

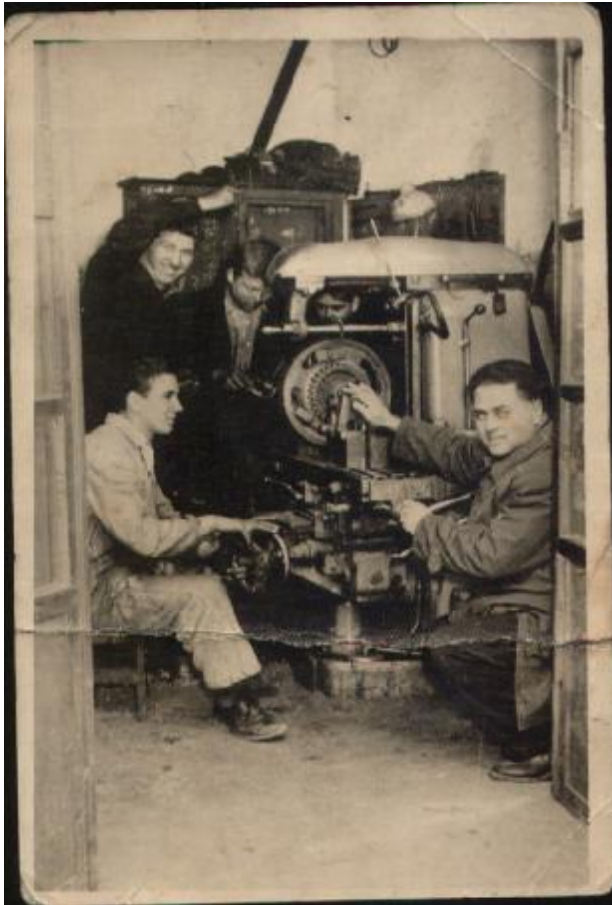


General Information About Tunaoğlu

- *History*
- *Facilities*
- *Awards*
- *Customers*
- *Company Figures*

1950

TUNAOĞLU established by Fethi TUNAOĞLU.



1988

Fethi TUNAOĞLU's son H.Zeki TUNAOĞLU, established TUNAOĞLU Otomotiv A.Ş



1997

* RWTÜV certificated Tunaoğlu with ISO 9001:2000



2004

* ISO/TS 16949:2002 certification achieved.



2005-2006

- * Toyotetsu 130 L project for chassis parts started with 30 referances.
- * Draxlmaier X250 project works started.
- * Autoliv seatbelt part project started.
- * S.C.M projects started.
- * First tool export to Flexmax – Netherlands took place.
- * Projects with Valeo Turkey, Valeo Germany and Valeo France started.
- * Emarc-Çelik's D200 project started.



2007-2008

- * Autoliv Airbag Parts project started.
- * Tunaoglu GmbH has been established.
- * New Tool Workshop building finished and workshop moved.



2011-2012

- * Snop X98 project tools have started.
- * SCM 330 Project tools have started.
- * Best supplier of Knorr-Bremse.
- * Magna, Cavo & Coşkunöz tool agreements.



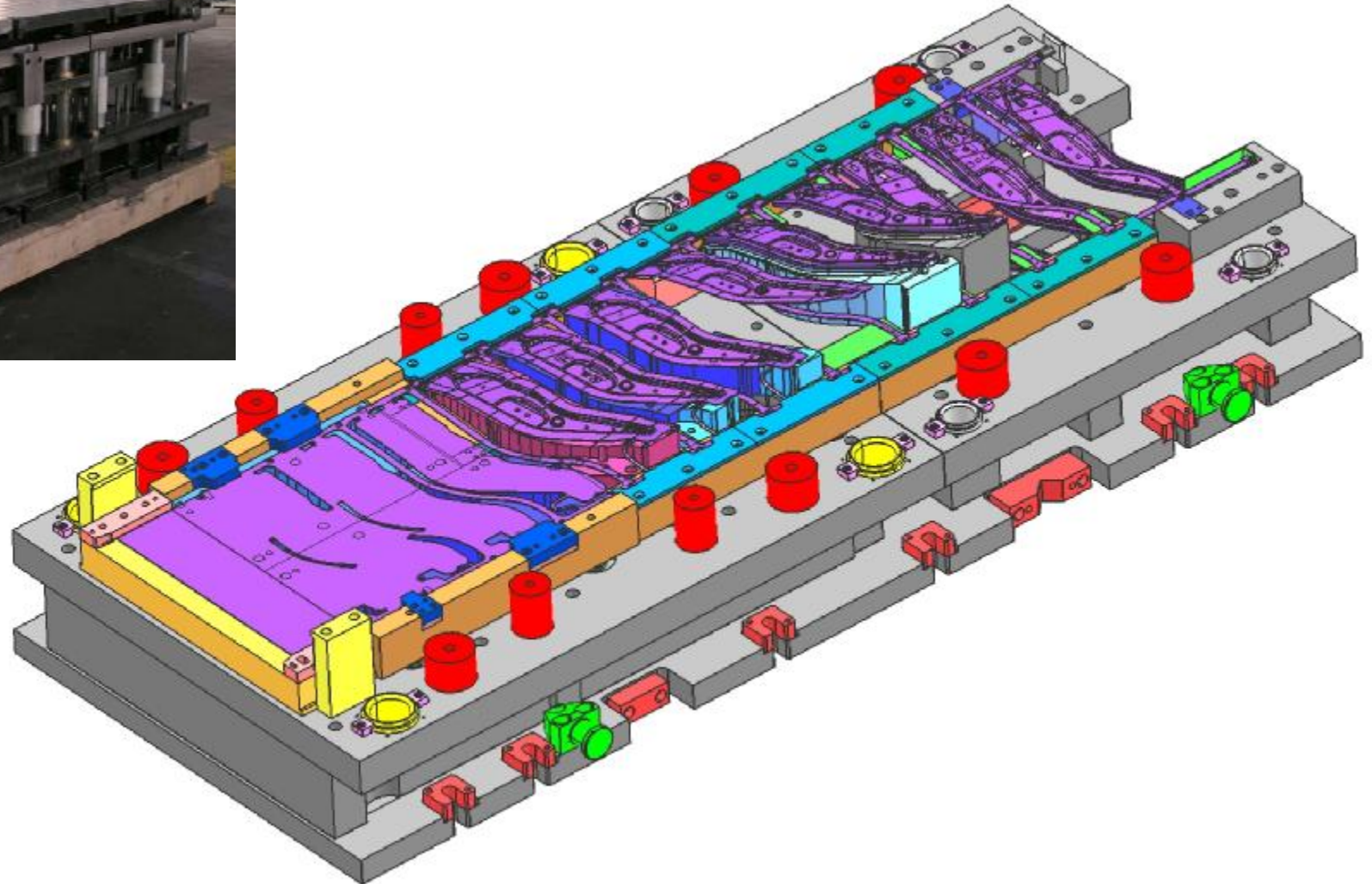
- ***Stamping***
 - ***Fine Blanking***
 - ***Tool Design***
 - ***Tool Manufacturing***
 - ***Assembly***
 - ***Finishing***
 - ***Tunaoğlu GMBH***

