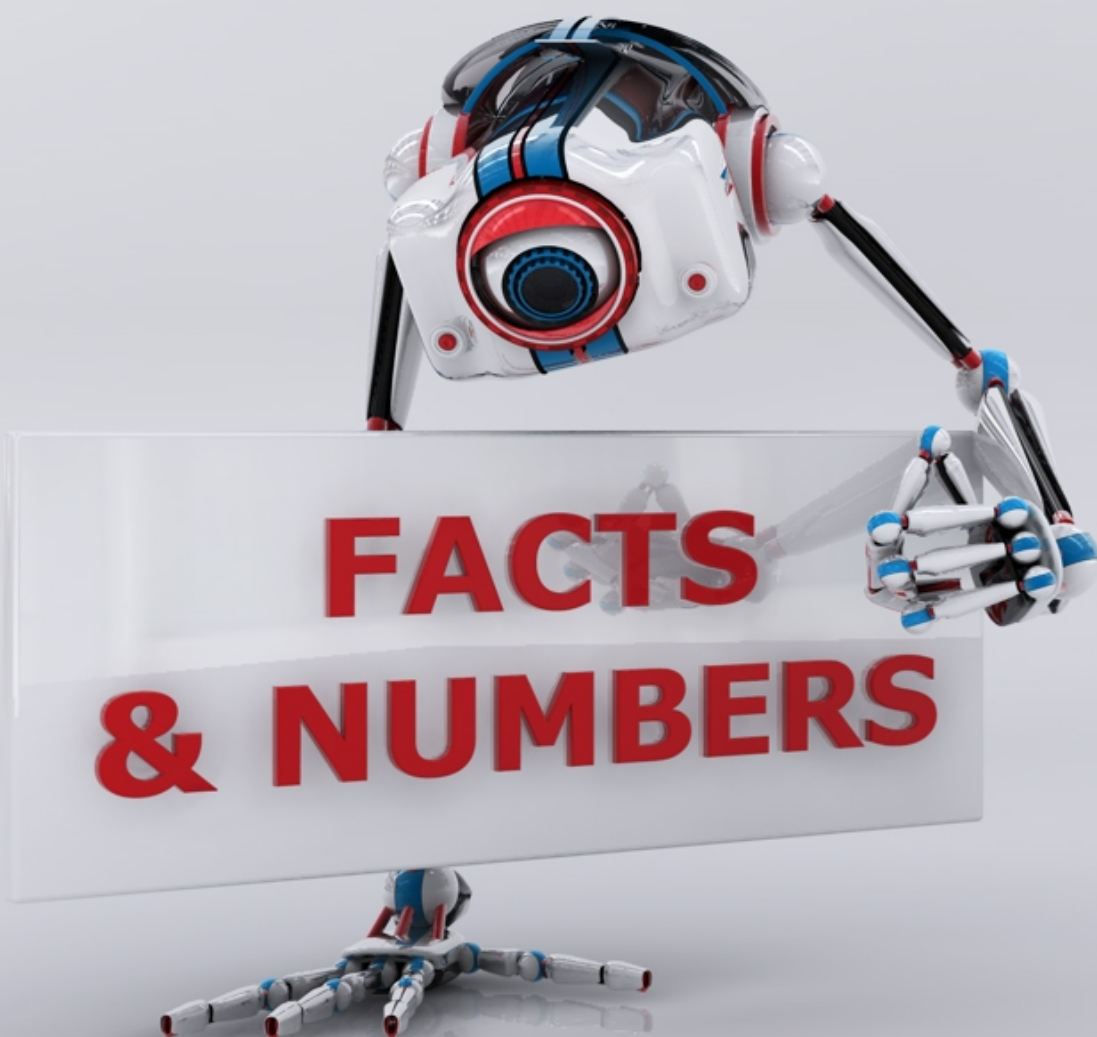




PLASTIC PROCESSING



- Founded in 1990
- Privately owned family business with 100% own assets
- Main areas of business
 - Production of plastic components for several branches:
 - ELECTRICAL ENGINEERING INDUSTRY
 - AUTOMOTIVE
 - HOME APPLIANCES
 - ELECTRONIC (EMS)
 - INTERIOR DECORATION
 - OTHER (hydraulic engineering, construction, medical equipment, retail)
 - Complex realization of injection moulds, including refurbishment and spare parts production
 - Assembly and stamping services of produced parts

● Employment:

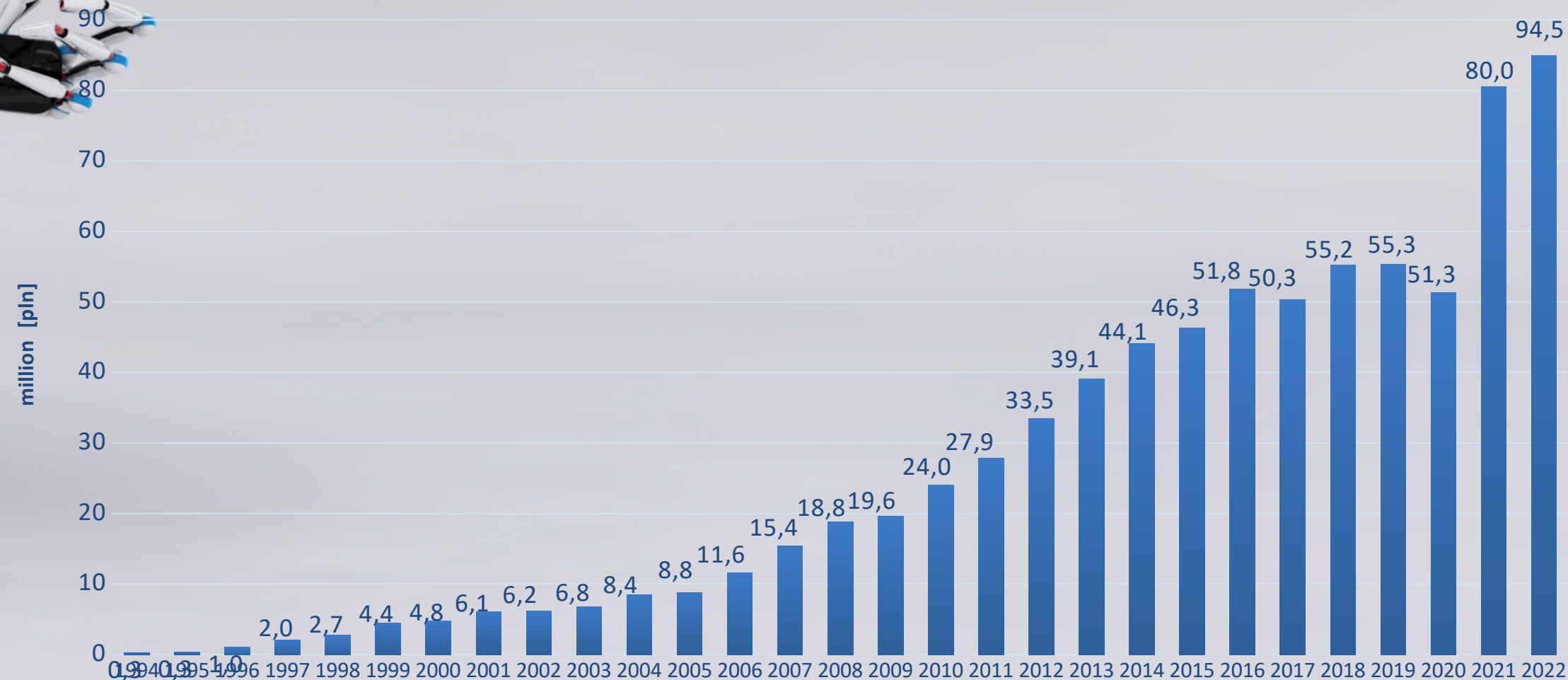
- 172 Improdex workers
- 50 – 60 temporary workers
- 61 co-workers dealing with packaging and labeling

