



SPG Pre-Series Tooling & Prototyping

Shaping the world of tomorrow

Automotive & Mobility





ARRK
SPG Pre-Series Tooling & Prototyping

3

Driven by experience, motivated by your ideas

In the product development cycle, testing and prototyping are indispensable. At ARRK SPG, we can create prototype and low volume parts that satisfy all quality constraints and provide all the necessary materials and knowledge in every step of the product development cycle.

Why ARRK SPG?



Professionality



Entrepreneurship



Passionate



**Solution & oriented
thinking**

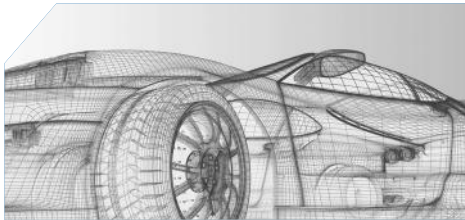


**Maximum service,
keeping promises**



**Look and think beyond
customer demand**

Technical Excellence, Seamless Supply



1. Engineering



2. Rapid Prototyping



3. Raw Materials



4. Toolmaking



10. Logistics



5. Parts Production



9. Warehousing



8. Quality Control



7. Assembly



6. Finishing

Project Management

We take care of the supply chain, so you don't have to.

Motivated to fulfill

Together with our valued partners in our supply chain, we can manage any project from A to Z. First, we map all of our customer's wishes. Next, we plan, arrange and oversee the execution and deliver the final product. This way, ARRK SPG can offer complete fulfilment, or surpass expectations.

Supply Chain & Logistics

- Sense of ownership & pro-active approach
- Strong and frequent communication
- Planning & EDI
- Packaging & RFID-Labeling
- Warehousing & Logistics

Quality Control

Finally, we execute various quality checks to make sure the products we deliver meet the highest standards.

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

Certificates

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



Finishing

Using various finishing techniques, we ensure your prototype is of the highest possible quality.

Make it unique

In order to truly assess a product's aesthetics in the early stages of product development, it is absolutely worthwhile to build a prototype with a high-quality finish. Using various finishing techniques, we can match or surpass the quality standards of the final product.

Surface treatment and decoration

We offer endless finishing possibilities including:

- Painting, silkscreen and pad printing
- E-coating (KTL), powder coating and anodizing
- Galvanic chrome plating
- Metallization and PVD-coating
- Flocking
- Finishing with leather, films or textiles
- And many more...

Assembly

Regardless of its complexity, we can assemble various parts into a complete product.

Ready to install

Besides the production of single parts, we can also take care of the assembly of an integrated module or even a full product. We are especially skilled in:

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



Prototyping

From 1 up to ...

CNC-machining

- Of a wide range of plastic block materials, optical materials, including engineering plastics
- Of metals including stainless steel, aluminium and brass
- ARRK Fasttool technology for milled parts in series materials (e.g. milky, smokey)
- Block modelling (mock-up)

PU-vacuum casting

- Of a wide range of rigid and rubber-like materials
- Including 2-/3-shot casting (e.g. hard-soft combination)
- Standardized colours and surface finishing for (semi-)translucent materials
- Silicone tools based on CNC-machined masters for excellent surface quality, highest accuracy and optimum dimensional stability
- Large size castings up to max.: 2300 x 1350 x 1250 mm. (e.g. bumpers, tailgates and fenders)
- Acomon RAVolution™ PU optical clear material resistant to UV yellowing
- PU Back molding of polymer foils include in-mold structural electronics IMSE ®

Silicone Rubber casting

- Silicone Rubbers in Shore 40A or 60A

Sheet metal cut & press

ARRK global 3D-Rapid Prototyping

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



Low Volume Production

50 ~ 2000 parts or assemblies

Injection moulding

- Using aluminium moulds at ARRK 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 overmoulding, gas injection (GID) and Sequential Valve Gating (SQV)
- Expandable polypropylene EPP & PUR-Foaming

