

VT ElektroPlast VT Battery

ONE COMPANY – INFINITE POSSIBILITIES

—
Engineering

TECHNOLOGY

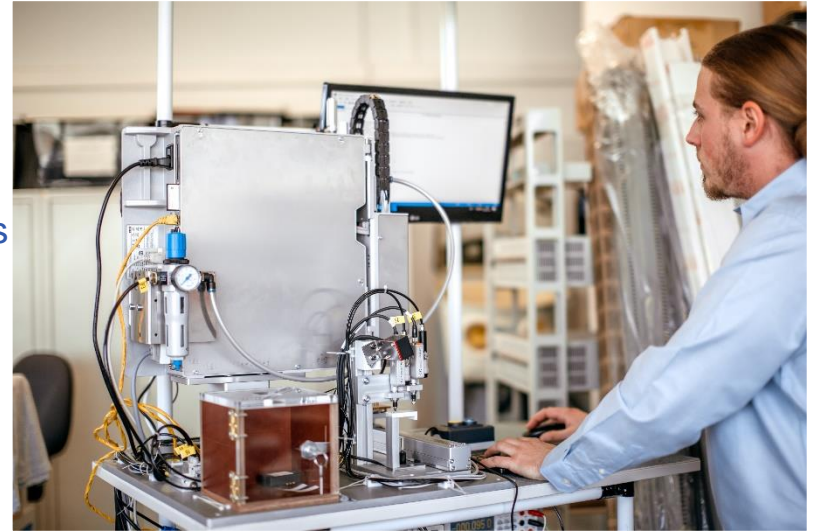
DYNAMISM

PROGRESS

STABILITY

WIDE RANGE OF ENGINEERING SERVICES

- feasibility studies, DFM analysis
- product development with the customer (early involvement)
- creating prototypes (Objet30 3D printer)
- tool management
- automation: assembly lines, single-purpose machines
- industry 4.0
- 22 engineers, 4 technicians, 9 designer stations
- CAD softwares:
 - mechanical: Creo 5.0, NX10, SolidEdge 10
 - electronic: E-Plan, Lab View, Protel, WinSTEP, Altium



NPI functions



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graph TD; A[NPI functions] --> B[Product development]; A --> C[Industrialization]; A --> D[Project Management]; A --> E[Cost Engineering]; A --> F[Tool Management]; A --> G[NPI Quality Assurance];
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The diagram is an organizational chart for NPI functions. At the top is a blue box labeled 'NPI functions'. A vertical line descends from this box to a horizontal line. From this horizontal line, six vertical lines descend to six separate boxes arranged horizontally below. The boxes are: 'Product development' (green), 'Industrialization' (green), 'Project Management' (grey), 'Cost Engineering' (grey), 'Tool Management' (green), and 'NPI Quality Assurance' (grey). The text in the green boxes is white, and the text in the grey boxes is blue.

**Product
development**

Industrialization

**Project
Management**

**Cost
Engineering**

**Tool
Management**

**NPI Quality
Assurance**

NPI CAPABILITIES AND SERVICES



PRODUCT DEVELOPMENT

Feasibility study

- [Power tool 36V battery pack](#)

Product modelling

- [Power tool 36V battery pack](#)

Participation in product design

- [Jug blender](#)
- [Battery-operated ear cleaner](#)
- [ATM battery pack](#)
- [Multi chopper adapter for hand blender](#)
- [Hair dryer impeller](#)

Product optimization

- [Mini generator](#)
- [Hand blender](#)

Additional functions and accessories

- [Hand blender accessories](#)

CREATING PROTOTYPES

Available prototyping methods:

- vacuum-casting
- stereolithography (SLA)
- selective laser sintering (SLS) plastic, metal
- fused deposition 3D modeling (FDM)
- objet/polyjet
- silicon tool/form
- plastic soft tool
- sheet metal parts
- cut parts
- customized rubber parts