● Over 50 clients, mainly in Europe

● Turnover:

2020 - 5 months of COVID slow-down
2021 - over 80 mln PLN (€~17 mln)
2022- 94,5 mln PLN (€~20 mln)

IMPRODEX Turnnover over the years [MILLION PLN]



**FACTS
& NUMBERS**

CLIENTS

AUTOMOTIVE

2022



ELECTRO-ENGINEERING



HOME APPLIANCE



INTERIOR DECORATION

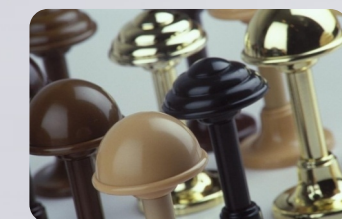
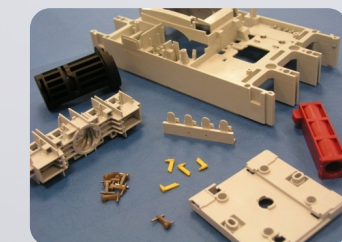
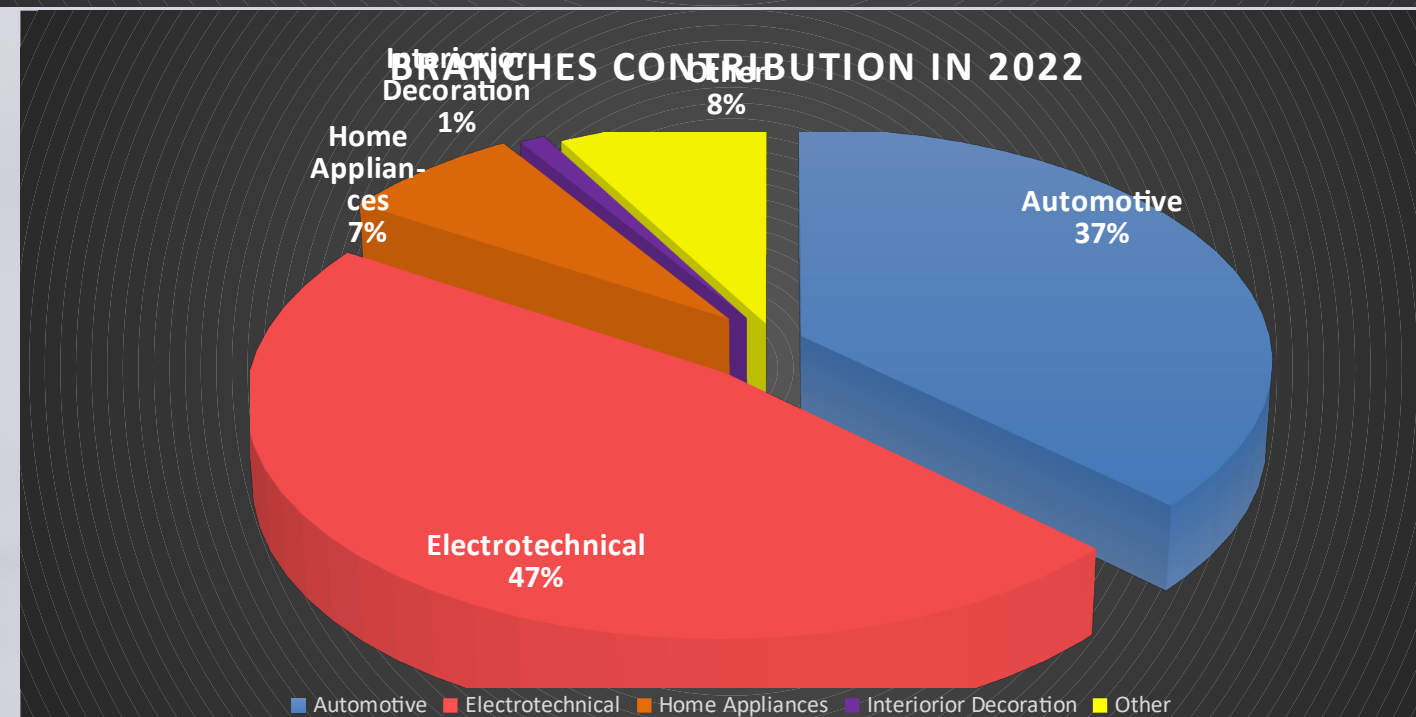
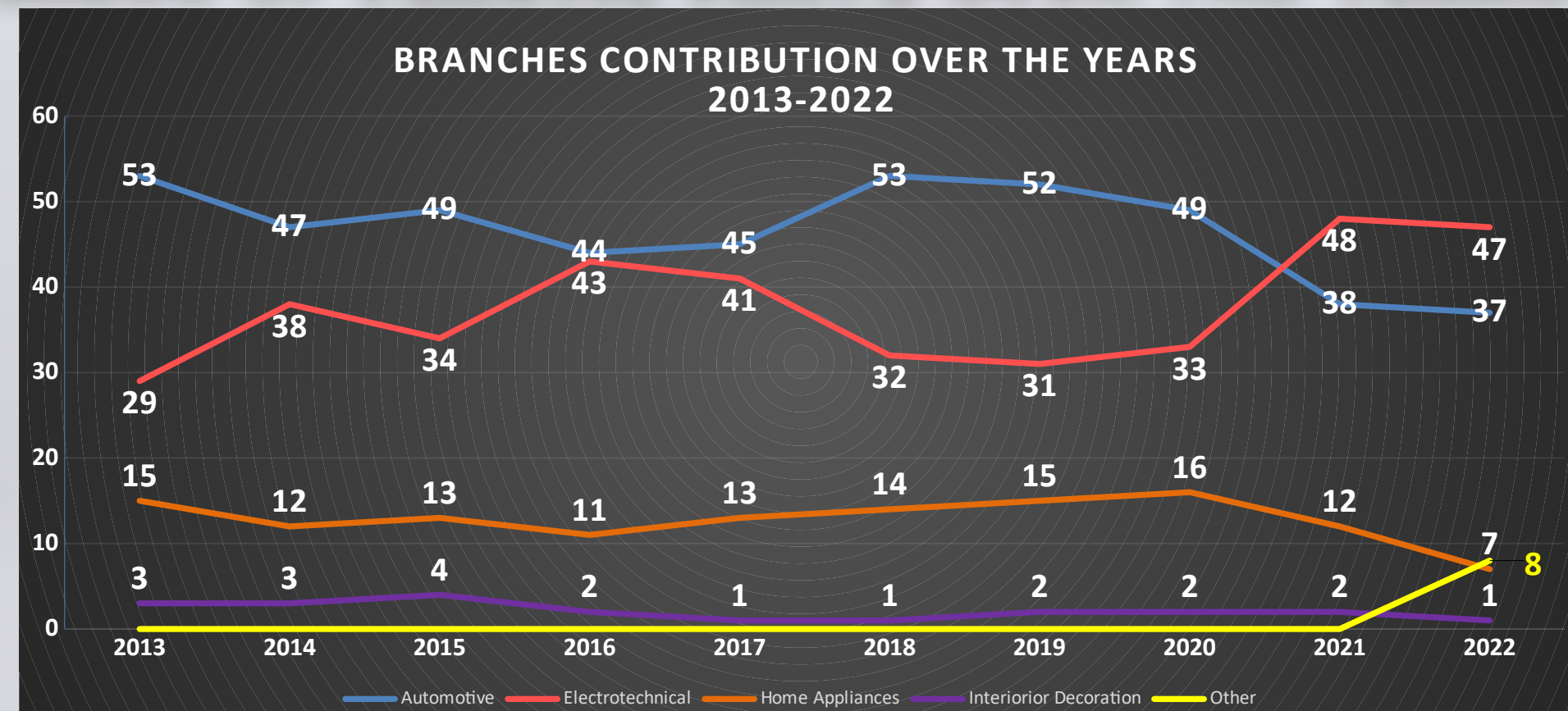