No	Machine No	Machine Name	Press Force KN	Çalışma Kuru mm	Number of Strokes Min ⁻¹	Adjustment Distance mm	Lower Table Dimentions mm	Upper Table Dimentions mm	Tool Height Capacity mm
1	100-004	80 TONS C (Dirinler) eccentric	800	10/100	45	75	470X700	230X700	230-280
2	100-006	160 TONS C (Benelli) eccentric	1600	20/180	50	150	725X1200	560X750	350-410
3	100-012	800 TONS H (Smeral) eccentric	8000	320	35	200	1300X1870	1300X1680	450-650
4	100-019	400 TONS H (Rus) eccentric	4000	250	17-25	190	980X1000	800X800	360-560
5	100-020	630 TONS H (Rus) eccentric	6300	320	20	180	1250X1250	1000X1000	440-620
6	100-022	500 TONS H (Rus) eccentric	5000	250	25	180	1400X2480	1200X2480	340-520
7	100-023	315 TONS H (Rus) eccentric	3150	200	20	180	980X1000	800X1000	240-420
8	100-024	630 TONS H (Rus) eccentric	6300	320	20	180	1250X1250	1000X1000	440-620
9	100-025	180 TONS C (Bulgar) eccentric	1800	90	50	120	780X1300	550X900	300-420
10	100-026	180 TONS C (Bulgar) eccentric	1800	90	50	120	780X1300	550X900	320-400
11	100-027	160 TONS C (Bulgar) eccentric	1600	20/160	50	120	1000x780	630x500	340-400
12	100-028	400 TONS H (Weingarden) eccentric	4000	380	45	210	1400X2400	1400X2400	440-650
13	100-029	630 TONS H (Rus) eccentric	6300	320	20	180	1250X1250	1000X1000	440-620
14	100-030	500 TONS H (Hasenclever) eccentric	5000	260	1--50	150	1380X1200	1180X1120	450-580
15	100-031	400 TONS H (Rus) eccentric	4000	250	17-25	190	980X1000	800X800	360-560
16	100-032	500 TONS H (Wagner) eccentric	5000	300	24	170	1600x900	1580x900	480-580
17	100-033	250 TONS H (Erfurt) eccentric	2500	315	25	180	1170x800	1010x610	380-560
18	100-034	180 TONS C (Bulgar) eccentric	1800	20/180	50	100	1300x780	1000x600	320-400
19	100-035	180 TONS C (Bulgar) eccentric	1800	20/180	50	100	1300x780	1000x600	320-400
20	100-036	180 TONS C (Bulgar) eccentric	1800	20/180	50	100	1300x780	1000x600	320-400
21	100-037	200 TONS H (Weingarden) eccentric	2000	30	80-300	80	1430x950	1300x600	460-540
22	100-038	500 TONS H (Colombo) eccentric	5000	160	17-40	160	1060x1000	1000x850	460-620
23	100-039	80 TONS C (Karakoç) eccentric	800	160	40-60	80	950x600	540x400	240-320
24	100-040	80 TONS C (Karakoç) eccentric	800	160	40-60	80	950x600	540x400	240-320
25	100-041	60 TONS C (Karakoç) eccentric	600	140	45-70	70	930x520	480x400	230-300
26	100-042	250 TONS C (Karakoç) eccentric	2500	250	20-30	120	1500x880	950x700	380-500
27	100-043	250 TONS H (Schüller) eccentric	2500	240	20-30	50	2000x1120	1850x1000	225-340
28	100-045	500 TONS H (Karakoç) eccentric	5000	250	30-40	230	2400x1400	2340x1400	530-760
29	100-046	800 TONS H (Karakoç) eccentric	8000	350	20-30	230	2800x1400	2740x1400	530-760
30	100-047	315 TONS D (KARAKOÇ) eccentric	3150	300	25-38	110	1000X1600	900X1400	355-465
31	100-048	315 TONS D (KARAKOÇ) eccentric	3150	300	25-38	110	1000X1600	900X1400	355-465
32	100-049	315 TONS D (KARAKOÇ) eccentric	3150	300	25-38	110	1000X1600	900X1400	355-465
33	200-002	100 TONS (Dirinler) hydraulic	1000	150		50	640X850	550X850	340-390
34	300-002	160 TONS FEINTOOL (Smeral)	1600	60	22-27		470X500	470X500	
35	300-003	400 TONS FEINTOOL (SCHMID)	4000		20		650X650	650X650	
36	300-004	630 TONS FEINTOOL (SMG)	6300	180	13	70	900x900	900x900	330x400

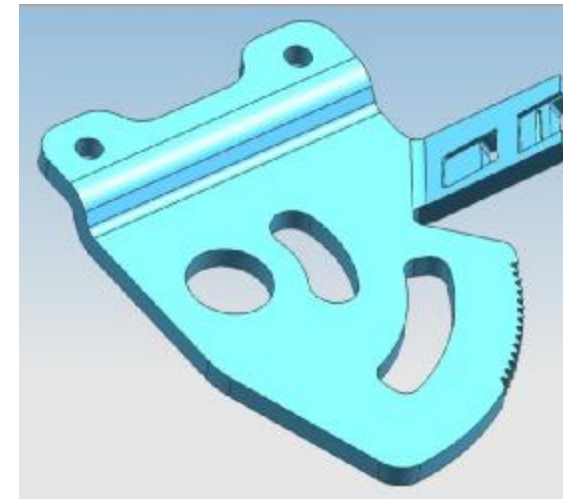
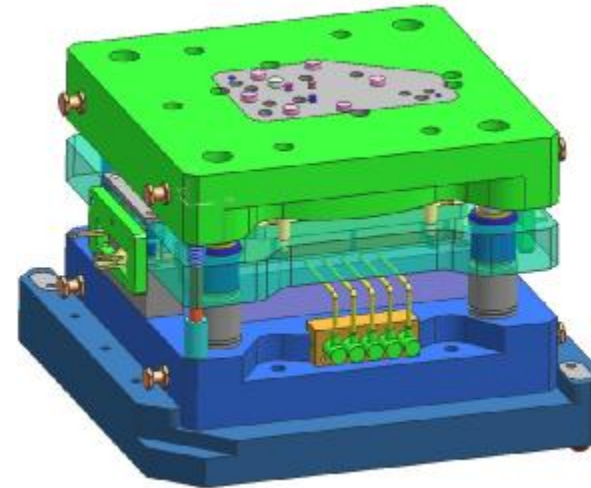
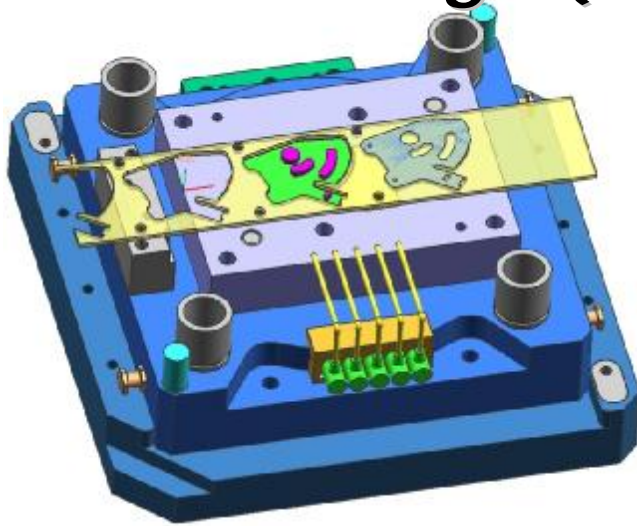
CAD-CAM Softwares

