

Stropkov, Slovakia





Stropkov





Basic information



- Address: Hviezdoslavova 37/46, 091 12 Stropkov, Slovakia
- Website: www.tesla.sk
- Email: sales@tesla.sk
- GPS:Latitude49° 12' 9.43"N49.20261910Longitude21° 39' 6.57"E21.65182450

Number of employees:	650	Company area:	127.575 m2
- production:	375	- buildings:	30.552 m2
 tooling shop: 	60	- manufacture:	17.581 m2
- R&D:	15	- logistic:	7.155 m2
- quality:	20		

From the history



1960	 establishment of TESLA STROPKOV
	(as a plant of concern TESLA Investment Electronics)

- change to joint-stock company
- 1994 privatisation of TESLA (100% shares owned by Top management of TESLA)
- certification of Quality Control System ISO 9001
- certification of Quality Control System ISO/TS 16949
- certification of Quality Control System ISO 14001
- certification of Quality Control System IATF 16949

Certificates



TUV





F-Q-020/2/1

TUV **A**

CERTIFICATE

The Certification Body of TÜV SÜD Management Service GmbH certifies that

TESLA STROPKOV, a.s. Hviezdoslavova 37/46 091 12 Stropkov Slovak Republic

has established and applies a Quality Management System for

Development and production of plastic and metal components piezoceramic products for the automotive industry (with Product Design as per Chapter 8.3).

An audit was performed and has furnished proof that the requirements according to

> IATF 16949 First Edition 2016-10-01

are fulfilled. Issue date: 2018-07-24 Expiry date: 2021-07-23 Certificate Registration No.: 12 111 43923 TMS IATF Certificate No.: 0318305

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CERTIFICAT **CERTIFICADO** 80

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СЕРТИФИКАТ

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TUV



CERTIFICATE

TÜV SÜD Slovakia s.r.o. **Certification Body for Management Systems** Accredited by SNAS Certificate on accreditation No. R-006

certifies that

() TESLA -

TESLA STROPKOV, akciová spoločnosť Hviezdoslavova 37/46 SK - 091 12 Stropkov IČO: 00 474 339

> has established and applies an Environmental Management System for

Development, production and assembly of electrical devices, electronics, plastic, metal and piezoceramic products.

An audit was performed, Report No. 0961/20/19/E/AS/R3 Proof has been furnished that the requirements according to

EN ISO 14001:2015

are fulfilled. The certificate is valid from 2019-02-28 until 2022-02-27 Certificate Registration No. E 0961-3



Audio and video intercom systems, home phones





Audio and video intercom systems, home phones





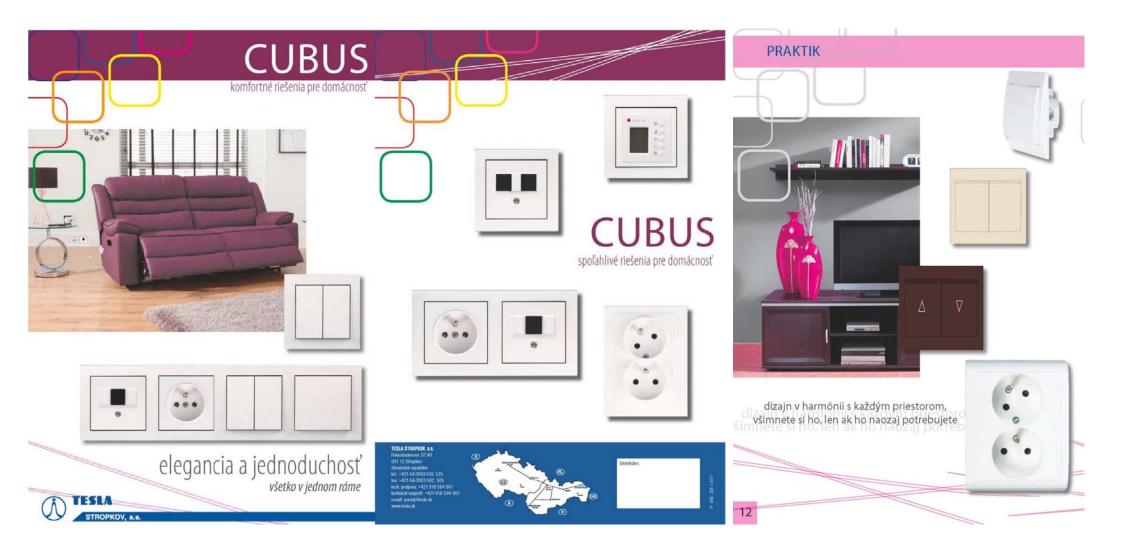
Special telephones, heavy industry application





