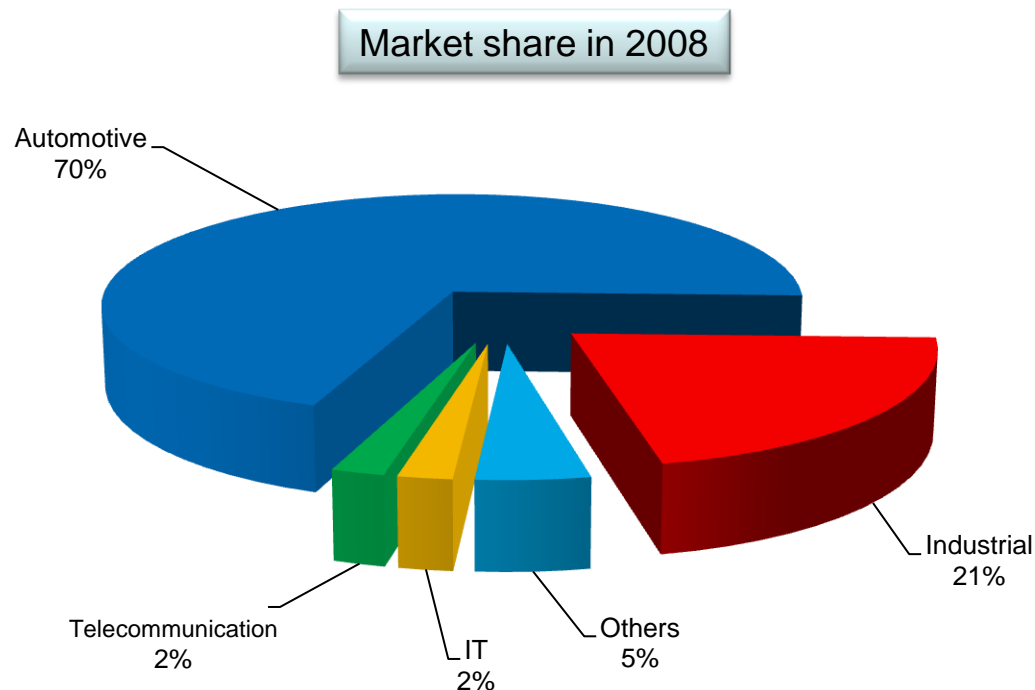


Sheet Metal processing

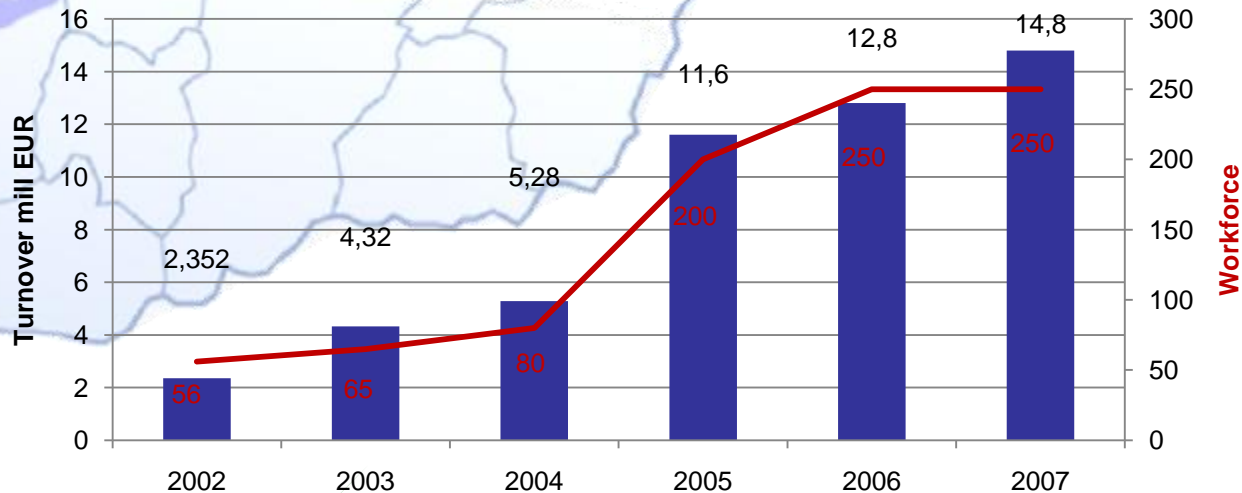
From single parts to complete products



- Total turnover: 40 million EUR (2008)
- Total number of employees: 517 (December 2008)
- Total consumed raw material: 16 000 tons (2008)
- 3 Videoton companies on 4 locations