2023



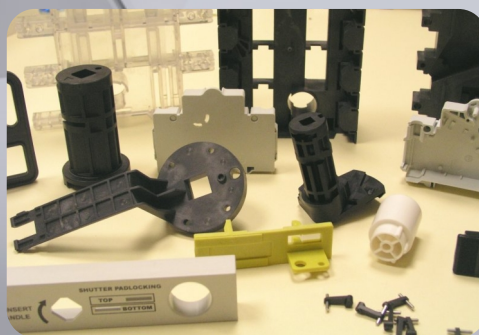


SALES OF PLASTIC PARTS OVER THE YEARS:



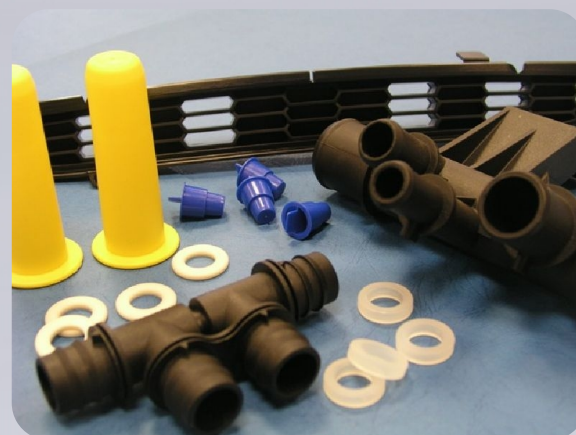
1. COMPONENTS FOR ELECTRICAL ENGINEERING INDUSTRY (47%)

- Shafts for electrical drills for CELMA company (BOSCH license) – first products in this line of business in 2001
- Production of moldings equipped with inserts
- Production of electrical subcomponents for:
 - AC and DC switchgears
 - industrial automation and control
 - low and high voltage electrical apparatus
- More than 1000 electro-technical components in production, mainly for ABB (GE), Johnson Electric, Rockwell Automation and recently for Hager group



2. COMPONENTS FOR AUTOMOTIVE INDUSTRY (37%)

- Production start up in 1998 for DELPHI Automotive
- Production of components to:
 - bumpers
 - steering columns
 - electrical wires
 - cooling systems
 - fuel systems
 - motor-car body
 - audio sound systems
- Production of over-molded visual components
- More than 350 automotive components in production so far
- Export to EU countries, USA, Argentina, Mexico, Brazil and China



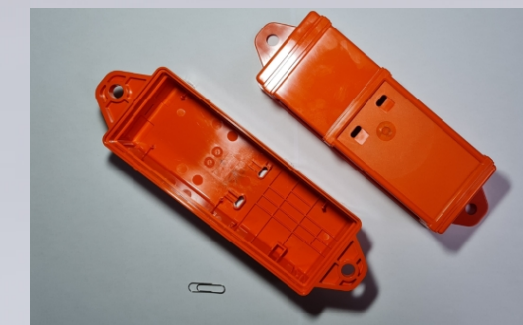
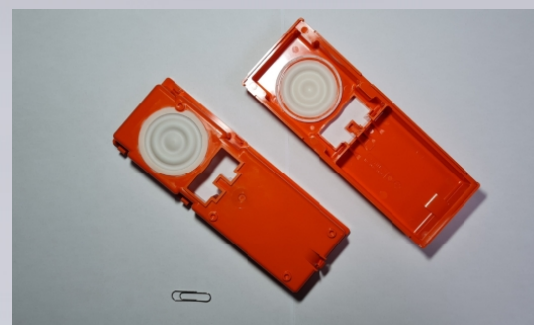
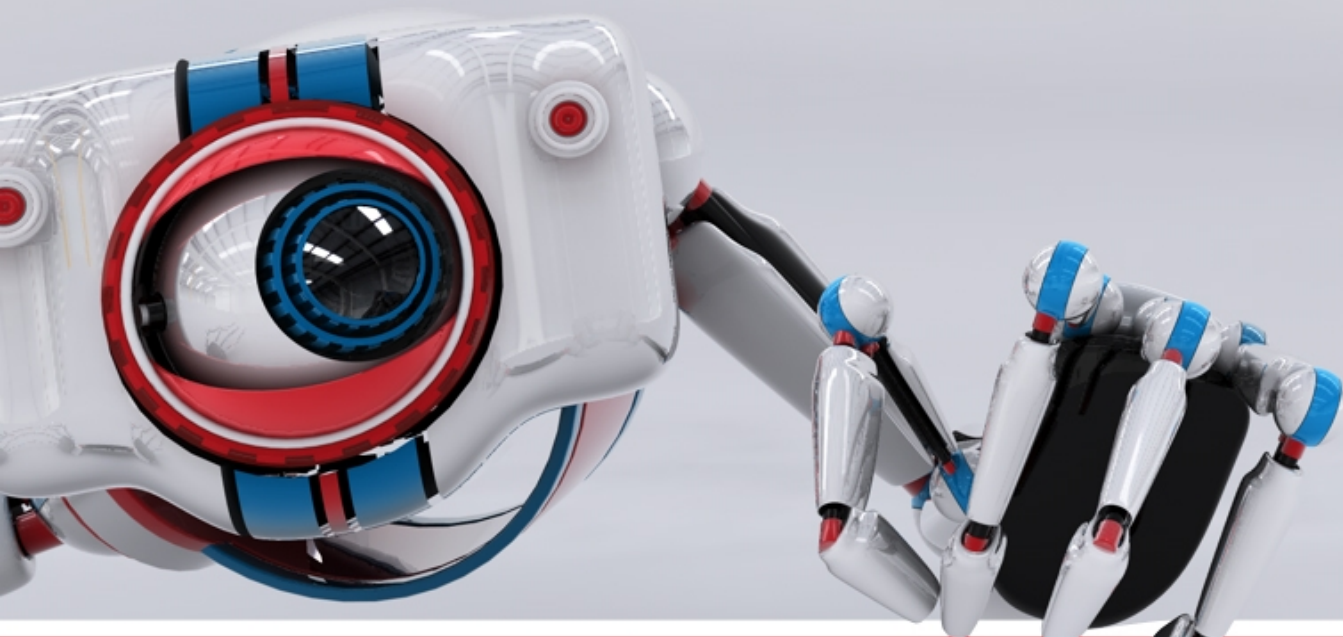


