The important contribution of electroplating for completing the circular economy

Chrome-plated plastic components are an essential element for manufacturing long-lasting, sustainable and circular products. However, current regulatory restrictions under REACh are making this increasingly difficult. Key advantages over alternative technologies are being overlooked. The CETS therefore advocates that applications for the authorisation of chromium trioxide be accepted and that sufficient time is given to carry out the intended substitution.

Surface treatment is indispensable in many industrial sectors. The companies in this sector are, for example, essential suppliers to the automotive industry, as plastic electroplating is the only economical method for creating a real metal surface in vehicles. Despite this, applications for the use of chromium trioxide for surface coating have recently been called into question by referring to some alternatives. This is due to narrow and incomplete considerations by various stakeholders that do not take into account the key advantages of electroplating for the environment as a whole.

In particular, real metal surfaces have the following advantages compared to alternative methods that can only imitate this technology by means of a lacquer structure or a PVD coating.

- **No microplastics!**
  Real metal surfaces are scratch and media resistant (e.g. hand perspiration, cleaning agents). By its very nature, the metal surface cannot cause any plastic abrasion during installation, use and reprocessing, which means that microplastics are avoided throughout the entire life cycle.

- **100% circular!**
  The components are 100% recyclable and, above all, can be used in a circular manner (see appendix). The electro-plating plants commit themselves to take back the supplied components after they have been used. The metals are 100% recyclable and the electroplating shops already use metals recycled in Europe in their coating. In addition, the plastic can also be recycled after use. As they are still of the same quality (no downcycling!), it can be used for the same application for high-quality surfaces.

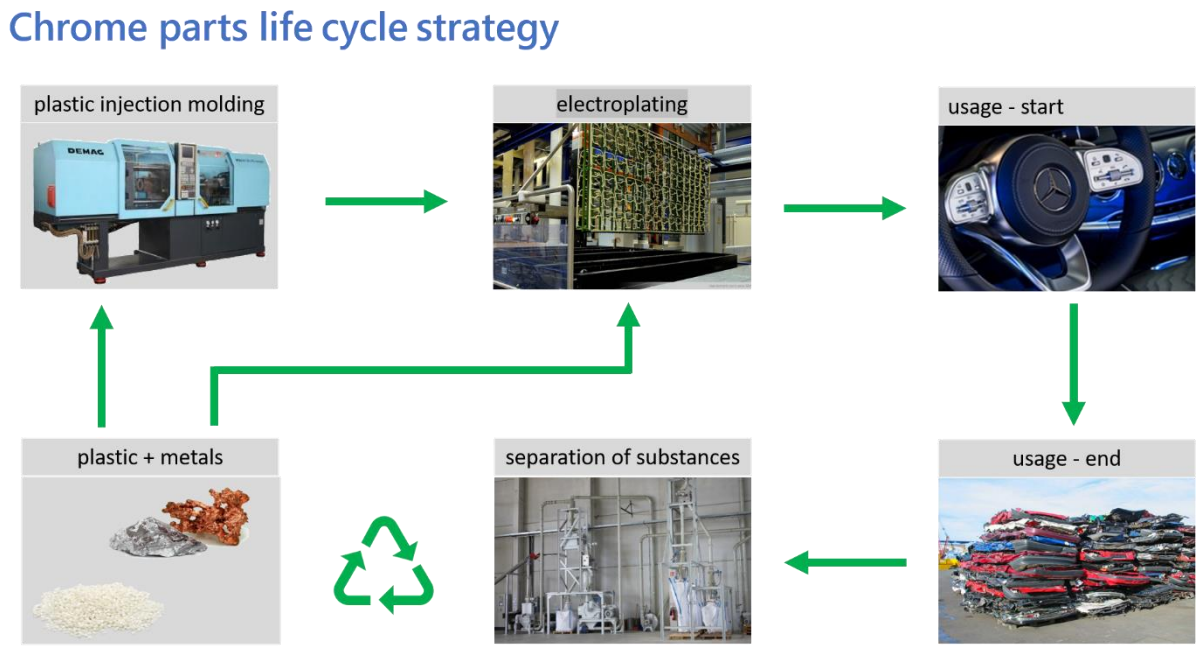
- **Low carbon footprint!**
  With a comparable manufacturing process, the carbon footprint of galvanised components is significantly lower. Painted or PVD-coated components are thermally disposed after use. The circularity of electroplating components results in a **CO_2 advantage of at least 30-50%**.

- **Crucial element for completing the circular economy!**
  The galvanisation plants work closely with OEMs in the automotive industry to establish local recyclable material cycles in Europe. This does not only have a positive impact on the availability of raw materials in Europe, but also saves energy and greenhouse gas emissions due to the short distances of the supply chains. This approach is not possible for the competitor products.

In recent years, the companies of the surface-plating industry have significantly advanced the development of chromium(III)-based substitutions for the use of chromium trioxide in the electroplating process. In this context, completely chromium trioxide-free methods in chrome plating and pre-treatment have already been implemented. However, the complete substitution of chromium trioxide in the industry will take time for rebuilding plants and restructuring and optimising processes within the supply chain. This is set out in detail in the substitution plans of the respective applications. Consequently, it is crucial that companies are given the appropriate amount of time and are not forced to switch to alternative production methods that do not only deteriorate the quality of the products but also result in an inferior environmental footprint.

Therefore, the applications, especially those that were deemed to be credible by the Committee for Socio-Economic Analysis, should be approved. **Giving companies sufficient time will give them planning security and enable them to provide important elements for sustainable supply chains within the circular economy**.

Appendix


Chrome parts life cycle strategy
plastic injection molding
DEMAG
electroplating
usage - start
plastic + metals
separation of substances
usage - end