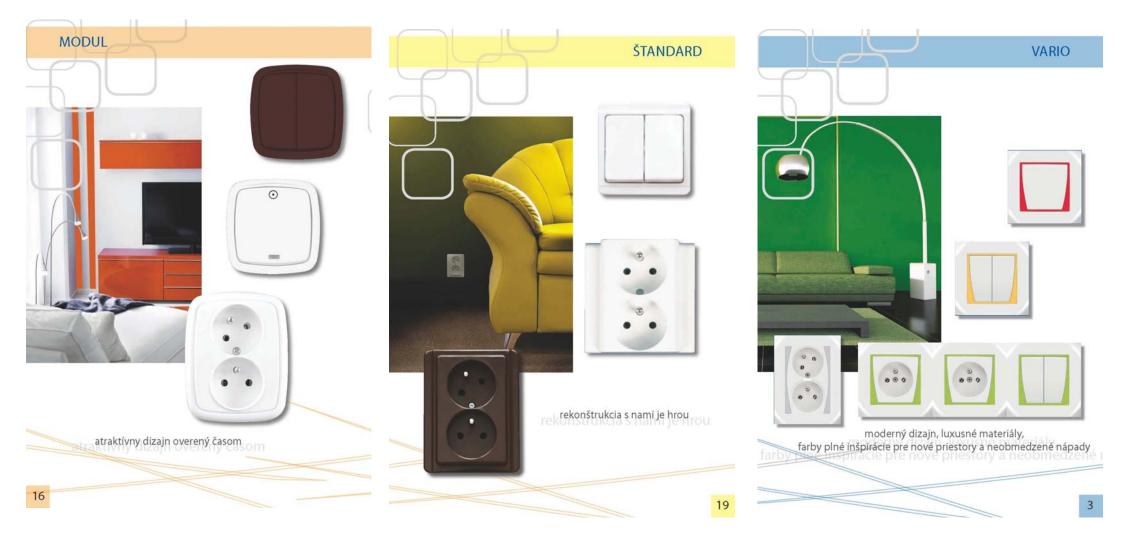
TESLA

Switches, sockets



Switches, sockets





Door locks, hinges











Automotive, interieur

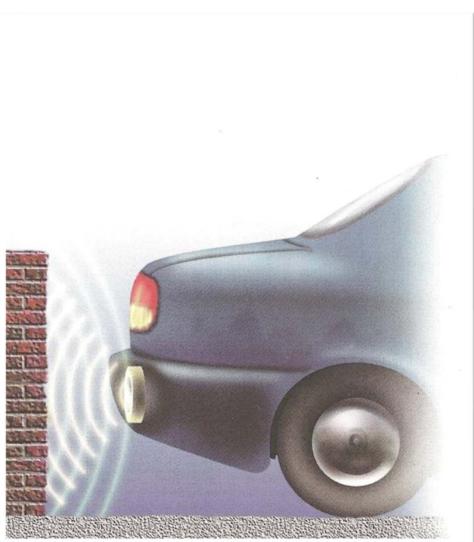




Automotive (piezoceramic discs)



- application: parking assistance (sensors)



ES

Technology, plastics

- injection machines with clamping force from 20 to 800 tons
- Engel (hydraulic), Mitsubishi (electric)
- Hurmak (Hot Melt low pressure injection)







Plastics	Brand	Clamping force	Number
Injection machines	HURMAK ENGEL	20 28	1 (vertical)
(< 200 T)	ENGEL	50	4
	MITSUBISHI	50	2
	ENGEL	60	1 (vertical)
	ENGEL	80	11
	ENGEL	90	4
	ENGEL	110	11
	ENGEL	120	6
	ENGEL	130	1
	ENGEL	140	1
	ENGEL	150	2
TESLA	MITSUBISHI	180	1

Plastics



Injection machines	Brand	Clamping force
(≥ 200 T)	ENGEL	200
	ENGEL	260
	MITSUBISHI	350
	ENGEL	400
	MITSUBISHI	450
	ENGEL	600
	ENGEL	750

ENGEL

Number

Technology, painting of the plastics



Three independent workstations for applying of three different surface coatings: primer paint, colour paint and transparent top paint.

Each workstation consists of an independent booth with a manual spray gun, an outflow booth for pre-drying and an independent drying oven.

The air-conditioned areas for painting are designed as independent units for the preparation of the parts and their painting.





Technology, metals



- stamping, bending, punching, drawing of materials with thickness 0,1 mm to 4 mm on machines with clamping force from 6,3 to 160 tons
 stamping machine EUROMAC MTX 1250/30 CNC 2000
- turning (diameter 2mm to 20 mm) on automatic lathes
- electroplating (zinc, nickel, tin)
- powder coating
- tampo print
- screen print



Metals



Stamping machines

Brand	Clamping force	Shifts per min.	Number
PASU 40	40	500	1
PASU 63	63	360	1
PASU 16	16	630	1
LENR 6,3	6,3	160	2
LEN 10C	10	160	5
LEN 25C	25	155	8
LENP 25	25	60	5
LENR 25	25	60	2
LENR 40A	40	60	3
LEN 40C	40	140	8

