



**ARRK**

SPG Pre-Series Tooling & Prototyping B.V.

**Lighting**

**Shaping  
the world of  
tomorrow**

# Driven by experience, motivated by your ideas

With dedicated **project management** and extensive experience in **Prototyping**, **Pre-Series** and **Low Volume Production** of plastic and metal parts, we serve the Automotive, Lighting and Design & Industry sector. This enables us to embody your wildest ideas!



## Project Management



## Motivated to fulfill

### Project Management & Logistics

- Planning, EDI & RFID labeling
- Pro-active approach with sense of ownership

### Quality control

- Parts measurement 3D CMM, tactile or scanning
- Process FMEA and control plan
- PPAP / EMPB & IMDS registration

### Certificates

- ISO9001:2015 / ISO14001:2015
- ISO27001:2017 and TISAX-Label

## Assembly & Finishing

### Ready to install

- Complex assemblies with multiple options, e.g. bumper facias and door panels
- Functional lighting modules including PCB's

### Welding and Industrial gluing

### Full surface finishing

- Painting: texture, diffuse, translucent, matt and gloss painting
- Laser texturing, machining and etching
- E-coating (KTL), Electroplating and anodizing
- Flocking and galvanic chrome plating
- Metallization and PVD-coating
- And many more...

### Prototyping



From 1 up to ...

#### CNC-machining

- Of a wide range of optical materials, like PMMA, PC, Zeonex, etc. including all kind of engineering plastics
- Metals including aluminium for heatsinks and reflectors
- Milling radius from R0.5 up to R0.05
- Unique diamond polishing technology for small optics
- ARRK Fasttool technology for block molding in series materials
- SPDT (Single Point Diamond Turning) & Fly-cutting and Diamond Machining Technology

#### PU-vacuum casting

- Including 2-/3-shot casting
- Standardized colours and surface finishing for (semi-)translucent materials (white, red, black, (red-)+diffuse)
- Reflex patterns can be included
- Silicone tools based on CNC-machined masters for excellent surface quality, highest accuracy and optimum dimensional stability

#### Silicone casting

- Of optical silicone parts with Dow materials by using aluminium tooling

#### ARRK global 3D-Rapid Prototyping

- SLS Selective Laser Sintering
- SLA Stereolithography
- Polyjet (Objet)
- DMLS / SLM Metal Sintering

Optical parts and demonstrators

Lighting applications and demonstrators

### Low Volume Production



50 ~ 2.000 parts or assemblies

#### Injection moulding

- Using aluminium moulds operated at SPG as well as rapid steel non-export moulds operated from our ARRK Far East facilities
- PRE-TENSION Tool® for large mouldings
- In-Mould-Decoration (IMD) & IML/FIM with printing electronics
- Including 2-/3-shot over-moulding, gas injection (GID) and Sequential Valve Gating (SQV)
- Expandable plastics EPP & PUR-Foaming

#### Light-weight solutions

- MuCell® and Chemical foaming
- CRFP composite solutions (TP-prepreg over-moulding)
- D-LFT Direct Long Fiber Thermoplastic moulding

#### Blow moulding

#### Thermoforming

#### Liquid Silicone Rubber (LSR)

#### High Pressure Die-Casting (HPDC)

#### Extrusion

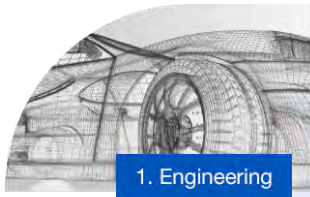
- Of plastics, silicone rubber and aluminium

#### Sheet metal stamping, deep drawing and pressing

Optical parts and demonstrators

Full finished and assembled modules

# SPG Pre-Series Tooling & Prototyping B.V.



1. Engineering



2. Rapid Prototyping



3. Raw Materials



10. Logistics



4. Toolmaking



9. Warehousing



5. Parts Production



8. Quality Control



7. Assembly



6. Finishing

## ARRK Corporation



International technology group established in Japan in 1948

- > 3.800 employees
- > 20 companies in 15 countries



## ARRK SPG



### SPG Pre-Series Tooling & Prototyping B.V.

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Interested in what we can do for you?  
🌐 [www.spg-arrk.nl](http://www.spg-arrk.nl)