3. COMPONENTS FOR HOME APPLIANCES (7%)

- Sub-components for motors and blowers for kitchen hoods in production since 2010
- Production of impellers equipped with brass inserts
- Production of home appliances subcomponents for ELECTROLUX, B/S/H (Bosch) and Sigit Poland
- More than 70 components in production so far

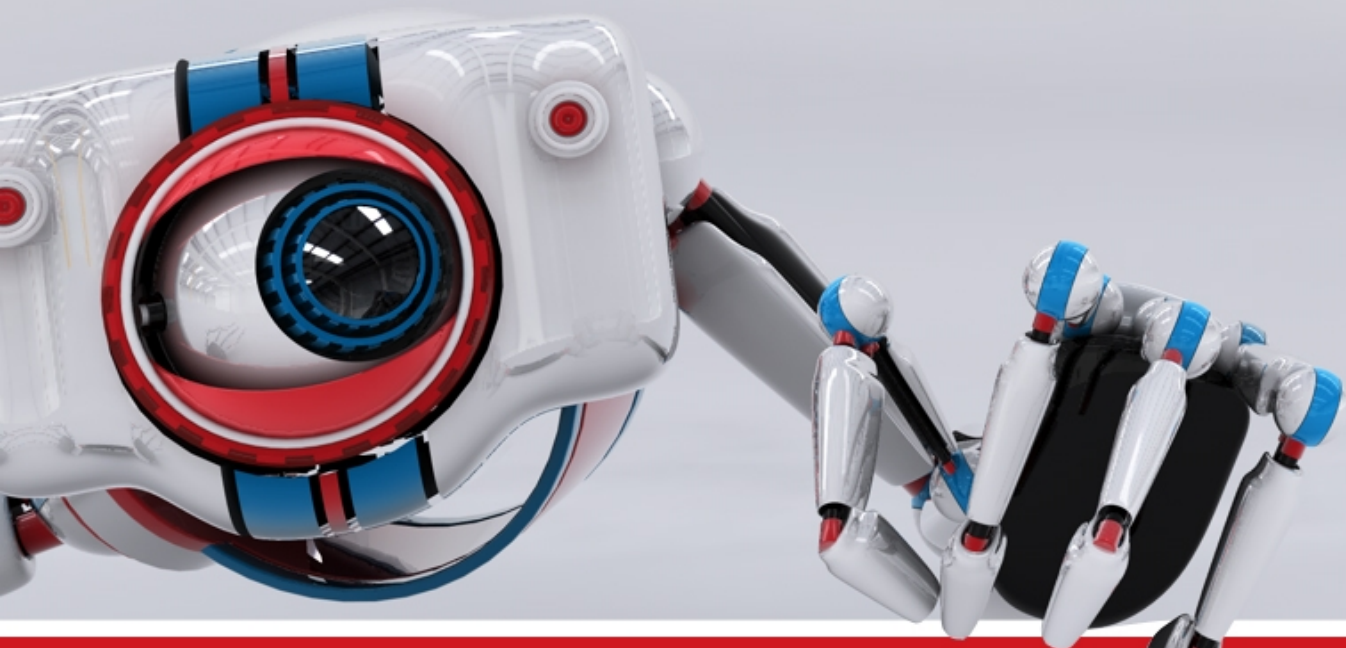
4. COMPONENTS FOR ELECTRONICS – EMS SECTOR (5%)

- Production of plastic parts which are used in electronic monitoring systems for sea containers – main enclosure, battery covers, holders
- Deliveries mainly to Asteelflash plant in Germany (USI)
- Demanding parts both technically and visually, produced in several colors



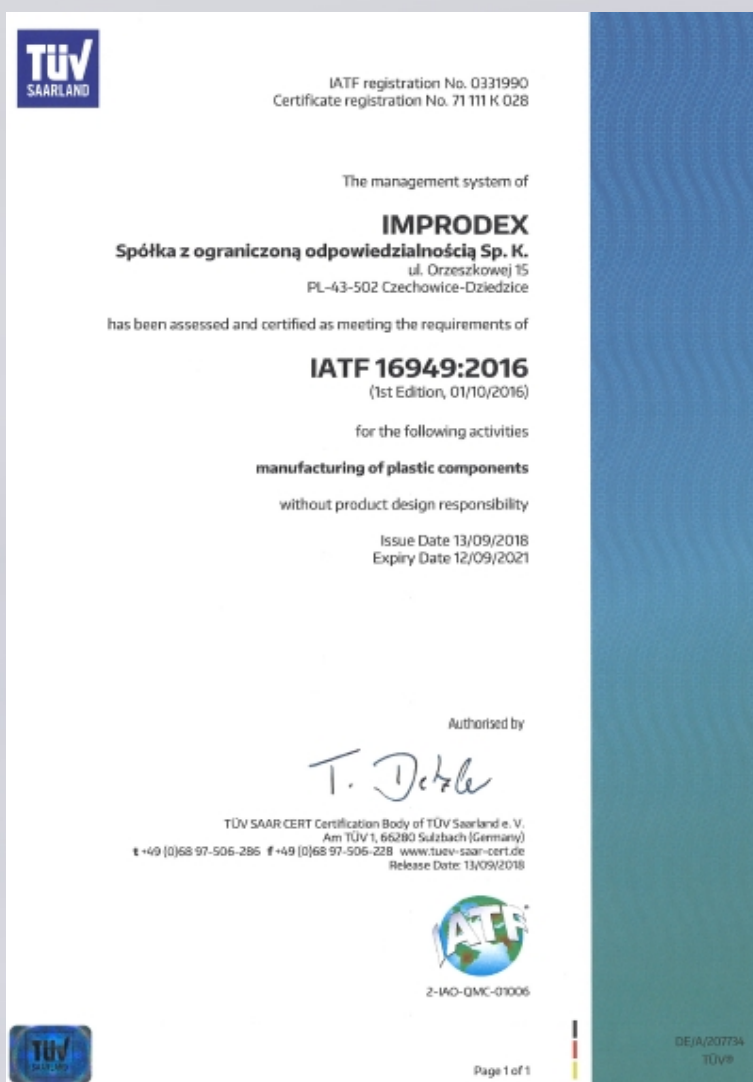
4. COMPONENTS AND ACCESSORIES FOR INTERIOR DECORATION (1%)

