

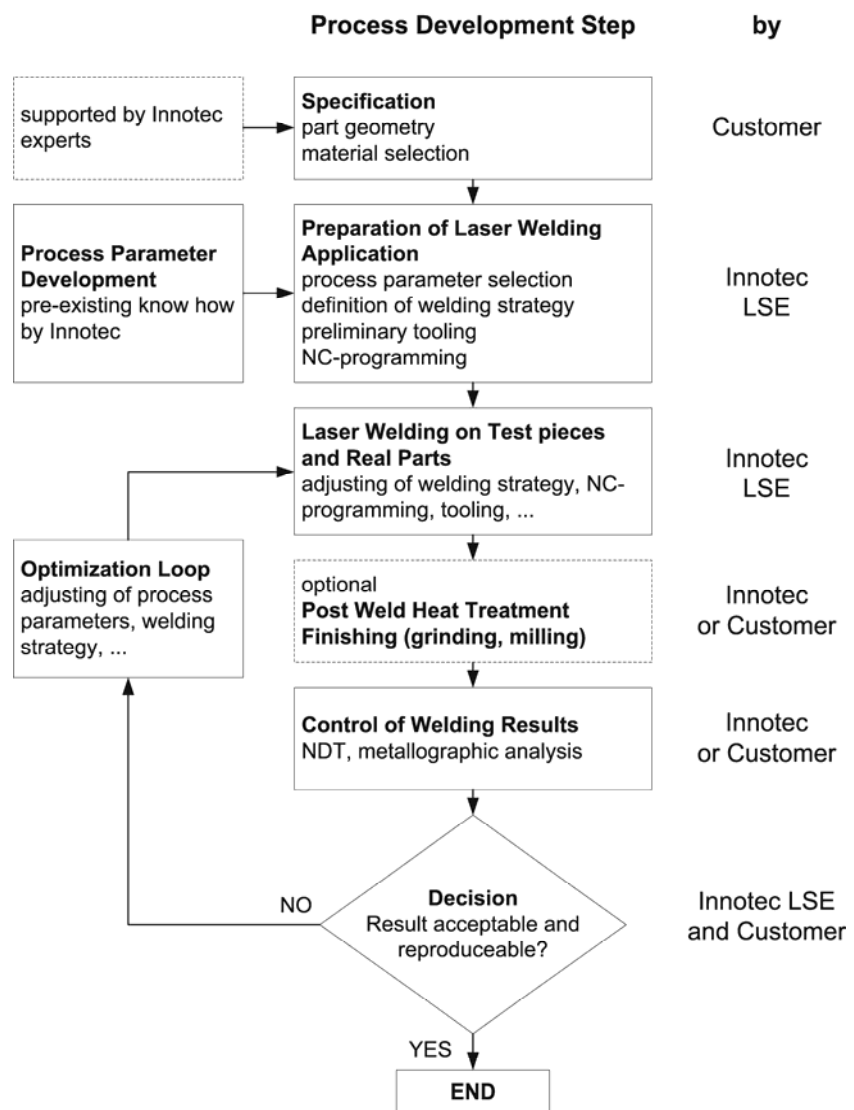
# Laser Surface Engineering LSE

## Laser Process Development

Sulzer Innotec

All laser metal forming and laser cladding applications have the unique features of the laser welding process in common: The control of the laser spot on the substrate surface allows a small, localized heat input and a small treated area. Usually, the dilution between the deposit and the substrate material is very low. Due to the low energy input the heat affected zone is very small. Nevertheless, the metallurgical bonding is excellent. In general, the low heat input helps to minimize the distortion of laser-treated parts. All of these features are the result of a correct appointment of the laser process parameters that depends on the materials used as well as on the part geometry that influences the heat flow within the parts and therefore the temperature gradients in the melting process. Together with our customers we develop laser applications and implement them on our own laser equipment.

### Process Development Steps and Responsibilities



### Our Partners

Highly qualified experts at Innotec are our partners for

- One-stop-shop manufacturing solutions, manufacturing and welding engineering and consulting
- Mechanical precision workshop and prototyping
- Conventional welding processes and heat treatment
- Testing and metrology
- Material and surface technology
- Corrosion and corrosion protection, friction and abrasion
- Material and failure analysis