- Ø Unigraphics NX(7,5) Cad : 4 terminals
- Ø Unigraphics NX(7,5) Cam : 2 terminals
- Ø Cad Meister : 2 terminals
- Ø I-deas : 3 terminals
- Ø Autocad 2000 LT : 6 terminals

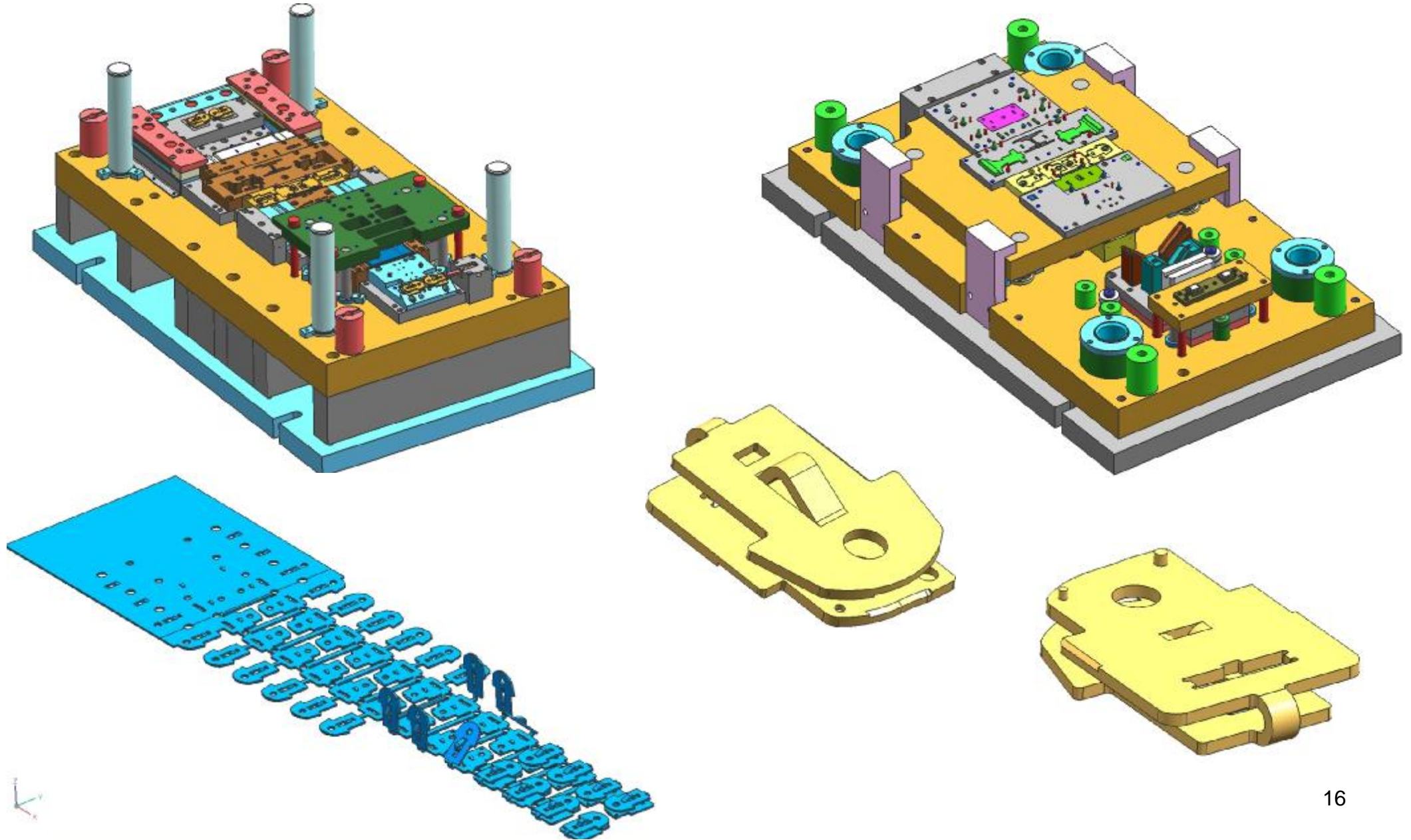
Sample Tool Design (for FlexMax)



Sample Tool Design (for S.C.M. Automotive – Fine Blanking)



Sample Tool Design (for Autoliv)



Tandem Tools

Progressive Tools

Fine Blanking Tools

Transfer Tools

Process Design

Product Development



MACHINE NAME	BRAND	YEAR	MEASUREMENTS	POWER(Kw)
Milling Machine	Gentiger	1998	X:660, Y:260,Z:220, Devir:75/3600 dev/dak	3,1
Universal Milling Machine	Millstar	2006	X:1100, Y:520,Z:500, Devir:45/1500 dev/dak	7,5
Grinding Machine	Prodis	2005	X:800, Y:400,Z:300, Devir:45/1500 dev/dak	2
Band Saw	UMF-Ruhla	1993	250x300, Devir: 1,5/100	3,4
Cnc Milling Machine	Leaderway 2210	2005	X:2200, Y:1000,Z:550, Devir:85/10000 dev/dak	25
Cnc Milling Machine	Leaderway 1100	2005	X:1100, Y:610,Z:550, Devir:50/10000 dev/dak	25
Wire Erosion	Ecwin	2006	X:500, Y:400,Z:300,U/V:100x100,300mm/dak	15
Wire Erosion	Charmilles	2010	X:350, Y:250,Z:250,U/V:90x90	15
Cnc Milling Machine	Haas VF3	2012	X:1000, Y:500,Z:600, Devir:150/10000 dev/dak	25
Radial Drilling Machine	Foreman	2006	Ø501600mm Devir:2000	7,5

- *Spot welding*
- *Gas welding*
- *Deburring & Vibration*

CMM - TENSILE TEST - HARDNESS MEASUREMENT – PROFILE PROJECTION MACHINES



TUNAOĞLU GmbH

Königsbrunn / Germany





Distances From Tunaoglu GmbH



Dachau

30 mins



Erdweg

30 mins



Vilsbiburg

60 mins



Aldersbach

90 mins

Building

350 m² Offices

650 m² Closed Warehouse

350 m² Open Stock Area

Toyotetsu 2005 Project Management Award Winner



Toyotetsu 2005 Quality Award Runner-Up



Toyotetsu 2006 Cost Reduction Performance Award



Most Successful Tools of 2006 Contest Winner



Most Successful Tools of 2007 Contest Winner



Knorr-Bremse 2011 Best Supplier



Rollmech
automotive



Autoliv



KNORR-BREMSE

Sistemi Comandi Meccanici
Otomotiv San.ve Tic. A.Ş. S.C.M.

Dräxlmaier



teknik
malzeme
a company of Faurecia and Orhan Holding



BOSCH



Valeo



CHASSIS
BRAKES
INTERNATIONAL



HEMA
OTOMOTİV SİSTEMLERİ A.Ş.



EMARC-ÇELİK



CAVO
OTOMOTİV
TIC. ve SAN. A.Ş.



s. n. o. p.