- 1994 - first products – small hooks used in curtain rods and ceiling rails
- Widening the range of colors and products
- Production of fittings for curtain rails and curtain rods
- About 50 % of sales in this branch is exported to 12 countries in Europe





- Client satisfaction – company policy
- Strategy aimed at 0 ppm parts delivered to clients
- 100% on-time delivery
- Quality certificates over the years:
 - ISO 9001 in 1998
 - QS 9000 in 2000
 - ISO 9001:2008 and TS 16949:2009 since 2007
 - New standard 9001 and IATF 16949 since September 2018

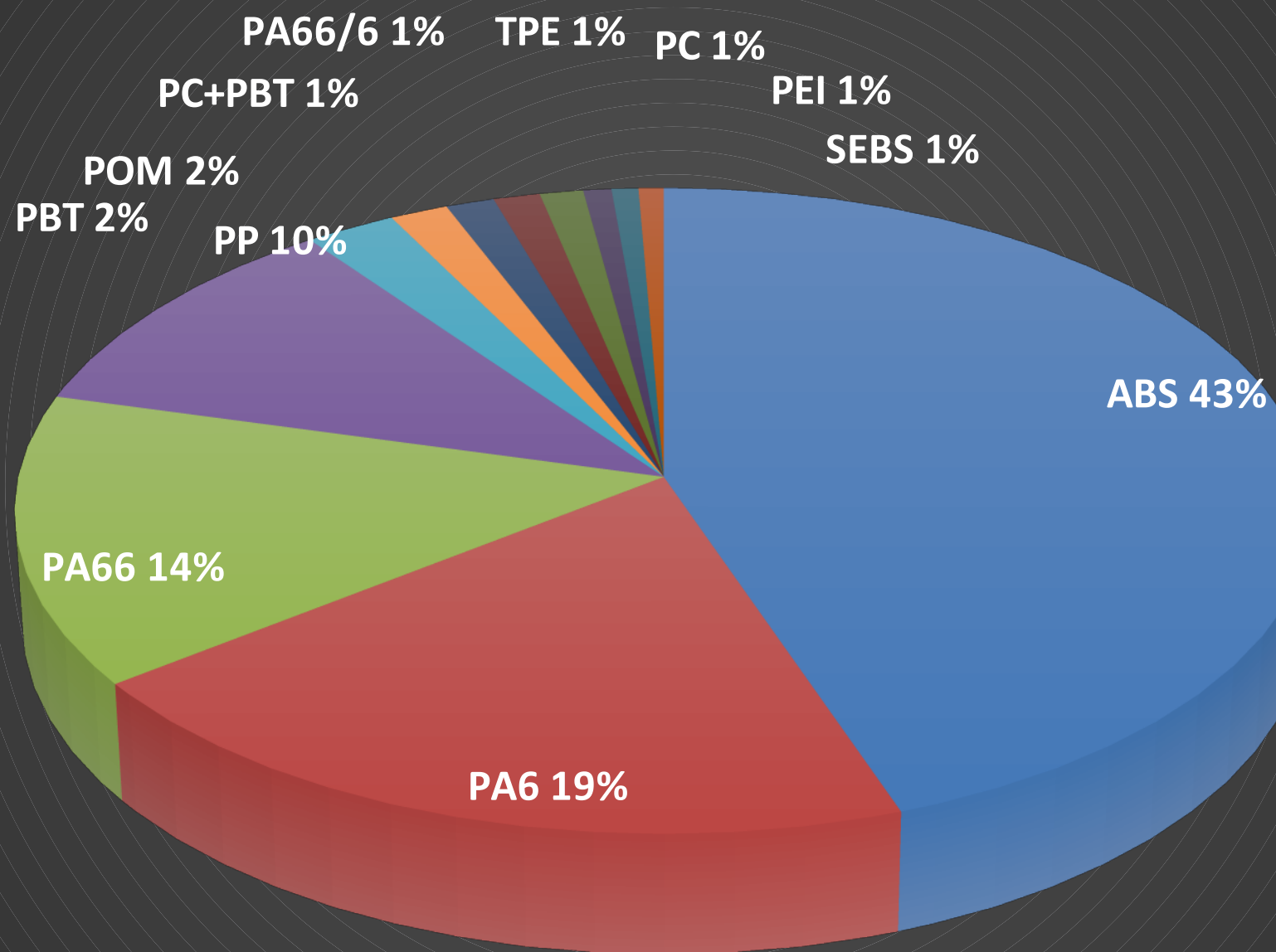


- Processing of a whole range of thermoplastic materials including PP, HDPE, LDPE, PS, PC, ABS, ABS-PC, POM, PA, PUR, TPE, PET, PEI, PPS, PBT, SEBS
- 80% of production – technical components from raw materials with glass fiber (Zytel, Stanyl, Grilon, Duerthan, Ultramid, Lexan, etc.)
- Production of components from technical materials which require high processing temperature - up to 400 °C (PEI - Ultem)
- Raw material consumption in recent years:
2019 – 1900 tons
2020 – 1840 tons
2021 – 2254 tons
2022 – 1829 tons
- Cooperation with the world known raw material manufacturers such as: BAYER, BASF, DU PONT, EMS – CHEMIE, SABIC
BASEL - ORLEN



1830 tons OF RAW MATERIAL PROCESSED IN 2022

TYPES OF RAW MATERIAL UTILISED IN 2022 [1 830 TONS]



