### CFS Hungária Ltd.

#### CFS Hungária Műanyag- és Szerszámgyártó Kft.

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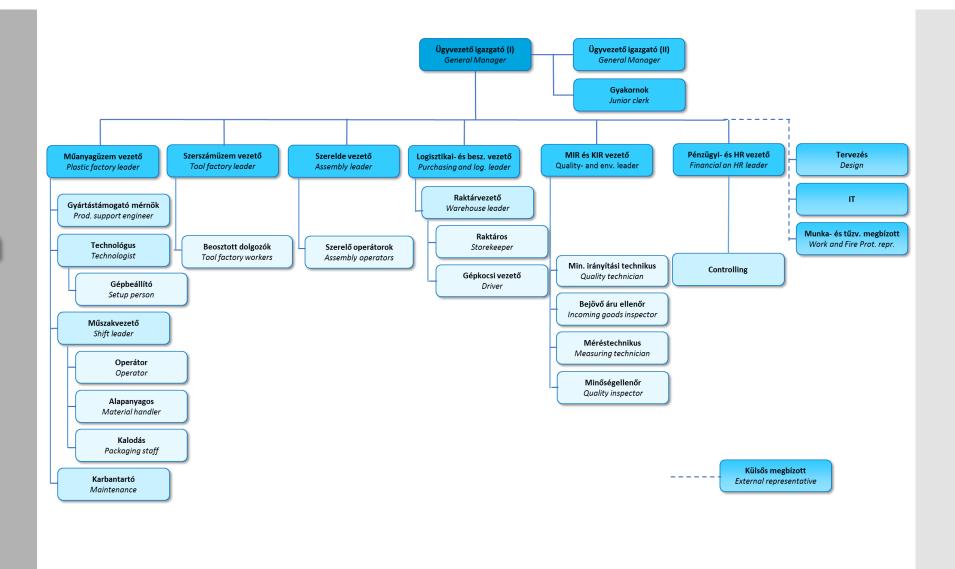


- The company was established on 24.10.2001.
- An independent Hungarian family company.
- Current joint capital is 50.000.000,- HUF.
- Number of employees: ~55 people
- Activities:
  - Small and large series production of injection moulded parts
  - Assembling
  - Production of injection molds





#### Organization





## Injection molding Machines

No.	Types of injection molding machines	Clamping force (t)	Robot
1	ENGEL ES 200/60 V-Tech CC100	60	ER
2	ENGEL ES 200/60 V-Tech CC100	60	ER
3	ENGEL ES 330/80 V-Tech CC100	80	ER
4	ENGEL ES 1050/150 V-Tech CC100	150	Hli
5	FANUC 150 (180) 2K	150	
6	ENGEL ES 1350/220 V-Tech CC100	220	Hli
7	FANUC 220 IMD	220	F M10
8	FANUC 220	220	W821
9	FANUC 220	220	W818
10	FANUC 220	220	W821
11	DEMAG 250/630-1450 Concept	250	W721
12	FANUC 250 (300)	300	F M20
13	DEMAG 350/710-840 Concept	350	W620
14	FANUC 300 (350)	350	W833
15	DEMAG 420/2300 System	420	DR633
16	DEMAG 500/810-5200 Concept	500	W633
17	Purchasing in progress		





## Injection molding Products

- Automotive connectors
- Household equipment parts
- Lighting technical components
- Elements of leisure equipment
- Motorcycle parts









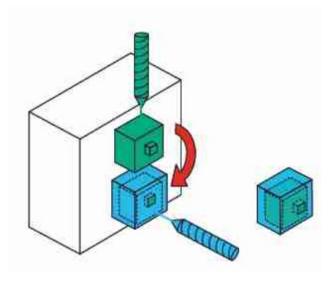


# Special injection molding processes 2K

#### 2K moulding

(Fanuc 150 (180) 2K)

- Co-injection moulding is a process where two or more different materials are used during the injection so as to achieve more than one colour or mechanical properties (e.g. hardness) within one component.
- The pre-moulded parts are transferred to the second stationvia a horizontal rotary movement where the second component is injected.







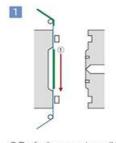
# Special injection molding processes

#### **IMD (In-Mould Decoration)**

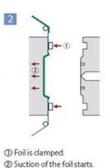
(Fanuc 220)

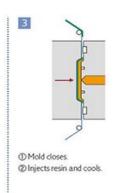
- In-Mold Decorating (IMD) is a versatile way to manufacture and decorate plastic parts. IMD printing allows you to permanently embed an image within the surface of a molded part. The finished effect can be quite dramatic and eye-catching while providing durability. This process is used extensively in automotive dashboards and appliance decorating.
- In the In-Mold Decorating (IMD) or In-Mold Labeling (IML) process, a
  preprinted label or decorated film is inserted in the open plastic
  injection mold and held in place via vacuum, electrostatic charge or
  physical holding method. The plastic injection mold is then closed and
  the plastic resin injected to mold the part, encapsulating the decoration
  or label permanently within the finished injection molded part.