Light-weight solutions

- MuCell® and Chemical foaming
- CRFP composite solutions
- Thermoplastic-prepreg overmoulding include Mitsui Tafnex™ CF-PP UD Tapes
- D-LFT Direct Long Fiber Thermoplastic moulding

Sustainable solutions

- Using high-flow PP compounds from Mitsui Chemicals
- Using PCR and bio-based material & additives

Other solutions

- Compression Moulding (Rubber) & Liquid Silicone Rubber (LSR)
- Blow moulding
- Thermoforming
- Aluminium Sand Casting & High Pressure Die-Casting (HPDC)
- Extrusion (Aluminium, plastics and silicone rubber)
- Sheet metal (Stamping, deep drawing and pressing)



Our clients





PORSCHE

“ARRK SPG has proven its competence during the construction phase of our Porsche 918 Spyder project, through regular reports, on-time deliveries and a good overall quality. Despite a tight schedule and a considerable production volume ARRK SPG has proven to be a reliable supplier. The 918 Spyder project team would like to thank ARRK SPG for the commitment shown and the fruitful collaboration.”



“In collaboration with OP Mobility, ARRK SPG has executed its largest prototyping project to date, with a budget of over 2.5 million euro. Various tools, multiple modifications, several different materials and strict deadline; despite these challenges, we brought it to a successful end. The verdict by the responsible project purchaser: ‘You’re the best supplier ever!’”



“Recently, DAF introduced a new generation of trucks to which ARRK SPG collaborated in the design and styling phase. We really appreciated your cooperation from the beginning in realizing all deadlines and getting the styling models ready for management presentations on time with excellent quality. The prototypes helped us to make the right choices along the way. A personal highlight for me was the fact that the headlight was already operational in the early prototype phase of the project. That helped us to implement LED lighting on the entire vehicle, which is an important step towards a sustainable future.”



