

3D printing: KIMYA supporting railway maintenance

Thanks to its experience in the transport sector, KIMYA is able to meet the most exacting demands of the mobility sector thanks to additive manufacturing. Needing a part (hood) for which the mold no longer existed, a railway supplier turned to the expertise of the industrial company to produce small runs of a plastic part from 1982 that meets the requirements of fire and smoke regulations. In 2020, the 3D sector enjoyed growth of 52%¹. In this context of high demand, KIMYA is continuing to strengthen its positioning by offering companies bespoke products, high-performance materials and fit-for-purpose production in small runs.

Creating bespoke parts on demand

Highly flexible and responsive, additive manufacturing is an ideal solution for improving production processes. A railway supplier therefore contacted KIMYA to produce a part (hood) dating back to 1982, for which the mold was no longer in existence. Capitalizing on the expertise offered by the Kimya Factory (production in small runs), KIMYA was able to produce a plastic part solely from a paper plan and the 3D file of a train part originally made out of PVC. *"Designing a traditional mold would have required a longer development time and generated costs that could only be covered by producing thousands of parts. The Kimya Factory offers our partners a fit-for-purpose finished product using our own materials, all in small runs"*, explains Pierre-Antoine Pluvinage, Business Development Director at KIMYA.

High-performance materials suitable to the most demanding technical applications

In order to meet the highly specific certification criteria of the rail sector, KIMYA offered the customer its high-performance material, the PEKK SC, developed by the Kimya Lab and meeting the smoke/fire certification requirements of the EN45545 standard. Designed to resist high temperatures (260°C / 500°F), the PEKK SC filament also offers resistance against abrasion and chemicals and is a flame retardant. *"This collaboration required us to meet the certification standards of our customer's business sector. This is why we decided to put forward the PEKK SC, a filament directly emanating from the Kimya Lab, our R&D center, as it meets the smoke/fire standards specified by the customer"*, states Pierre-Antoine Pluvinage.

Additive manufacturing – an opportunity for the mobility sector

The railway industry requires numerous parts and managing stocks can be extremely complex. Additive manufacturing provides an innovative solution able to respond to the economic and quality issues of the transport industry. *"We compared several technologies for manufacturing these parts in small quantities and additive manufacturing proved to be the right choice from the economic, technical and leadtime point of view. Assembly testing conducted by KIMYA and the submission of the FAI quality file led to successful completion of the entire quality acceptance process for these additive manufacturing parts. Only 3D printing was able to meet our demands with such efficiency!"*, concludes the Purchasing Manager of the supplier.

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À propos de KIMYA

Acteur pionnier de la fabrication additive, **KIMYA**, une entreprise du groupe ARMOR, conçoit et produit des matériaux pour l'impression 3D au service d'une production locale. KIMYA propose des gammes de filaments prêts à l'emploi (Kimya Materials), accompagne ses clients industriels dans la réalisation de pièces finies (Kimya Factory), grâce à la conception et la production de matériaux d'impression 3D sur-mesure à haute valeur ajoutée (Kimya Lab). Fort de plusieurs dizaines de collaborateurs, KIMYA dispose d'un site de production de plus de 2 000 m² en France et d'une filiale aux États-Unis. www.kimya.fr

¹ [The State of 3D Sculpting by Sculpteo](#) – 2020 edition

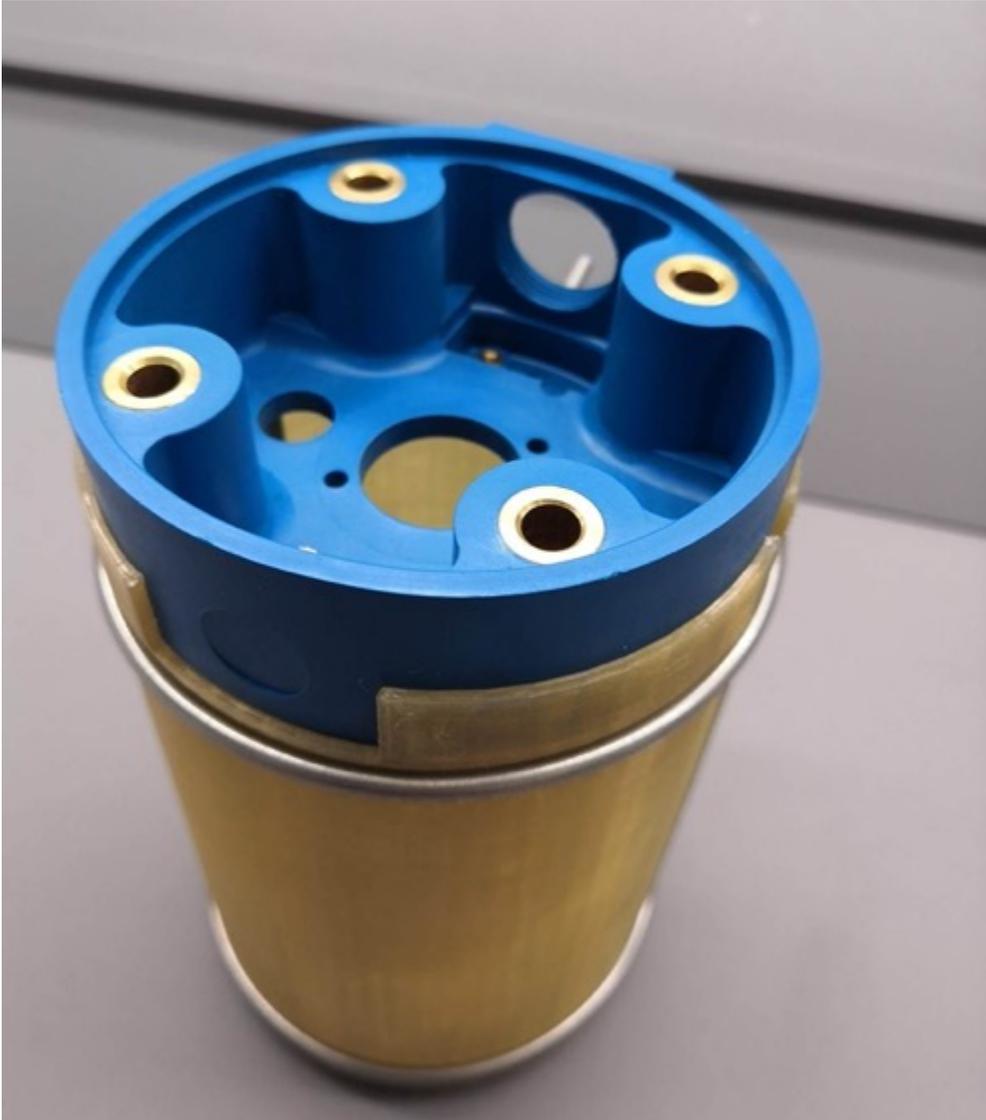


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