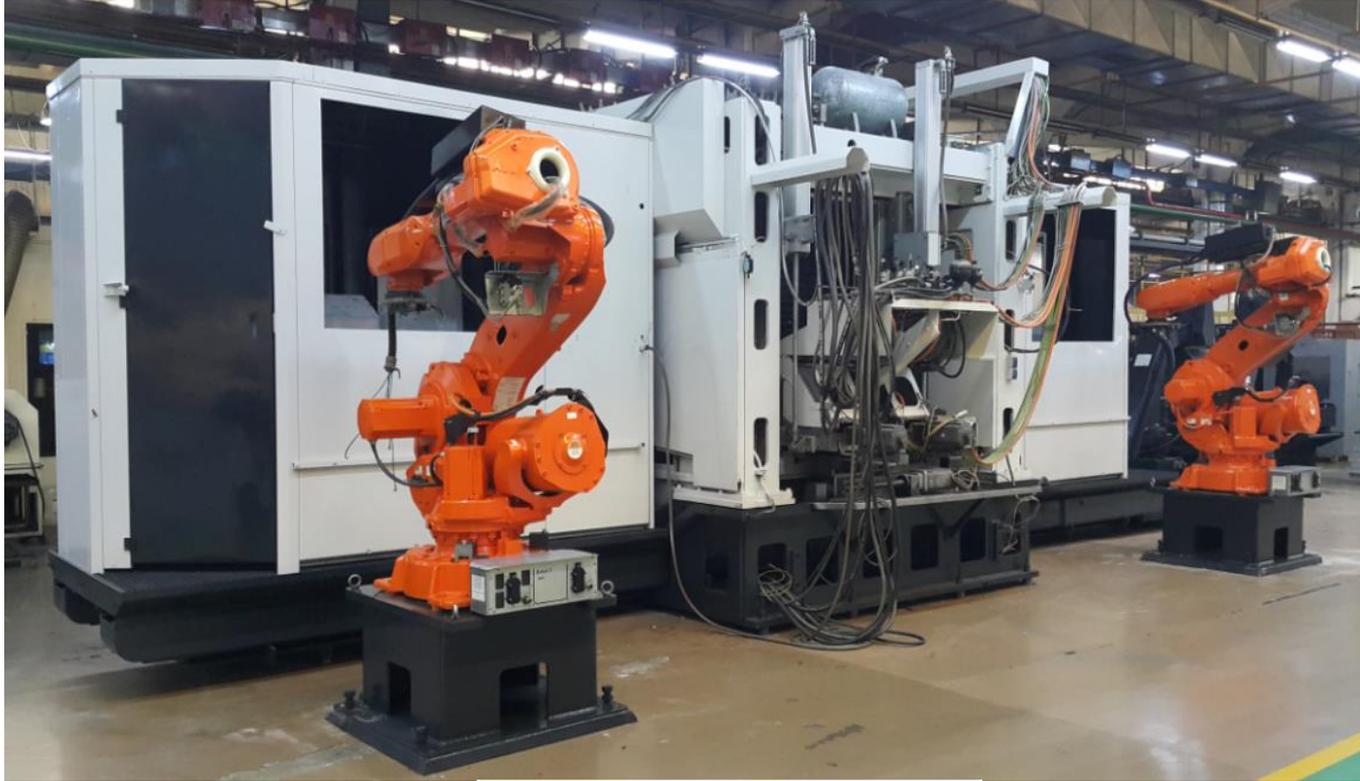
- BRAKE SHOE BONDING

# HOUSING MACHINING CAPABILITIES



CHIRON MILL 800 FIVE AXIS

# HOUSING MACHINING CAPABILITIES



MARKA

FILL SYNCROMILL

ABB ROBOTIC

# HOUSING MACHINING CAPABILITIES



MARKA	QTY.	TEKNİK ÖZELLİKLERİ
VERTICAL MACHINING CENTER (4 AXIS)	19	4 AXIS, DOUBLE PALLET, ONE SPINDLE
HORIZONTAL MACHINING CENTER ((4 AXIS)	19	5 AXIS, DOUBLE PALLET, ONE SPINDLE
VERTICAL MACHINING CENTER (4 AXIS)	2	5 AXIS, ONE PALLET, ONE SPINDLE

# ***AUTOMATED ASSEMBLY LINES***

- 1) CALIPER BRAKE ASSEMBLY**
- 2) SERVO BOOSTER ASSEMBLY**
- 3) DRUM BRAKE ASSEMBLY**



# 1) CALIPER BRAKE ASSEMBLY LINE



## 2) SERVO BOOSTER ASSEMBLY LINE



### 3) DRUM BRAKE ASSEMBLY LINE



# BRAKE SHOE BONDING LINE



# MEASURING AND TEST EQUIPMENTS



CMM

PROFILE PROJECTOR DEVICE



ROUGHNESS TESTER



OIL DIAGNOSTIC TEST



COUNTER GRAPH

# ANALYSIS AND VALIDATION



ACTUATION UNIT FUNCTIONAL TEST BENCH



ACTUATION UNIT ENDURANCE TEST BENCH



BURSTING TEST BENCH



CALIPER FUNCTIONAL TEST BENCH



CALIPER ENDURANCE TEST BENCH



DRUM BRAKE FUNCTIONAL AND ENDURANCE TEST BENCH

# QUALITY CERTIFICATES



- ISO-TS 16949 ( since 2003)
- ISO 14001 (since 2004)
- ISO 9001 (since 1997)
- OHSAS 18001 (since 2010)
- ISO 27001 (since 2014)
- ISO 50001 (since 2013)
- AQAP 2110 (since 2006)
- AS9100 Aviation Quality Management System (since 2010)
- TAI Certificate of Supplier Quality System Approval (since 2011)
- TEI Approved Supplier Certification (since 2011)
- Manufacturing Certificate For Armored Vehicles (since 2001)
- Security Certificate From Ministry of Defense (since 1998)
- DAIMLER-MERCEDES Category “1”
- Ford Q1
- CATERPILLAR SQEP Silver Medal



Turkey

Discover the potential

**THANK YOU !**