MAGNA



COŞKUNÖZ
METAL FORM



TTT



H



Flex
Max
INTERNATIONAL TRADING








<u>COMPANY</u>	<u>WORK AREA</u>	<u>YEARS of COOPERATION</u>
BOSCH Braking Systems	Brake Systems	25 years
Teknik Malzeme (JV of Faurecia)	Seat Mechanisms	18 years
Hema (ITT-Teves & AP-Lockheed)	Brake Systems	13 years
Rollmech Automotive (Wagon)	Door Mechanisms	12 years
Knorr-Bremse	Air Brake Systems	12 years
Cavo	Hand Brakes	2 years
Draxlmaier GmbH	Airbags and Interior Design	7 years
Valeo Germany	Lock Systems	7 years
Valeo Turkey	Transmission Systems	7 years
Autoliv Safety Systems	Seatbelt & Airbag Systems	7 years
S.C.M. (Magneti Marelli)	Pedal Systems	7 years
Magna	Tool Manufacturing	1 years
Bosch Rexroth Turkey	Hydraulic Systems	3 Years
Valeo France	Lock Systems	2 Years
S.N.O.P.	Tool Manufacturing	2 Year
Chassis Breaks	Brake Svstems	1 Year

CUSTOMER :




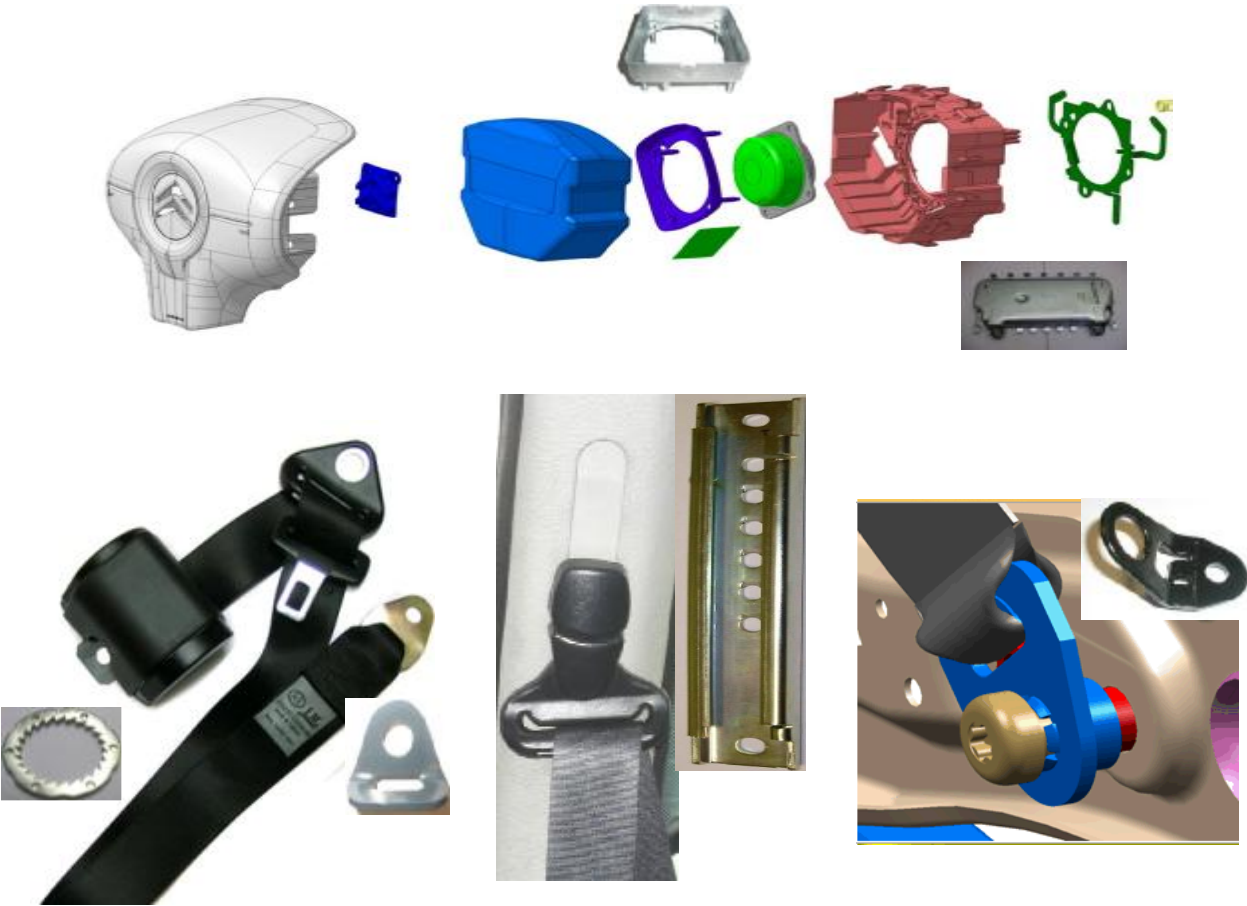
BOSCH

HEMA
OTOMOTİV SİSTEMLERİ A.Ş.

PART PHOTO	PLACE OF USE
 <p>Brake Plate</p>	
 <p>Rim</p>	
 <p>Web</p>	 
 <p>Handbrake Lever</p>	







CUSTOMER :



PART PHOTO	PLACE OF USE
	

CUSTOMER :

Sistemi Comandi Meccanici
Otomotiv San.ve Tic. A.Ş. **S.C.M.**


PART PHOTO	PLACE OF USE
  	 <p>Fiat Grande Punto</p>  <p>Opel Corsa</p> 

SAMPLE PARTS

CUSTOMER :

Rollmech
automotive

EMARC-ÇELİK

PART PHOTO	PLACE OF USE
 <p data-bbox="286 1410 636 1501">SLIDING DOOR MECHANISMS</p>	

CUSTOMER :

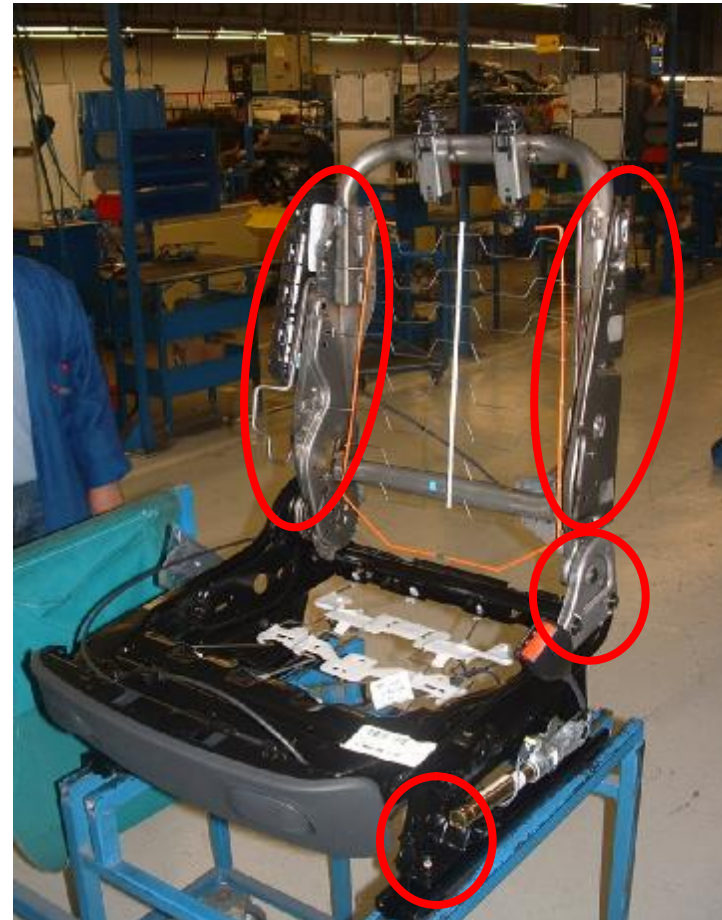


PART PHOTO





**SEATING
MECHANISMS**

PLACE OF USE



CUSTOMER :



