AEROSPACE VEHICLES DIVISION





Dedicated to innovation in aerospace

# Multimaterial Additive Manufacturing

**PRODUCTS & SERVICES** 



# Boost product performance with Multimaterial Additive Manufacturing

NLR is the 3D metal printing centre in the Netherlands. We established our Metal Additive Manufacturing Technology Centre (MAMTeC) in 2013. MAMTeC supports your company and increases your competitiveness by technology development and product innovation.



### WHAT YOU NEED:

- High material performance in extreme environments
- Complex parts with high hardness and wear resistance
- Minimum finishing of difficult to machine materials
- High specific strength and specific stiffness
- Low coefficients of friction and thermal expansion
- A one-shop partner in developing your high performance application

# WHAT WE DELIVER:

MAMTeC develops Multimaterial Additive Manufacturing for a variety of industries.

Product development and prototyping with:

- Graded metals
- Metal matrix composites (MMC); properties of metals like magnesium, aluminium, steel, titanium and nickel alloys can be boosted by combination with ceramic particles which can include SiC, WC, TiC, TiB, or YTiO

Advanced knowledge of Multimaterials and AM-process optimisation skills enable us to develop products for demanding applications

# CAPABILITIES AT THE MAMTEC

The core of the MAMTeC is our enthusiastic multidisciplinary team. We work in an environment with expertise and facilities that are essential for building up advanced Metal Additive Manufacturing knowledge and skills. More than 45 years of materials experience in aerospace applications is applied to establish optimised process parameters for new materials.

MAMTeC continues to expand Additive Manufacturing capabilities to new technologies and new materials in support of your innovations. We welcome you to share your future needs with us for successful implementation of your Additive Manufacturing innovations.

Graded materials enable different material properties and requirements in one product.

Metal Matrix Composites offer a high specific strength and specific stiffness. Additive manufacturing of Metal Matrix composites offers the unique opportunity to combine high hardness and wear resistance with a minimum of finishing. Materials can be designed to obtain low coefficients of friction and low thermal expansion coefficients.

#### **BOOST YOUR PRODUCT PERFORMANCE WITH:**

- High performance in extreme environments
- High hardness and wear resistance
- Minimum finishing

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#### NLR AMSTERDAM

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