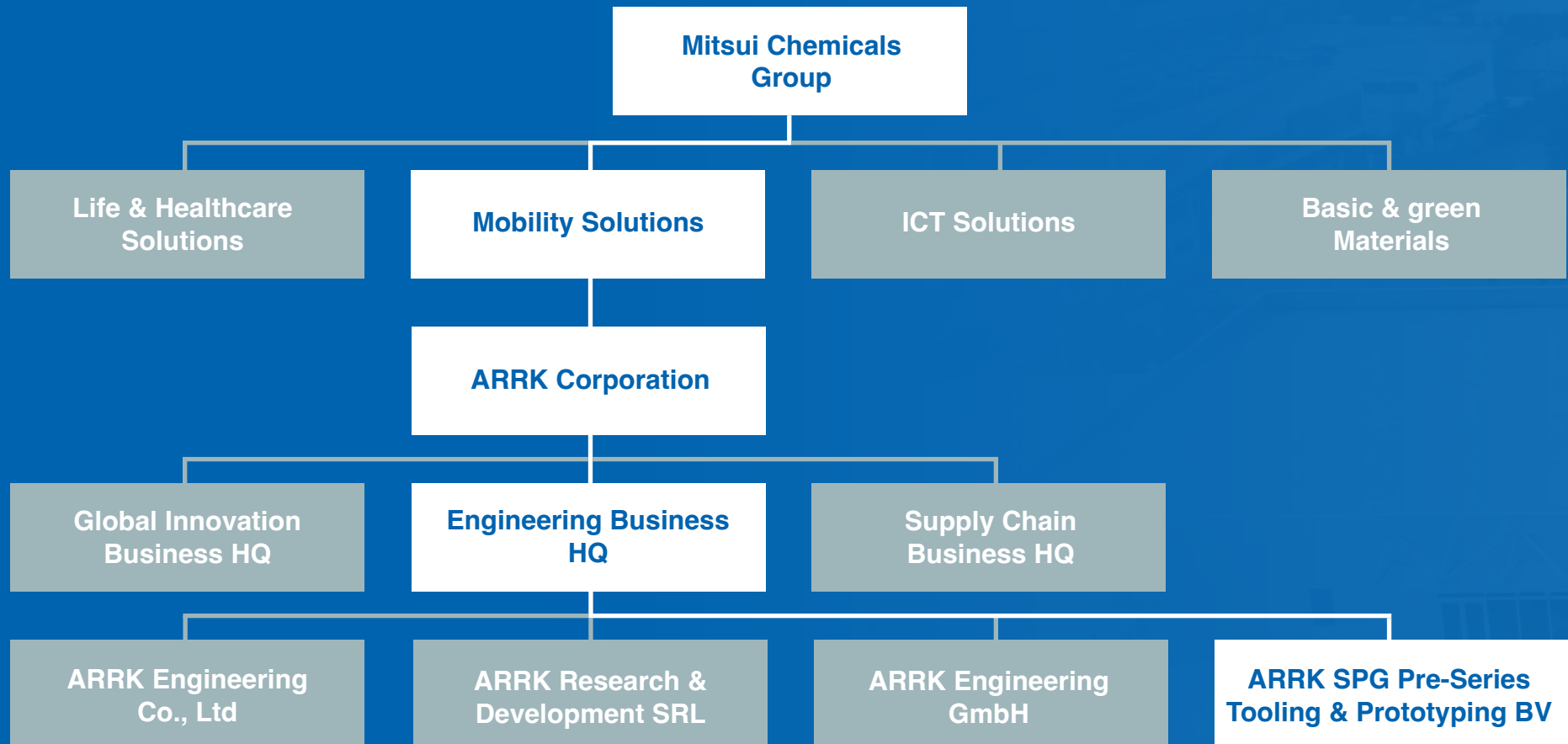
Lightyear

“ARRK SPG has guided us as a reliable and knowledgeable manufacturing partner from the first concept to the start of small-scale production for interior and exterior components and assemblies for the Lightyear 0. Their experience, knowledge and craftsmanship have made a major contribution to our development process.”



“As AgXeed we believe in a way of farming where the agricultural entrepreneur is able to make the most of his land, his crops and the environment. The key to sustainable agriculture is true autonomy. In recent years, we have devoted more effort to our publicity and the reactions we have been given are strictly positive. ARRK SPG equipped our autonomous AgBots with lighting and we are very satisfied! The lampshades they manufactured stay on neatly while driving across the land and remain cleanly black despite all the dust. Thankyou!”

Our organisation



Our history



SPG Pre-Series Tooling & Prototyping BV was founded in 2001. Five years later, SPG became part of the ARRK Corporation, which then affiliated with Mitsui Chemicals Group in 2020.



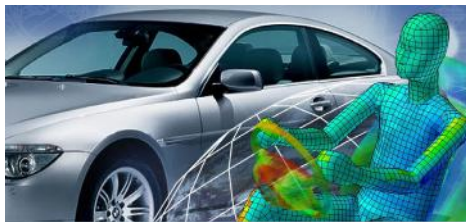


ENGINEERING

Your specialist for forward-looking automotive development

ARRK Engineering's range of services pools skills from different thematic fields in order to achieve the best possible production results as well as consistent quality of manufactured components. Teams of experts work with certain key issues in mind to find interdisciplinary ways of realizing projects faster and in a more technically comprehensive manner.

Interdisciplinary Topics



CAE & Simulation



Material



Acoustics



Composite



Digitalization & Software



Sustainability Management

Modules



Car Body



High Voltage Battery



Powertrain



Chassis



Interior & Exterior



Optical Systems

Entire Vehicle Systems



Automated Driving



Passive Safety



Thermal Management

Contact

Mail

info@arrk-engineering.com

Website

engineering.arrk.com

Phone

+49 89 31857-0



ARRK SPG Pre-Series Tooling & Prototyping BV

Titaniumstraat 3
6031 TV Nederweert, Netherlands

+31 495 459 220
projects@spg-arrk.nl

www.spg.ark.com