PART PHOTO	PLACE OF USE
 <p>CHASSIS PARTS</p>	

COMPANY STRUCTURE

- Legal Form : Corporation
- Partnership : Family Company
- Owner and Chairman : Hüseyin Zeki TUNAOĞLU

CONTACT INFORMATION

Address : Nilüfer Organize Sanayi Bölgesi N 115 Sokak No:6 16140 – Nilüfer / Bursa

Telephone : + 90 224 411 10 00

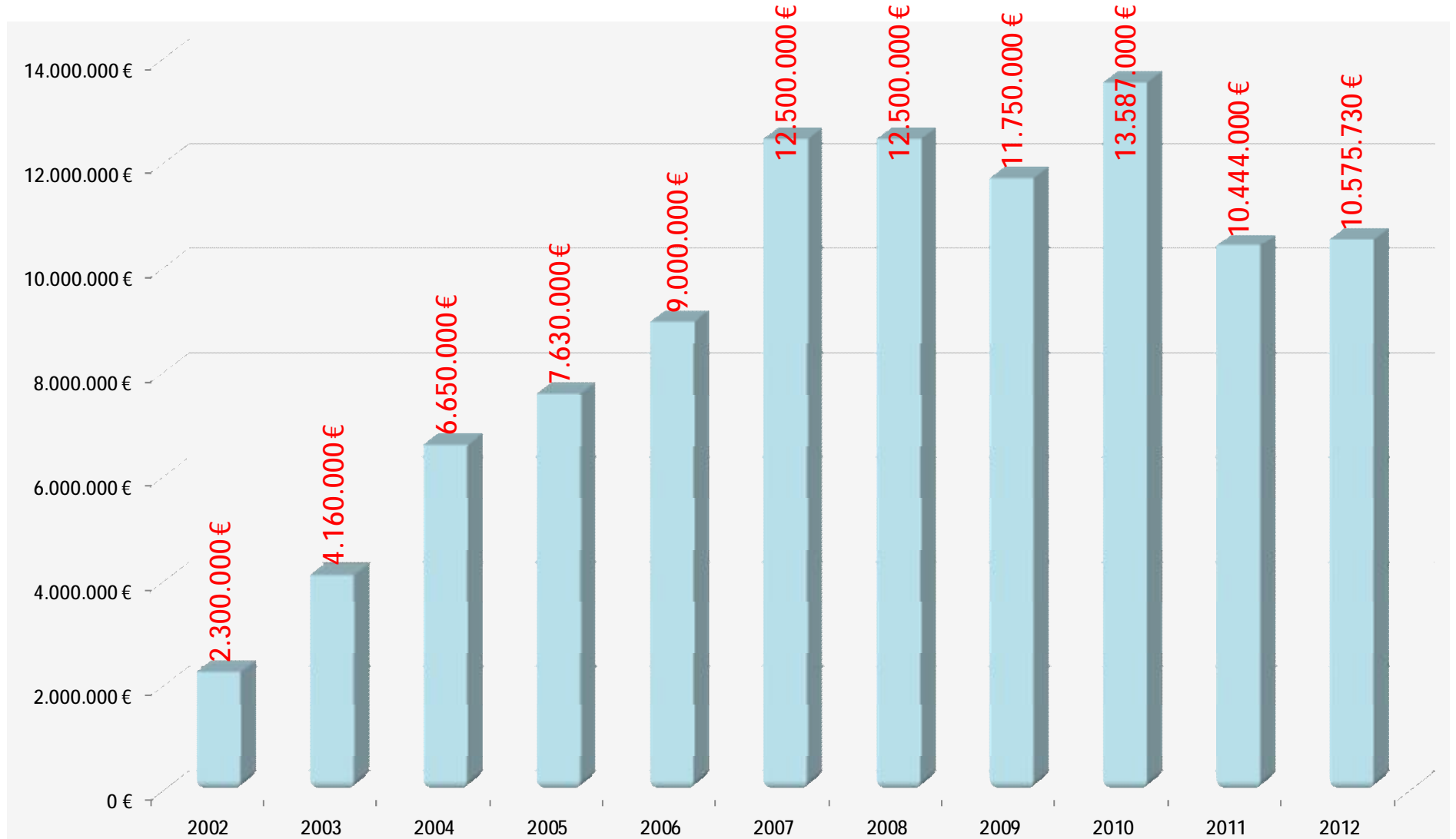
Fax : + 90 224 411 10 10

E-Mail : info@tunaoglu.com.tr

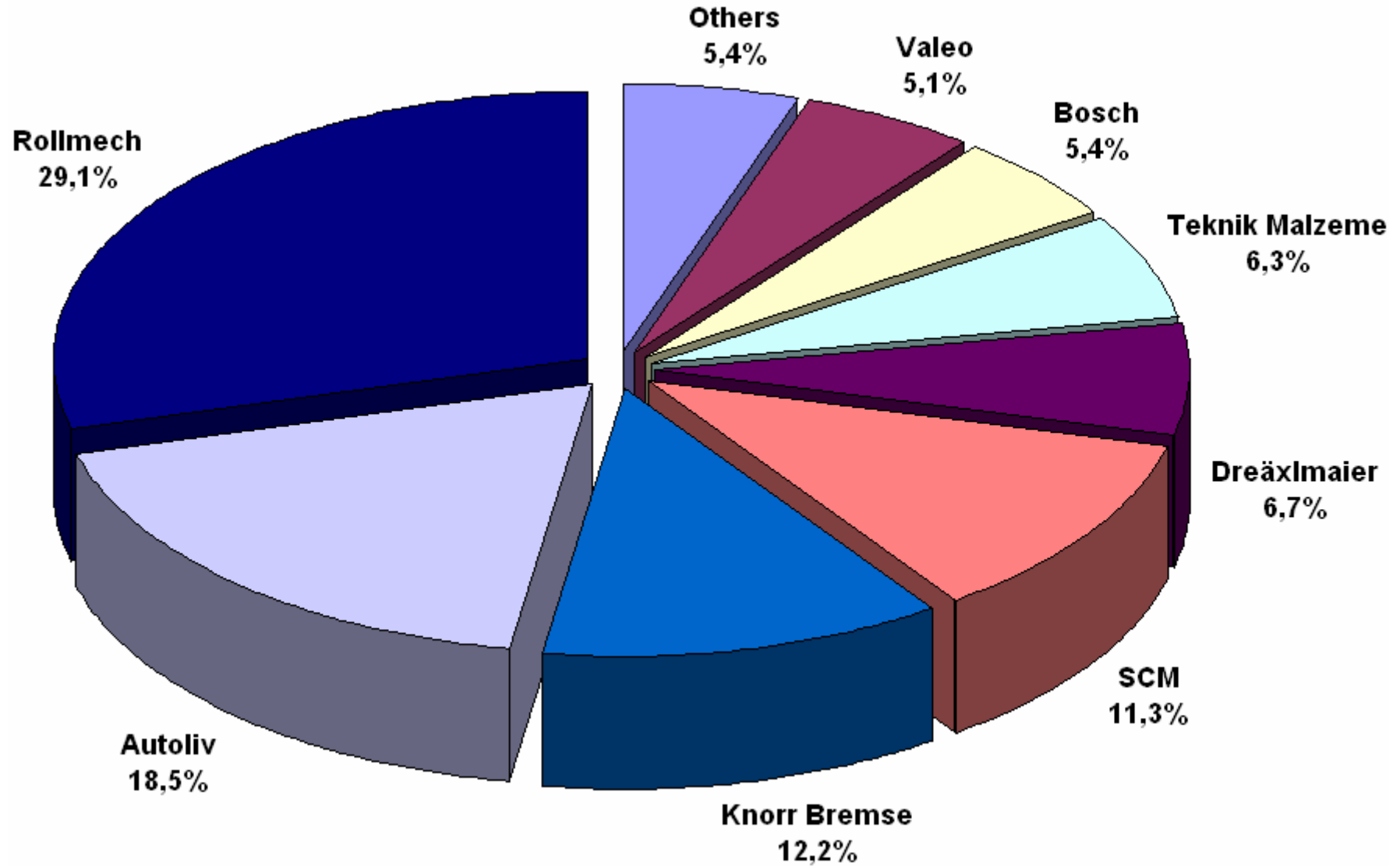
Web : www.tunaoglu.com.tr

Position	Responsible	Language	Extension	E-Mail
General Manager	İhsan Günşen	English German	202	Ihsan.Gunsen@tunaoglu.com.tr
Commercial and Logistic Manager	Ahmet Tunaoglu	English	219	Ahmet.Tunaoglu@tunaoglu.com.tr
Technical Manager	Mustafa Ekerbiçer	English	203	Mustafa.Ekerbicer@tunaoglu.com.tr
Project Manager	Aydın Bozkurt	English	210	Aydin.Bozkurt@tunaoglu.com.tr
Quality Manager	Gökhan Öngit	English	209	Gokhan.Ongit@tunaoglu.com.tr
Production Manager	Hasan KAYA	English	213	Hasan.Kaya@tunaoglu.com.tr