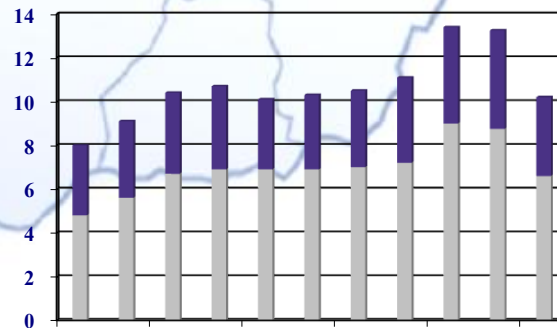
- **Location:** Nagyvenyim
- **Production area:** 14000m²
- **Revenue (2008):** 14,8 million Euro
- **Number of employees (2008):** 235
- **Location:** 4 buildings
- **Quality Certificates:** ISO / TS 16949
ISO 14001
ISO 9001:2000



- **Location:** Székesfehérvár
- **Production area:** 14 000 m²
- **Revenue (2008):** 10,2 million Euro
- **Number of employees (2008):** 200
- **Location:** 3 buildings
- **Quality Certificates:** ISO / TS 16949
ISO 14001
ISO 9001:2000

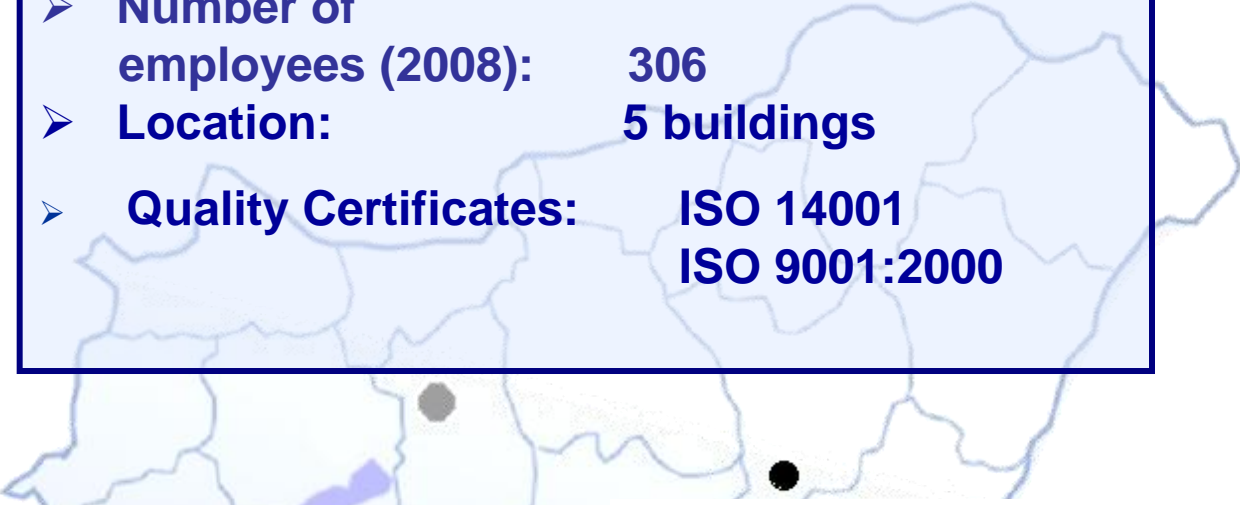


Turnover (in mill. EUR)