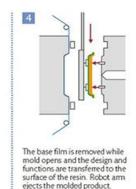


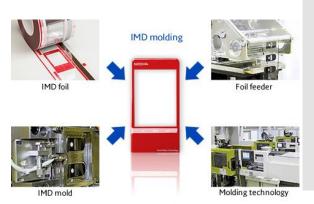


① The feeding sensor detects IMD foil supply and location, while adjusting the foil to a designated position.











## Tool production Machines

No.	Type os machines	Function
1	DECKEL-MAHO DMU 80-T TNC 430	CNC milling machine
2	DECKEL-MAHO DMU 80-T iTNC 530	CNC milling machine
3	GILDEMEISTER CTX 310 V3	CNC turning-machine
4	INGERSOLL GANTRY 500	CNC block EDM
5	FANUC ROBOCUT α 0iC	CNC wire EDM
6	FANUC ROBOCUT α 0iC2	CNC wire EDM
7	G+H FS 635 SA	Flat-surface gringding machine

Largest working size: 880 x 630 x 630 mm (shape machining)







## Tool production Products

- Injection molding machine
- Small and large series production of metal parts
- Precision parts
- Spare parts





### Other activities Assembly

- Assembly of self-made and purchased parts with manual force and automated cell and CFS-developed automated cell.
- Performing functional tests on assembly or test equipments.
- Sticking of information labels and gaskets.













Ultrasonic welding





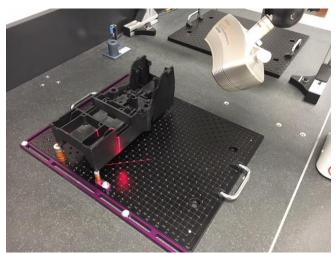
#### Other activities

Operating of measuring laboratory - equipped with mitutoyo machines

#### Measuring lab activities:

- Inner and outer contour measurements with 3D meas. equip.,
- · Inner and outer dim. measurements with optical meas. equip.,
- Measurement of prod. first and last samples,
- Inprocess measurements,
- Full layout (PPAP),
- · SPC,
- R&R,
- CP<sub>k</sub>
- Laser scanning and -modelling,
- Angle measurement,
- Weight measurement,
- Functional tests,
- Maintenance and calibration of meas. equip.







#### Other activities

Operating of measuring laboratory - equipped with mitutoyo machines

Logistic

#### **Measuring equipments:**

- Optical and tactile measuring machine, 300 x 200 x 200 mm / 0,001
- Profile projector, 200 x 100/0,005 mm / 0,001
- Coordinate measuring machine with laser scanner,
   700 x 1000 x 600 mm / 0,76µm
- Other hand gauge, jigs





#### Logistic:

Transportation by own car (2 trucks, etc.) → JIT





#### **Plans**

#### 2019:

- Purchasing of a 5-axis CNC milling machine (HSC milling)
- Purchasing of further FANUC electrical injection molding machine
- Operation of IATF 16949:2016 standard elements
- Introduction of full BriCS ERP system instead of SAP
- The MuCell® microcellular foam injection molding process for thermoplastics materials provides unique design flexibility and cost savings opportunities not found in conventional injection molding. The MuCell® process allows for plastic part design with material wall thickness optimized for functionality and not for the injection molding process. The combination of density reduction and design for functionality often results in material and weight savings of more than 20%. By replacing the pack & hold phase with cell growth, lower stress parts Are produced which have enhanced dimensional stability and substantially reduce warpage. Cells and the control of the injection molding process.

growth also results in the elimination of sink marks.

#### 2020:

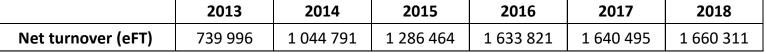
- Obtain certificate of IATF 16949:2016
- SLS 3D Plastic Printing (Small and medium series)

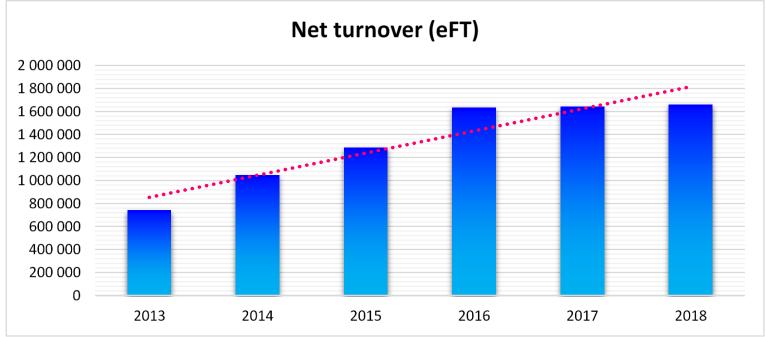
The management of the company provides the necessary resources for technical and technological development. Furthermore they are committed to protecting the environment and they seek to continuously improve the company's environmental performance.

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#### **Prides**

- 2013. the "MOST INNOVATIVE SUPPLIER" award from Brunswick Hungary Ltd.
- 2014. the "SUPPLIER OF THE YEAR 2014 in plastic parts category" award from ELECTROLUX LEHEL Ltd.
- 2017. ISO 9001:2015 and ISO 14001:2015 certificate
- 2018. the "SUPPLIER OF THE YEAR 2017 in plastic parts category" award from ELECTROLUX LEHEL Ltd.





















#### **Partners**

















## Thank you for your kind attention!



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