ABS PA6 PA66 PP PBT POM
 PC+PBT PA66/6 TPE PC PEI SEBS

**MATERIALS
AND SUPPLIERS**

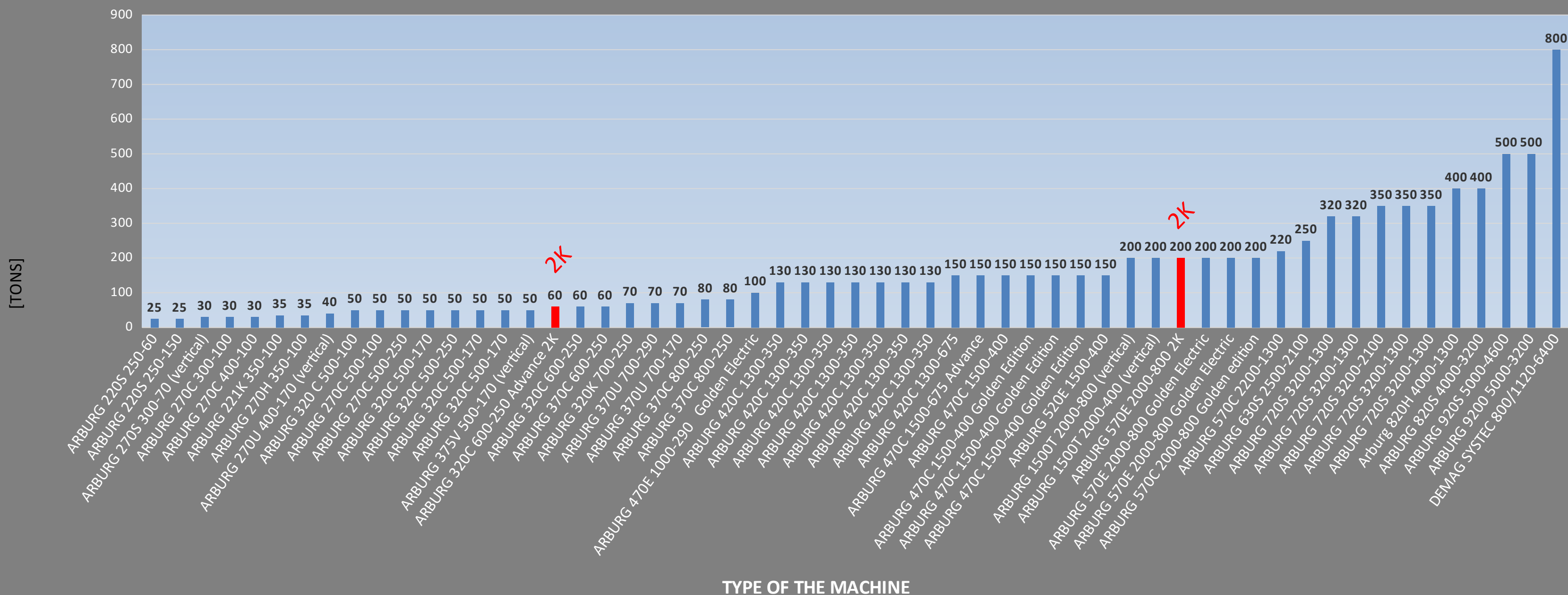


- 56 innovative ARBURG machines ALLROUNDER series, microprocessor controlled with clamping force from 25 to 800 tons including vertical, electrical and hybrid presses
- 1 Sumitomo-DEMAG machine with 800 t clamping force
- The maximum size of a production tool is 1,1 x 1,6 m
- Range of components weight from 0,5 g to 2,1 kg
- All ARBURG machines equipped with SELOGICA and advanced quality control systems (AQC)
- ARBURG 500 t and DEMAG 800 t equipped with MuCell gas injection proces
- Machines peripherals:
 - automatic driers
 - automatic dye material feeders
 - central material feeding system
 - belt conveyors
 - robots

STOCK OF MACHINERY

IMPRODEX





TOOL SHOP AND MAINTENANCE



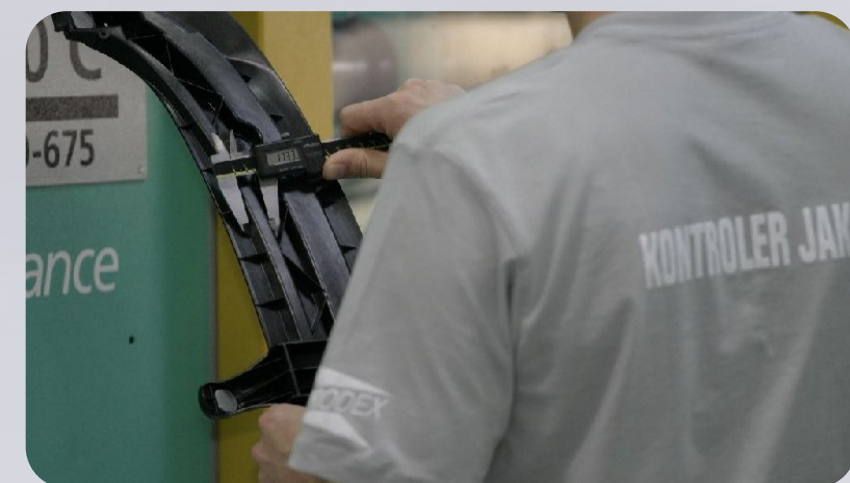
- Own tool shop producing small and medium size multicavity tools (500x700x800mm) including maintenance and repairs
- Equipment for machining operation (turning lathes, grinding-, milling- and drilling-machines)
- Personnel extensive experience in tool construction, service and maintenance including hot-runners tools
- Experience in tool design together with mold flow analysis with the use of CAD Solid Works 2022 software
- Cooperation with several polish and european renowned tool shops during complex realization of plastic parts (Apaform, R&G, 3D Tech, SoMec)