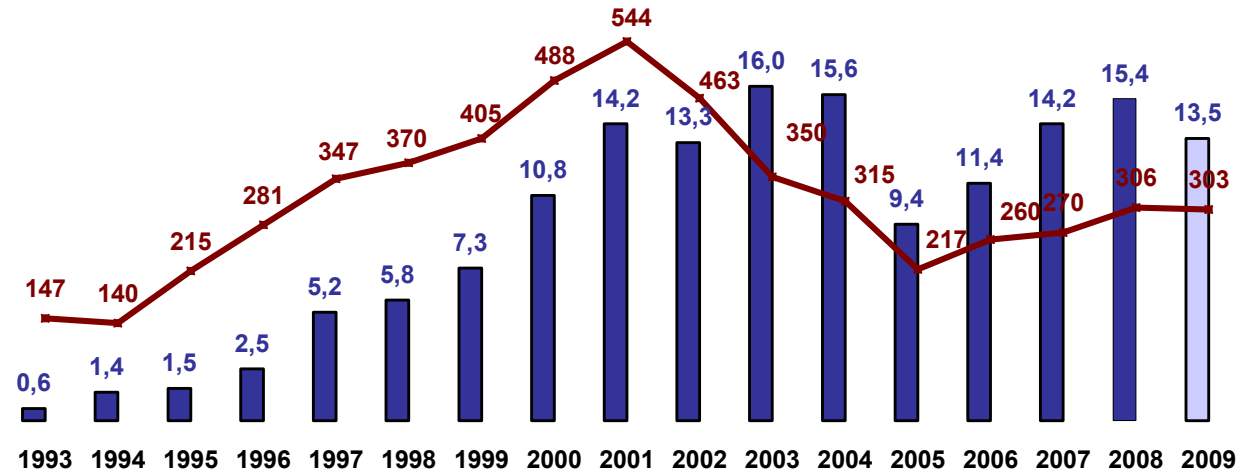
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 plan

- **Location:** Székesfehérvár
Törökszentmiklós
- **Production area:** 12 500 m²
- **Revenue (2008):** 15,4 million Euro
- **Number of employees (2008):** 306
- **Location:** 5 buildings
- **Quality Certificates:** ISO 14001
ISO 9001:2000



Sales in € millions

Number of employees



Core technologies

Stamping

Welding

Surface treatment

Quick presses
25-80 ton
43.000 work hours capacity

Hydraulical deep drawing Presses
25-500 ton
80.000 work hours capacity

Mechanical Excenter Presses
16-500 ton
180.000 work hours capacity

CNC Punching, Laser cutting
Laser Power 2,4-3 KW
Punching 30 ton
28.000 work hours capacity

CNC Bending
100-500 ton
28.000 work hours capacity

Spot welding
26 welding machines
1 welding robot
128.000 work hours capacity

Mig welding
5 manual welding machines
3 welding robots
38.000 work hours capacity

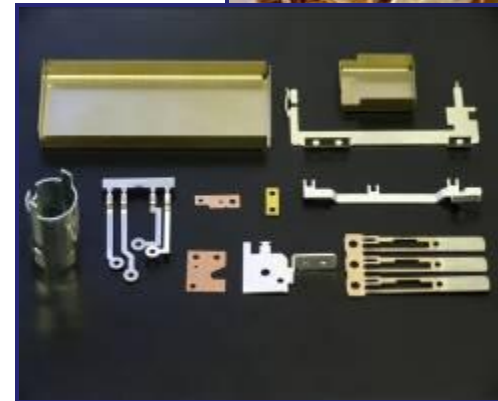
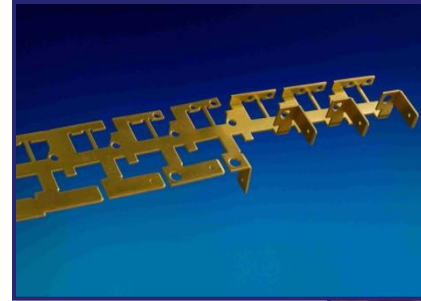
Powder Coating
250 000 m2 capacity



Electroplating
On rack 500.000 m2 capacity
In barrel 2000 tons capacity

KTL (outsourced)

Quick presses

- Production place: VT Metal Kft
Székesfehérvár, Hungary
- Used raw materials:
 - Steel,
 - Copper and its alloys,
 - pre- and selective plated materials (with silver, tin, gold)
- Max width: 130 mm
- Max sheet thickness: 2,0 mm
- Tolerance: 0,025 mm
- Typical annual volumes: 100 k – 10M pcs