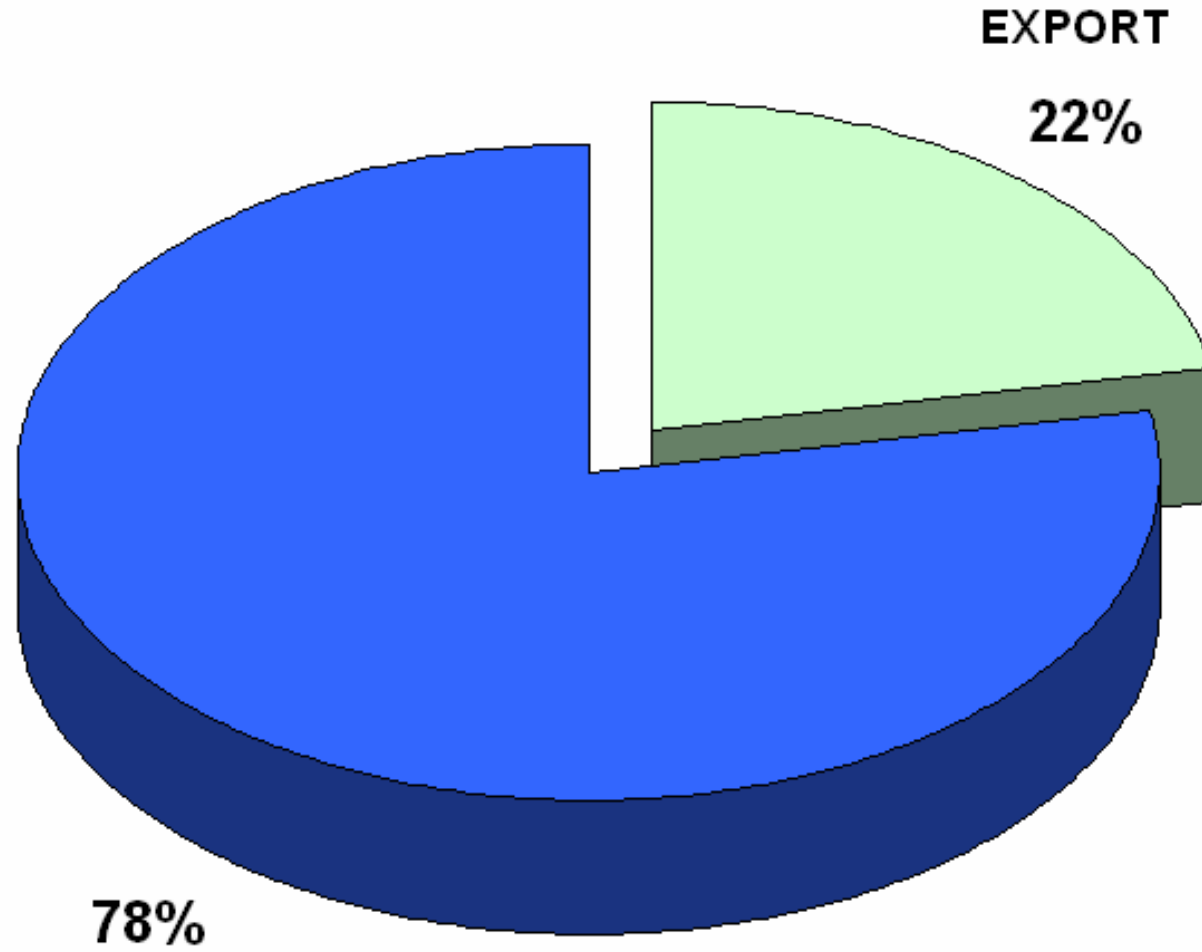
TURNOVER INFORMATION



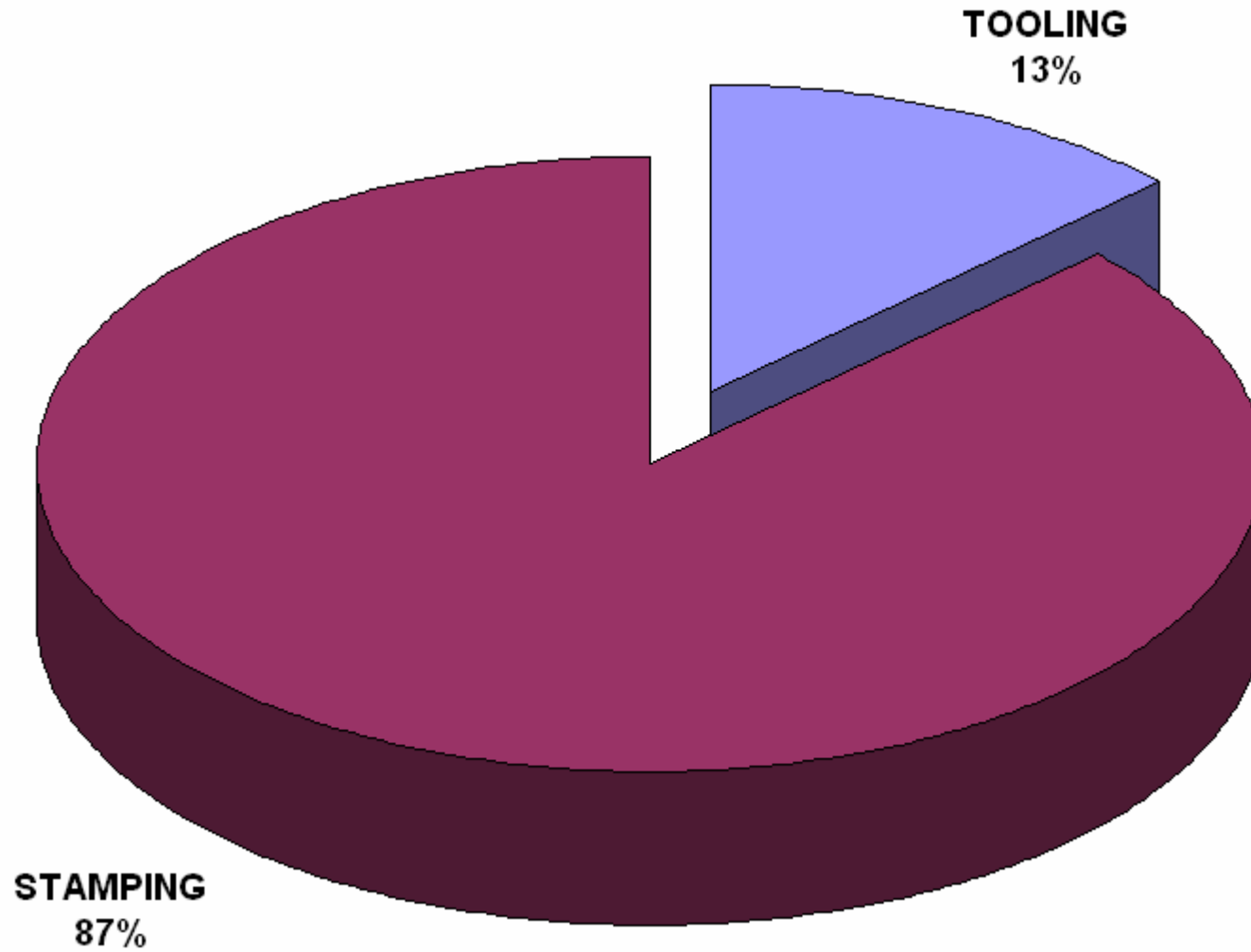
DISTRIBUTION OF SALES 2012 (Customer Based)