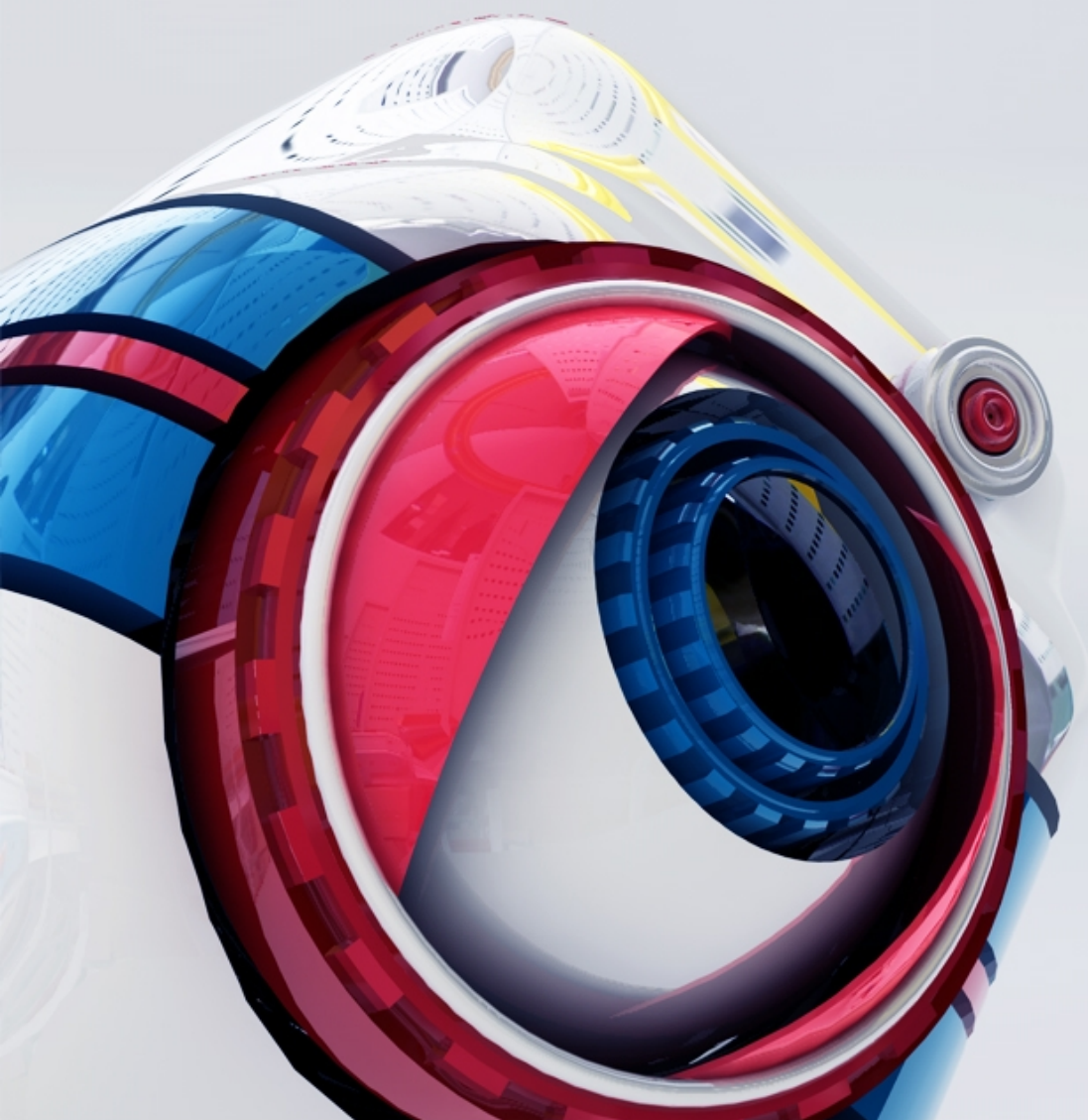
LABORATORY AND QUALITY CONTROL



- Lot production quality analysis carried out in laboratory by quality technicians on each shift
- Mitutoyo optical projector and two fast and precise Keyence microscopes for 2D analysis
- Colour analysis carried out on Konica-Minolta spectrophotometer
- 3D machine analysis carried out on two Zeiss Contura
- Scanning unit for tools` spare parts reproduction (lack of documentation)



WHAT MAKES US DIFFERENT



- Close cooperation with R&D departments of our customers, giving assistance and consultancy during components design phase, material selection and tool construction optimization
- Production flexibility - not only tools transfer but also components complex realization from prototype tool, up to full PPAP approval of the final part
- 30-years of practical experience in plastic processing
- Staff and its commitment to work, solid and stable management with technical team
- Acquisition of the European funds for purchase of new machinery and innovative equipment as well as extension of the existing infrastructure
- Use of high quality standards, including measurement equipment
- Production of components with the use of gas injection technology - new ProFoam and MuCell® processes for the physical foaming of thermoplastics, dedicated for weight reduction and cost optimization
- Continuous investment in automation of production processes

EXAMPLES OF SOME COMPLEX PROJECTS REALIZED IN IMPRODEX FROM A DRAWING THROUGH A PROTOTYPE TO THE SERIAL PRODUCTION

LEVER OVERMOLDED FOR FIAT 500, FORD KA and CHRYSLER (US market)

- production on a 4 cavity mold on vertical press
- project life time 2005 – 2020
- 5 different colors for different dashboards
- annual consumption about 300 000 parts



EXAMPLES OF SOME COMPLEX PROJECTS REALIZED IN IMPRODEX FROM A DRAWING THROUGH A PROTOTYPE TO TO THE SERIAL PRODUCTION

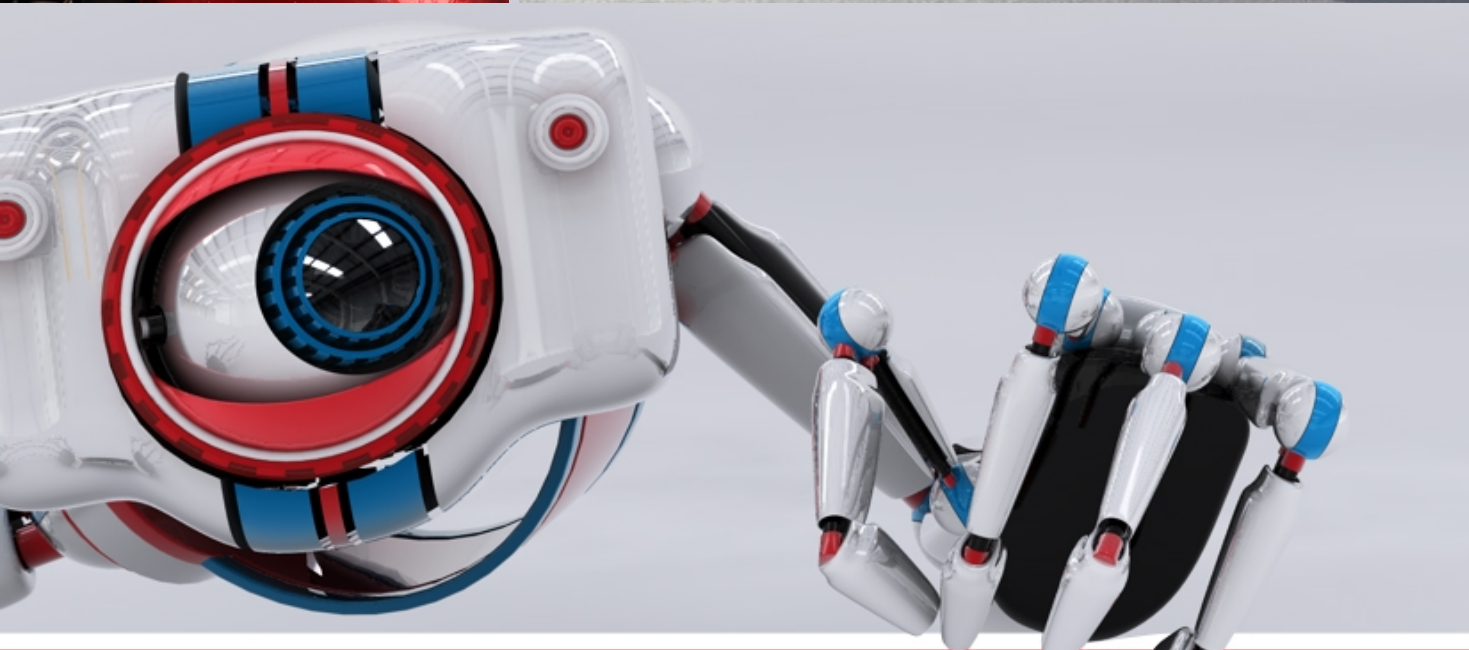
FENDER PATCH FOR JAGUAR XJ

- plastic part over-molded with SEBS
- final visual part assembled with clip, PET liner and 3M stripe