Name of equipment		Pressing force	Stroke	Stroke length	Table dimension	Equipment
High speed presses		(KN)	1 / min	(mm)	(mm)	pc
	Schaal SEP63	630	500		710x700	2
	GERMAG HSA 40	400	500	40-120	670x560	1
	Raster 60 NL	600	90		700x500	1
	Haulick-Roos RVD 63	630	120		700x500	1
	Haulick-Roos MD 160 SL	800	90		700x500	1
	Schaal SEP80	800	70		700x500	1
	Haulick-Roos HPV42	420	100		400x400	2
	Haulick-Roos RVD32-540	320	110		600x500	1
	Haulick-Roos H320 MC	320	110		600x501	2
Excenter presses						
	EBU H40F	400	130	4-100	720x450	3
	EBU H80F	800	105	8-140	800x620	1
	EBU SK25	250			500x300	2
	Heilbronn EPV 20	200			400x300	2
Hydraulic presses						
	WEB	400		180	630x500	1

Hydraulic presses

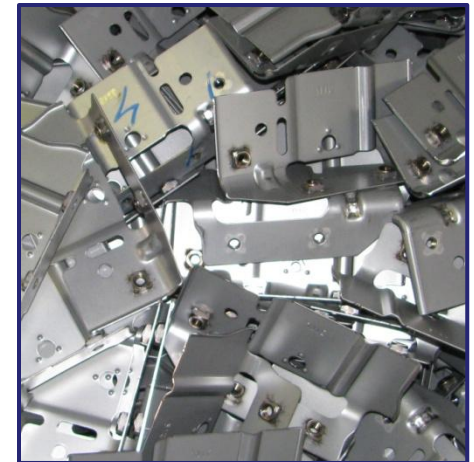
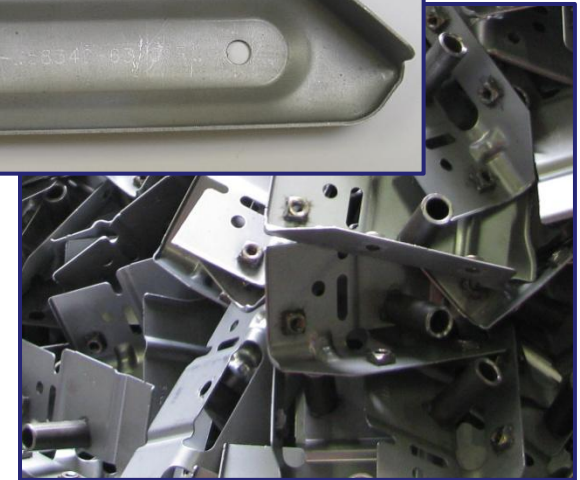
- Production place: KVJ Művek zRt
Nagyvenyim, Hungary
- Used raw materials: (Coils, and Sheets)
 - Uncoated Mild Steel (DC03, DC04)
 - Weldable HSLA Steels (H340 LA)
 - Continuously Hot Dipped Galvanized Mild Steel (DX53D+ZF)
- Max Coil width: 1540 mm
- Max sheet thickness:
 - Till 700 mm width 3,0 mm
 - From 700mm till 1540 mm width 1,5 mm
- Typical annual volumes: 20 k – 300 k pcs



Name of equipment	Pressing force	Table dimension	Ram dimension	Stroke length	Max. die Hight	Cusin Force	Equipment	
	(KN)	(mm)	(mm)	(mm)	(mm)	(KN)	pc	
	PYE 25	250	500x500	250x250	10-420	600	-	2
	PYE 63	630	630x500	450x360	10-550	800	-	1
	PYE 160	1600	900x630	750x450	10-550	800	100	1
	AGY 160	1600	1500x1200	1500x1200	10-700	550	500	1
	DIRINLER CDCH 160	1600	800x800	800x800	10-200	600	200	1
	PYE 250	2500	900x630	750x450	10-550	800	250	3
	AGY 250	2500	1500x1200	1500x1200	10-700	600	800	5
	AGY 315	3150	2200x1200	2200x1200	10-700	600	800	1
	AGY 500	5000	3000x2000	3000x2000	10-700	800	1200	3

Mechanical presses

- Production place:
 - KVJ Művek zRt
Nagyvenyim, Hungary
 - VT Informatika (TSZM)
Törökszentmiklós , Hungary
- Used raw materials: (Coils, and Sheets)
 - Uncoated Mild Steel (DC03, DC04)
 - Weldable HSLA Steels (H320 LA)
 - Continuously Hot Dipped Galvanized Mild Steel (DX53D+ZF)
- Max Coil width and max sheet thickness:
 - KVJ Művek :1540 mm ; 3 mm thickness
 - VT Informatika: 650 mm ; 4 mm thickness
- Typical annual volumes: 20 k – 500 k pcs