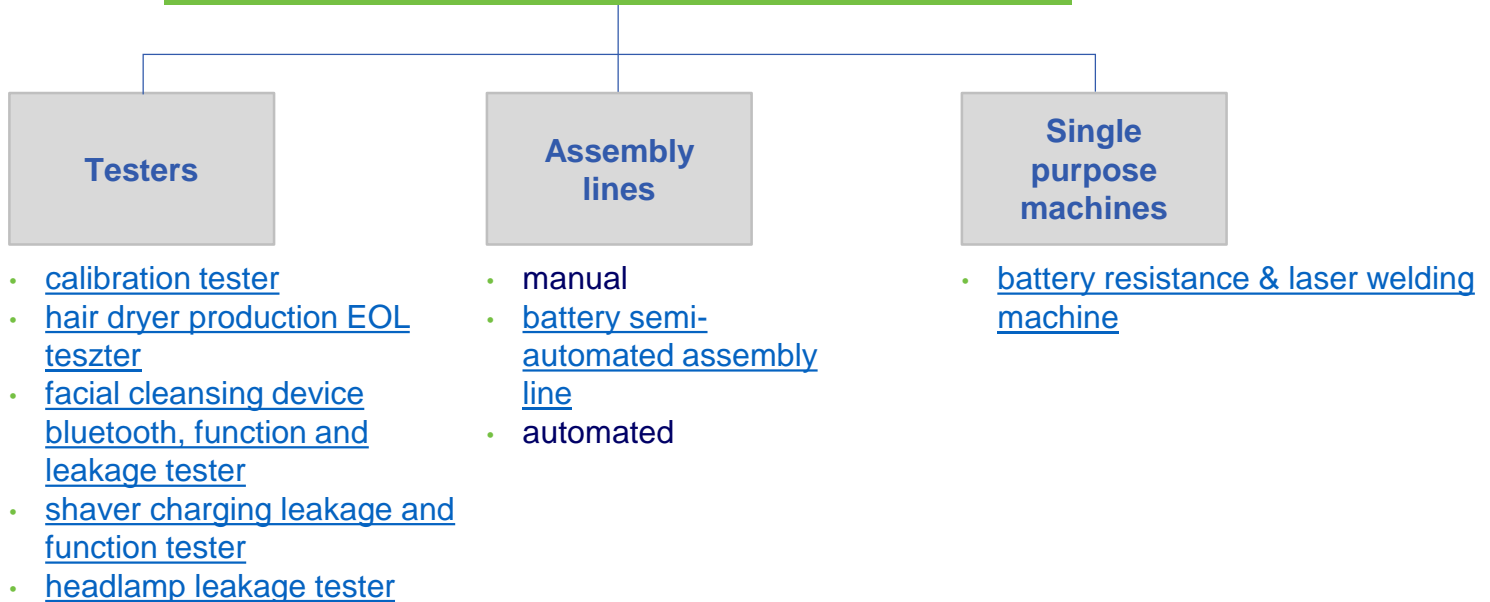
TESTS

- product approbation – EMC, RoHS, etc.
- drop / vibration test
- horizontal impact test
- stacking test (with dynamic/static loads)
- flammability test
- chemical resistance /compatibility tests
- environmental resistance tests
- ageing test
- salt-spray test
- climatic, temperature cycle & shock tests
- moisture test
- hardness, scratch resistance tests
- battery specific tests

Periodic in-house tests

- kitchen test
- durability test
- lifetime test
- high-voltage test
- leakage test
- function test
- switching test
- electronic data collection

Industrialization



ASSEMBLY LINES

- assembly lines
 - manual
 - partly automated
 - fully automatized
- repairing stations
 - for mass production
 - for low series production



AUTOMATIZATION & SINGLE PURPOSE MACHINES

- automation of assembly
- testing of certain function(s)
- reliable quality
- stable output
- engineering support for repair
- industry 4.0



TOOL MANAGEMENT

- internal tool workshop
 - preventive maintenance
 - modifications
 - renewals
- NPI tool management
 - competitive prices: EU & Far-East toolmakers
 - complete administration from the model part to tool approval
 - management of tool modification (including documentation update)
 - continuous follow-up of suppliers
- external partners
 - new plastic
 - rubber
 - metal tools



COOPERATION WITH HUNGARIAN UNIVERSITIES

Budapest University of Technology and Economics



- design plans
- ergonomic evaluation
- hydrodynamic evaluation

University of Dunaújváros



- polymer technical assessments (by Moldex 3D software)

John Von Neumann University – GAMF Faculty of Engineering and Computer Science NEUMANN JÁNOS EGYETEM

- cooperation in tenders (market R+D tender)
- battery welding optimisation, analysis, technological development
- metallographic examinations
- testing of plastics (MFI/MVR, TG examination)

COOPERATION WITH HUNGARIAN UNIVERSITIES

University of Pécs – Faculty of Engineering and Information Technology



Pécsi Tudományegyetem
Műszaki és Informatikai Kar

- cooperation in dual engineer training

Széchenyi István University (Győr)



- external product approval assessments (packaging of plastic and metal parts, finished goods)
- climatic, salt-spray and ageing tests

Hungarian University of Agriculture and Life Sciences – Kaposvár Campus



- comparison of household devices with different technical content from the aspect of influence for raw materials (colour, flavour, fragrance, content)

COOPERATION WITH EXTERNAL LABS

TÜV Rheinland



- extensive association with the company
- total RoHs and REACH inspections
- analysis of components food contact components
- continuous communication in connection with approval process topics (in product development stage)
- tests in connection with product validation (climate-,vibrating-,battery electric-,combined tests...)
- UN38-3 / IEC 62133 tests and issue of certificates
- CE marking

THANK YOU FOR YOUR KIND ATTENTION!



VT ElektroPlast

VIDEOTON Elektro-PLAST Kft.

H-7400 Kaposvár

3 Izzó Str.

Phone: + 36 82 502 100

vtep@vtep.videoton.hu

Simon Patkás

Engineering Manager

Phone: + 36 82 502 341

Mobile: + 36 20 403 2590

patkas.simon@vtep.videoton.hu



Highest creditworthiness