Metals



Stamping machines

Brand	Clamping force	Shifts per min.	Number
LEN 63C	63	130	3
LENP 63	63	45	3
LEU 100A	100	125	1
LEXN 100C	100	150	2
ALO 25	25	110	5
TALO 30	30	100	1
TALO 20	20	120	2
LEK 160	160	50	1
EUROMAC MTX 1250/30	30	_	1

Technology, assembly





Technology, piezoceramic

TESLA

- 1989: license from Japanese company **muRata**



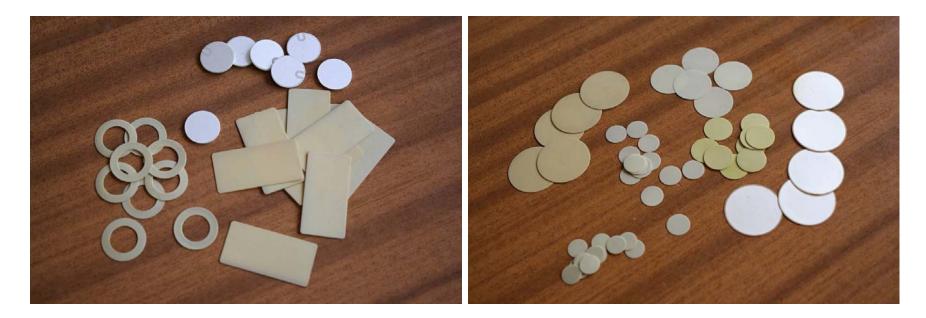
- piezoceramic converters and ringers as substitution for telephone inserts and electromechanical buzzers



Technology, piezoceramic



- development and production of piezoceramic discs, quadrate plates, membranes with various diameters, piezoceramic converters and ringers
- mass production of thin piezoceramic elements with various electrode configuration (according to customer request)



Technology, piezoceramic

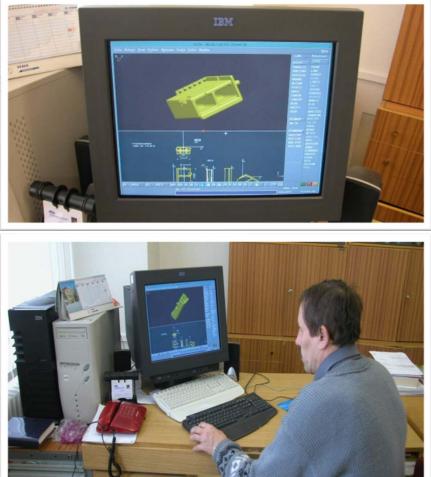




R&D department

TESLA

- design & development of mechanical parts and products
- design & development of electric and electronic products
- production of samples and prototypes
- testing in internal laboratory
- CATIA & CREO



Tooling shop

Design and production of:

- injection moulds
- stamping tools
- assembly lines & gauges
- testing lines & fixtures
- maintenance & repair
- tool modifications
- 3D measurement









Tooling shop

- maximum size of injection mould: 900 x 700 x 500 mm

CNC:

AGIE TRON 100c AGIE MONDOSTAR 20, 50 EXERON 312, 313 MF **ROBOFORM 30** CHARMILEZ **EDM punching:** EMD SD1 <u>Wire cutting:</u> AGIE CUT Classic, EIR 005 (3x) FANUC **Turning**:

RC 80 TOS, TOS TT SV18RA (5x)







Tooling shop

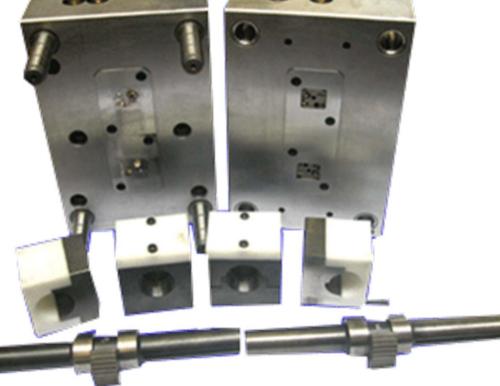
Milling:

Tool centre HURON KX 8 SP (with HAIDENHAIN 530) Tool centre LAGUN LEAN Graphite milling machine AZK <u>Grinding:</u>

MIKROMAT 6S PS BPH 20 NA (8x) PS BPH 40 B PS BPH 320 (3x) TOS UD

Welding:

ALM 200 digital (laser) MICROTEC MT 1500S (cold welding) <u>Mould polishing</u>: by grinding stone or polishing paste





Assembly & testing lines





Customers (automotive)





Customers (non automotive)





RYS CON Unmima







- IATF 16949, ISO 9001, ISO 14001 certification
- many years of experience with design and production of various plastic and metal parts, as well as electric and electronic products
- internal R&D department
- internal tooling shop
- all activities on-site "under one roof": marketing, R&D, tooling, production, logistics, sales and after-sales service