Name of equipment	Pressing force	Table dimension	Ram dimension	Stroke length	Max. Ram adjustment	Max. die Hight	Cusin Force	Max Coil width	Max Coil thickness	Equipment
	(KN)	(mm)	(mm)	(mm)	(mm)	(mm)	(KN)	(mm)	(mm)	pc

KVJ Művek zRt Site: Nagyvenyim



CIDAN	-	-	-	-	-	-	-	1540	max. 1,5	1
LEK 250	2500	1160x850	850x500	25-120	200	550	-	-	-	2
LEK 250	2500	1150x850	1150x850	25-120	200	500	-	-	-	1
SANGIACOMO T 250	2500	1600x900	1100x750	15-220	100	520	400	-	-	3
LEK 250 + MASTR	2500	1160x850	1150x850	15-220	100	550	-	700	0,6 - 3,0	1
LEK 160	1600	1000x740	1000x600	10-160	160	550	120	-	-	1
LEK 160	1600	980x710	710x430	10-160	160	480	-	-	-	1
DIRINLER CDCS 150	1500	1250x850	750x600	10-110	80	380	-	-	-	4
LEXN 100	1000	1000x640	560x360	10-125	180	400	-	-	-	2
LEXN 100	1000	900x630	560x360	10-125	100	310	-	-	-	1
LEXN 100 + SMERAL	1000	1000x640	560x360	10-125	100	420	-	250	0,6 - 3,0	1

VT Informatika Kft. Site:Törökszentmiklós




KLPH 500 H	5000	2400x1200	2400x1200	250	250	750	-	700	0,6-4,0	1
KLPH 400 H	4000	1500 x 1400	1440x1400	250	250	650	-	550	0,6-5,0	1
PEE II-250	2500	1250 × 800	-	100	-	450	-	-	-	1
LE 160 C	1600	990 × 700	-	100	-	250	-	-	-	1
LEK 160	1600	1000 × 740	-	100	-	355	-	-	-	11
LEK 160	1600	1000 × 740	-	100	-	355	-	400	0,6 - 2,0	2
DKS 100 A	1000	800 × 600	-	30 - 80	-	300	-	-	-	1
DKS 100 A	1000	800 × 600	-	30 - 80	-	300	-	200	0,3 - 2,0	1
LEN 63 C	630	800 × 600	-	20-50	-	300	-	-	-	2
DOBBY - 20 A	200	500 × 350	-	70-200	-	205	-	-	-	1

CNC Punching, laser cutting and bending

- Production place:
 - VT Informatika
Székesfehérvár, Hungary
Törökszentmiklós, Hungary
- Used raw materials: (Sheets)
 - Coated steel
 - Stainless steel
 - Aluminium
- Max table size and thickness:
 - Max table size: 3000 x 1500 mm
 - Punching till 4mm thickness
 - Laser cutting till 18 mm thickness
- Typical annual volumes: 0,5 k – 10 k pcs