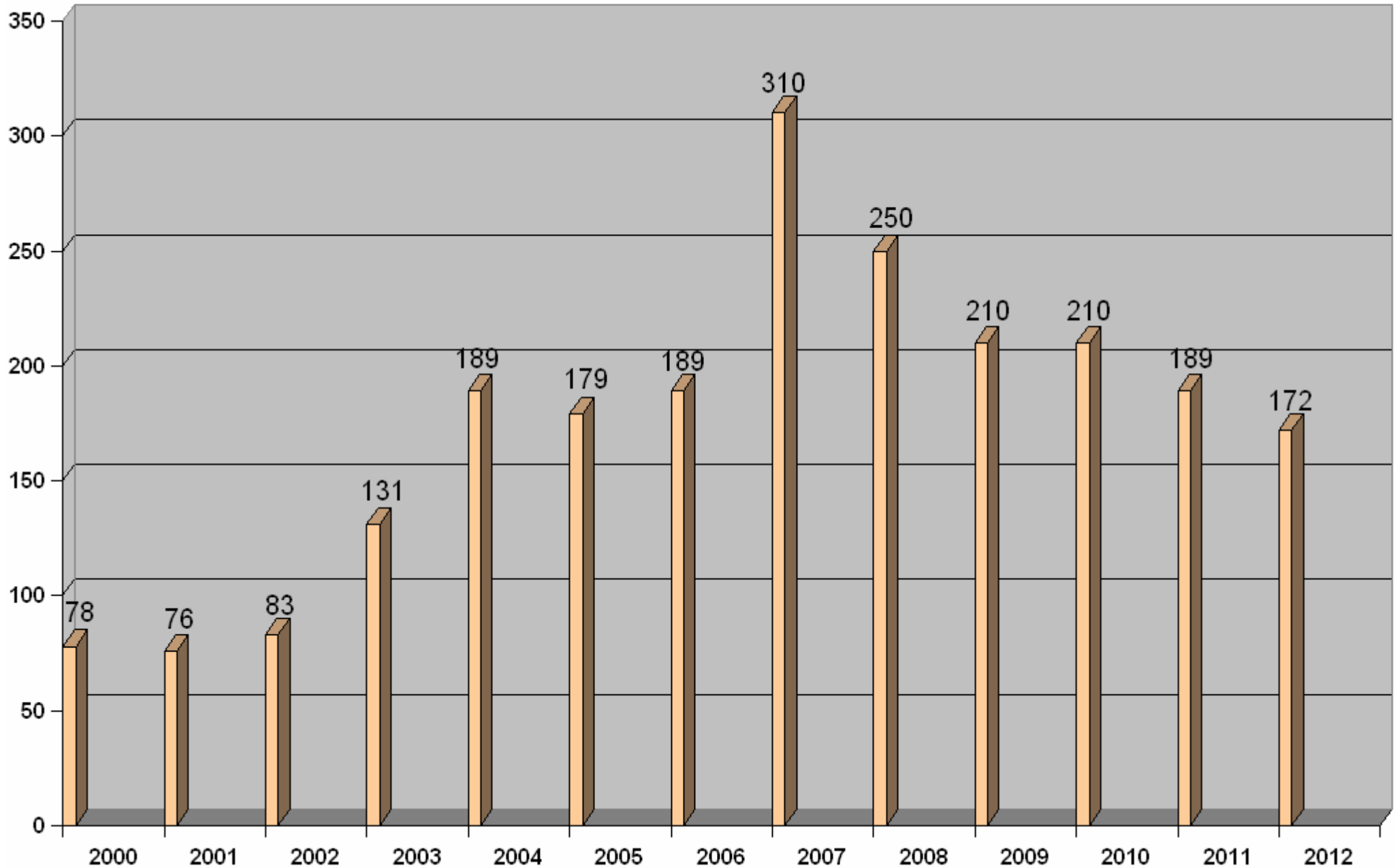
RATIO OF EXPORT



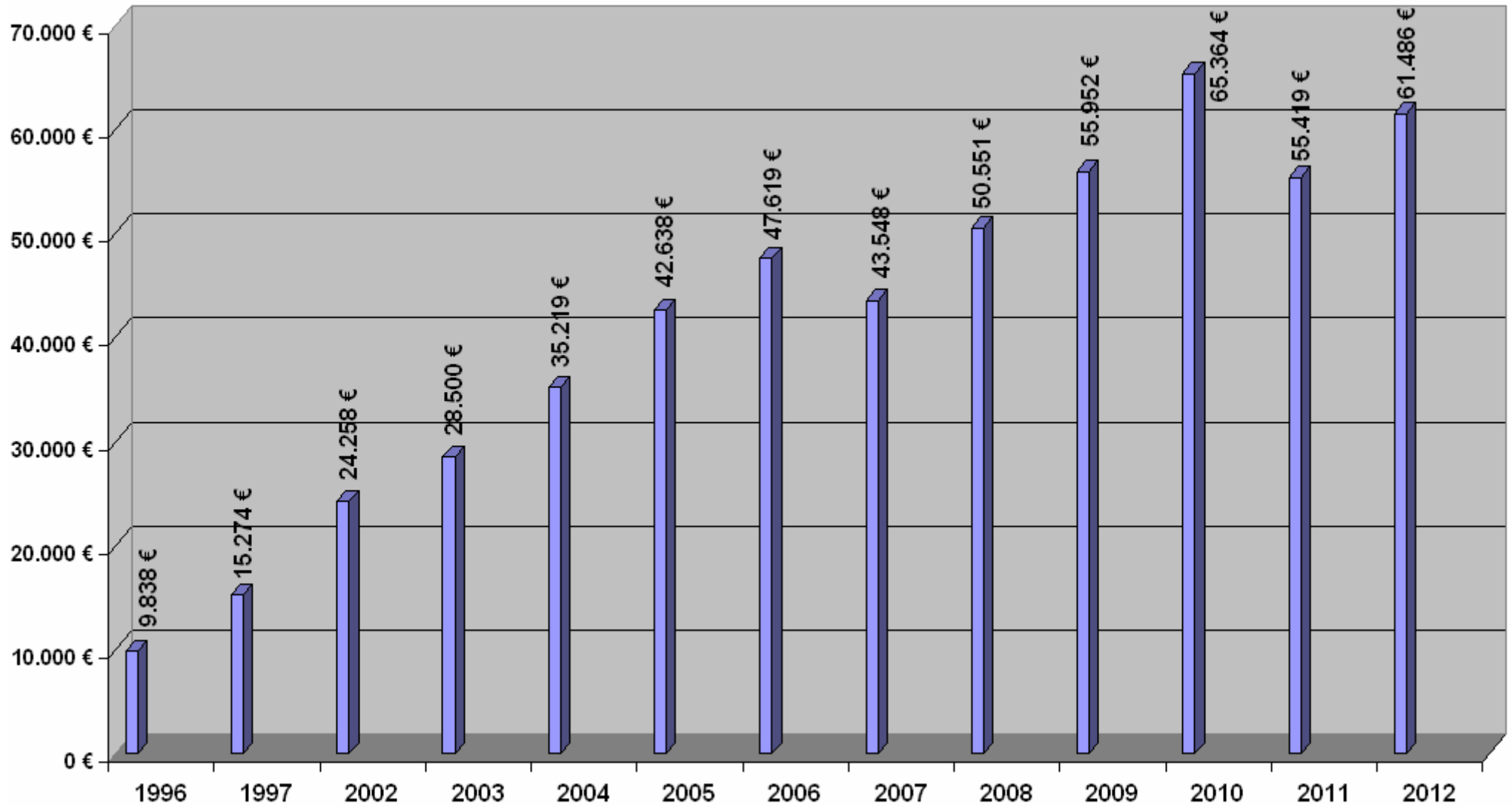
DISTRIBUTION OF SALES 2012 (Facility Based)