END CAP FOR TOYOTA AYGO & PSA

- plastic part over-molded with SEBS
- production on 4 cavity vertical press

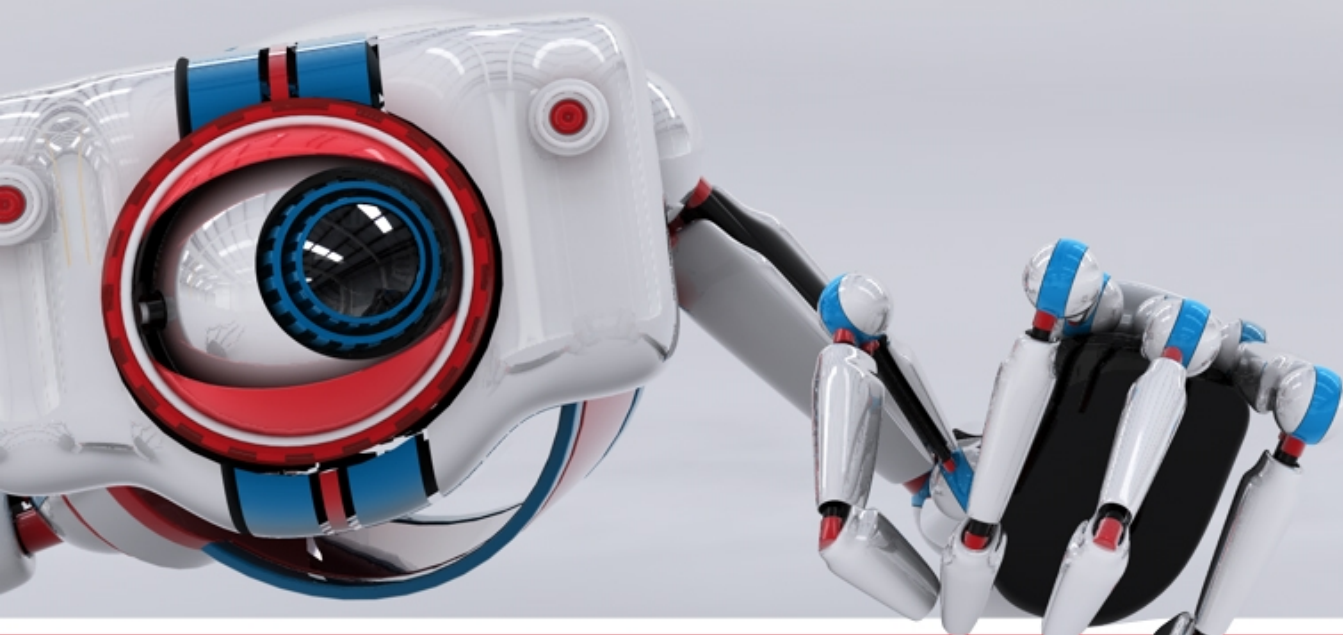


EXAMPLES OF SOME HOME APPLIANCE SECTOR PARTS

TEA SALES DISPLAY FOR MOKATE (LLOYD TEA)



CHROMED PARTS FOR KITCHEN HOODS



IMPRODEX DEVELOPMENT OVER THE LAST FEW YEARS



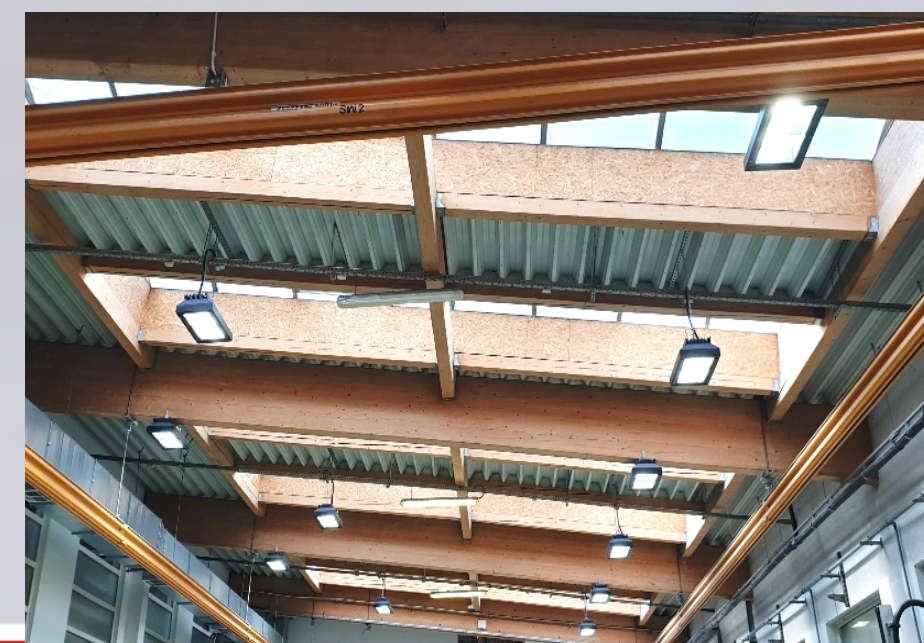
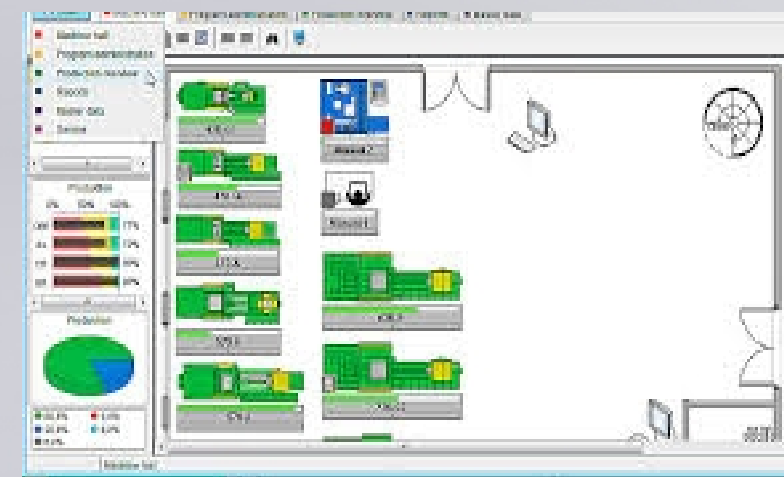
IMPRODEX AERIAL VIEW (2021)





RECENT INVESTMENT and PLANS IN IMPRODEX (2021-2023)

- Finalize the implementation of a new ERP and RFID software (Microsoft Dynamics NAV) within the whole organisation
- Make the full functionality of the recently implemented ARBURG ALS software to combine the machine data with Microsoft NAV for smooth production planning
- Start-up the mass production of the gas injection technology on a new innovative hybrid 920H ARBURG machine in 2022
- Installation of the intelligent illumination system in the production floor and exchange the existing lamps in the offices
- Extension of the existing 50 kWp solar fotovoltaic on-grid system by 450 kWp installation by April 2023



COMPANY CONTACT DATA



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In POLAND



In REGION