Name of equipment	Max table Size	Max material thickness steel/stainless/aluminium				Max pressing force	Max Tool diameter	Max Stroke	Equipme nt
		(mm)	(mm)	(mm)	(mm)				
VT Informatika Site Székesfehérvár, laser cutting and punching machines									
	AMADA VIPROS 255	1210×1270	6,4	3,2	6,4	196	88,9	-	1
	AMADA VIPROS 255	1210×1270	3,2	3,2	3,2	196	88,9	-	1
	AMADA VIPROS 2510K	2500×1270	3,2	3,2	3,2	196	88,9	-	1
	AMADA VIPROS 358K	2000×1270	3,2	3,2	3,2	300	114,3	-	1
	AMADA EMZ 3610NT	2500×1525	3,2	3,2	3,2	300	114,3	-	1
	TRUMPF TRUMATIC 600L	2585×1280	8,0	4,0	3,0	2kW	-	-	1
	TRUMPF TRUMATIC 260R	2500×1250	6,4	3,2	6,4	250	76	-	1
	AMADA EM 2510NT	2500×1270	3,2	3,2	3,2	196	114,3	-	1
	BYSTRONIC Bysprint 3015	3048x1524	20	12	8	3kW	-	-	1
VT Informatika Site Törökszentmiklós, punching machines									
	AMADA EMZ 3610NT	2500×1525	3,2	3,2	3,2	300	114,3	-	2
VT Informatika Site Székesfehérvár, bending machines									
	AMADA ITPS 50-12	1270				500	-	100	1
	AMADA HFBO 80-25	2570				800	-	350	1
	AMADA HFE 50-20	2090				500	-	350	2
	AMADA HFP 100-3	3110				1000	-	350	1
	AMADA HDS 1030 NT	3110				980	-	200	1
	HÄMMERLE BM 100-2100	3100				1000	-	265	1
	BYSTRONIC Beyeler Xpert 150	3100				1500	-	215	1
VT Informatika Site Törökszentmiklós, bending machines									
	AMADA HFP 100-3	3110				1000	-	350	2
VT Informatika Site Székesfehérvár, cutting machines									
	DURMA VS 3006	3080	6						1

Welding

- Production places:
 - KVJ Művek zRt
Nagyvenyim, Hungary
 - VT Informatika
Székesfehérvár, Hungary
Törökszentmiklós, Hungary
- Used raw materials: (Sheets)
 - Coated steel
 - Stainless steel
- Used Methods:
 - Mig/Mag welding
 - Tig welding
 - Spot welding
 - Stud welding



Name of equipment	Max material thickness steel/stainless/aluminium	Max. Power	Max power	Equipment	
	(mm)	(kVA)	(kA)	pc	
KVJ Művek zRt Arc Welding					
	Motoman CO2 gas-shielded arc welding robot			3	
	CMD 350			4	
	MM 350			5	
KVJ Művek zRt Spot Welding					
	Fanuc Spot welding robot			1	
	PW XYC CC spot welding robot			1	
	Yajima Method Nut Feeder			1	
	Rehm PF151 CC	5	50	6	9
	Rehm PF151	5	50	6	8
	Rehm PF161	6	60	6,8	2
	Nadesco				2
	Tecna PN25		65	21	3
	Tecna LHN		65	21	1
VT Informatika (Székesfehérvár) Arc Welding					
	KEMPOMAT 320 CO ₂ gas-shielded arc welding machine			320A	1
	KEMPPPI ProMig 3200			320A	1
	KEMPPPI ProMig 530/Pro4200 Evolution			420A	1
	EUROTIG-25				1
	Kempomat 2500				1
	ADW-250 Argon gas-shielded arc welding machine			250A	1
	ADW-250 Argon gas-shielded arc welding machine			250A	1
VT Informatika (Székesfehérvár) Spot Welding					
	PN-35.KVF Spot-welding machine				1
	TECNA 8212. TE 500 Spot-welding machine		480	190	1

Powder coating

Automatic paint-spraying and also manual powder spraying possibility

- Production area: 1 100 m²
- Max powder coating capacity: 200-250 k m²/year
- Max dimension of part:
 - 600x1500x2500 mm or 100x1500x3000mm
- Length of conveyor track: 166,8 m
- Speed of conveyor track: 0,6 m/min – 1,6 m/min
- Curing on 160 – 220 C°

We can provide corrosion resistance for 750 hours against salt spray, grid-cutting test, environmental test, thickness measurement for steel and non-magnetizable materials.



Electroplating

- Zinc plating on steel parts
 - 5 rack plating lines and 2 barrel plating lines
 - Max. measurements: 0.5 m x 2.6 m x 0,9 m
 - Annual volumes: up to 500k m² or 2 000 tonns
 - Passivation without chromium (VI): Blue, Yellow,Black
- Electroless nickel plating
 - Used on materials: steel and copper
 - Max. measurements: 0,55 m x m 0,35 x 0,75 m or 60 kg
 - Annual volumes: up to 30 000 m²
- Silver-, bright nickel-, tin-, matt tin-, copper electroplating
 - Used on materials: copper / copper alloys and steel
 - Barrel and rack plating
 - Annual volumes: up to 48 000 m²
- Chromate conversion coating on aluminium
 - Max. measurements: 0,8 m x 0,35 m x 0,9 m