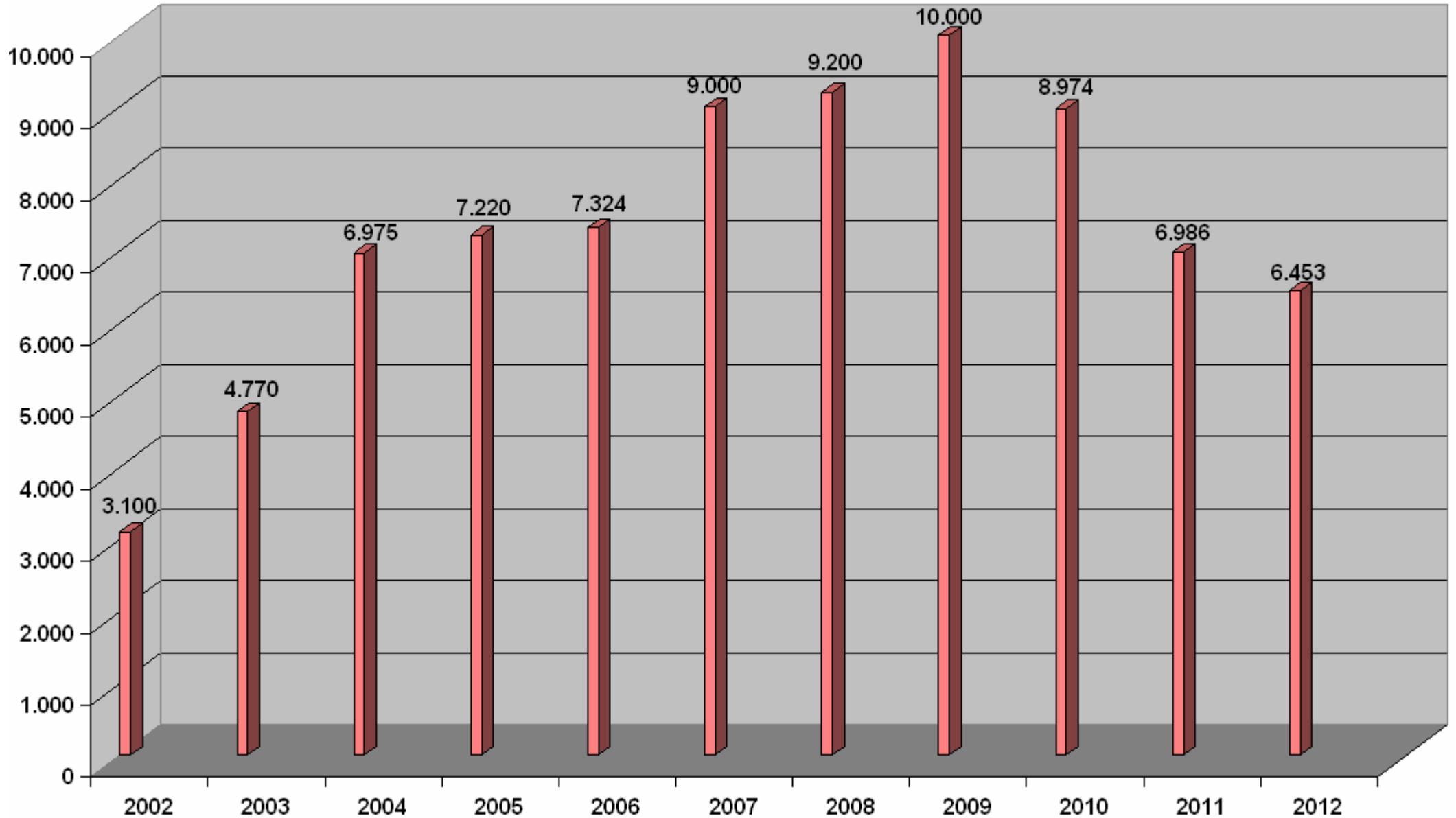
EMPLOYEES



TURNOVER PER EMPLOYEE (€)



STEEL USAGE (tons)





www.tunaoglu.com.tr