➤ Certifications

➤ VT Metal

- ISO TS 16949:2002 (since 2003)
- ISO 14001:1996 (since 2003)
- ISO 9001:2000 (since 2003)

➤ KVJ Művek

- ISO 14001:2004 (since 2005)
- ISO/TS 16949:2002 (since 2004)
- ISO 9001:2000 (since 2002)
- ISO 9002:1994 (since 1996)

➤ VT Informatika (Székesfehérvár)

- ISO 9001:2000
- ISO 14001:2004

➤ VT Informatika (Törökszentmiklós)

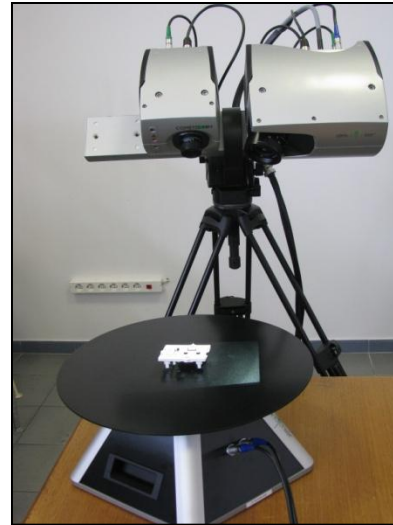
➤ Measuring machines

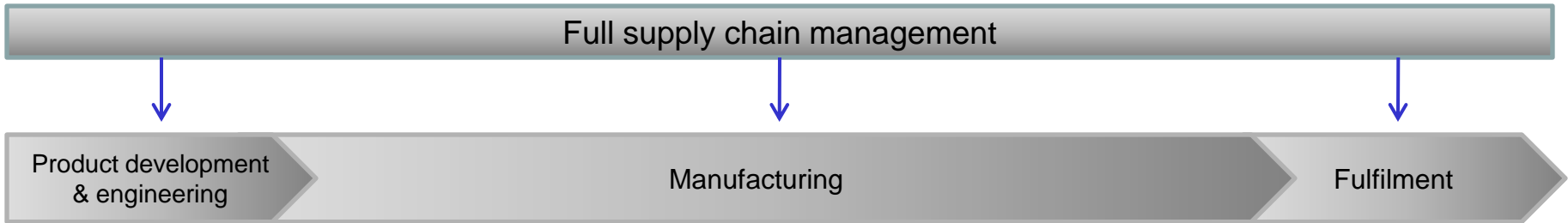
- CNC 3D measuring machine is available on all sites



Inhouse Tooling

- VT Preciziós Kft
Székesfehérvár, Hungary
 - Number of Employees: 53
 - Turnover: 3 mill. EUR
- Equipment:
 - 3D Machining centers
 - High speed milling machines
 - EDMs
 - Wire cut EDMs
 - Diameter grinding machines
 - Optical scanner
 - 3D measuring machines





Engineering

This block illustrates the engineering phase, featuring a PCB layout, a stress simulation image with a color scale, a photograph of a mechanical assembly line, and a 3D CAD model of a mechanical part.

SMT

Image showing the Surface Mount Technology (SMT) manufacturing process.

Tooling

Image showing the tooling manufacturing process.

Tooling

Image showing the tooling manufacturing process.

Machining

Image showing the machining process.

Through-hole insertion

Image showing the through-hole insertion manufacturing process.

PIM

Image showing the PIM (Precision Injection Molding) manufacturing process.

Stamping & Enclosure

Image showing the stamping and enclosure manufacturing process.

Turning

Image showing the turning manufacturing process.

PCBA Testing

Image showing the PCBA testing process.

Painting, Printing

Image showing the painting and printing manufacturing process.

Surface treatment

Image showing the surface treatment manufacturing process.

Electro-Plating

Image showing the electro-plating manufacturing process.

Final assembly & Testing

This block illustrates the final assembly and testing phase, featuring four photographs of workers in a factory setting performing various tasks.

Transport & Distribution

This block illustrates the transport and distribution phase, featuring four images: a red truck, a warehouse with stacked goods, a red truck in a parking lot, and a white bus.

Thank you for your kind attention!

 VIDEOTON Holding ZRt.

Löbmann Gábor
Project Manager
Tel: +36 20 937 6255
Fax: + 36 22 533 409
E-mail: lobmann.gabor@videoton.hu