

Advanced Wear Resistant Coatings

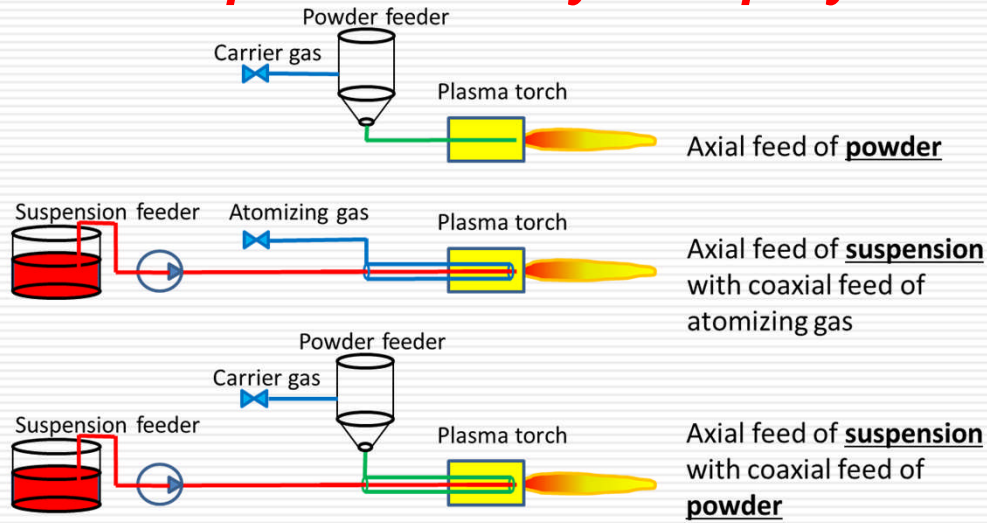
Project Idea: To increase the cutting tool life and productivity using novel and advanced wear resistant coatings

Approach:

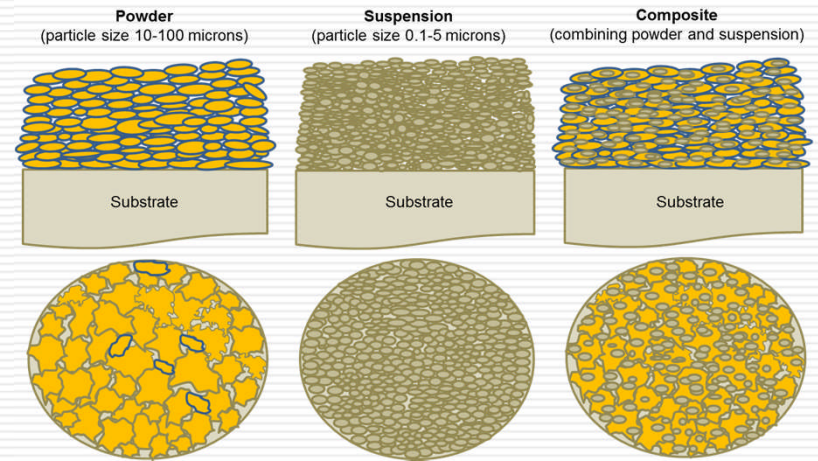
- By applying high performance nano-structured metallic, ceramic and cermet coatings using advanced thermal spray techniques
- Novel Spraying technique ‘Hybrid Spraying’ (see more details on the next slide about this process) will be explored in combination with the advanced other existing modern techniques such as High Velocity Air Fuel (HVOF) and high power Axial Suspension/powder Plasma Spray and compared with the state-of-the-art coatings
- Different types of feedstocks (powder, suspension, solution precursor and mixture of either powder-suspension or Powder-Solution precursor) will be explored

Arrangement to introduce dual feedstock (hybrid spraying)

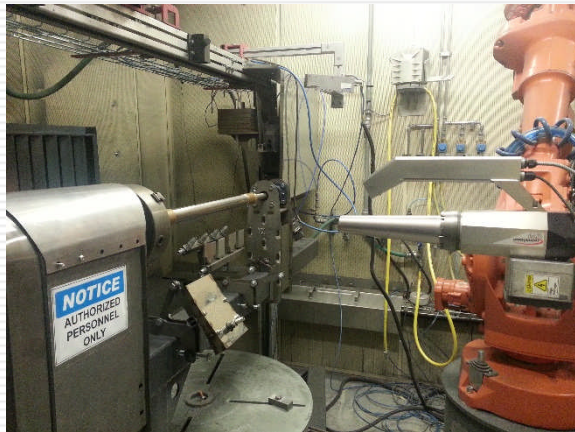
Axial plasma and hybrid spray



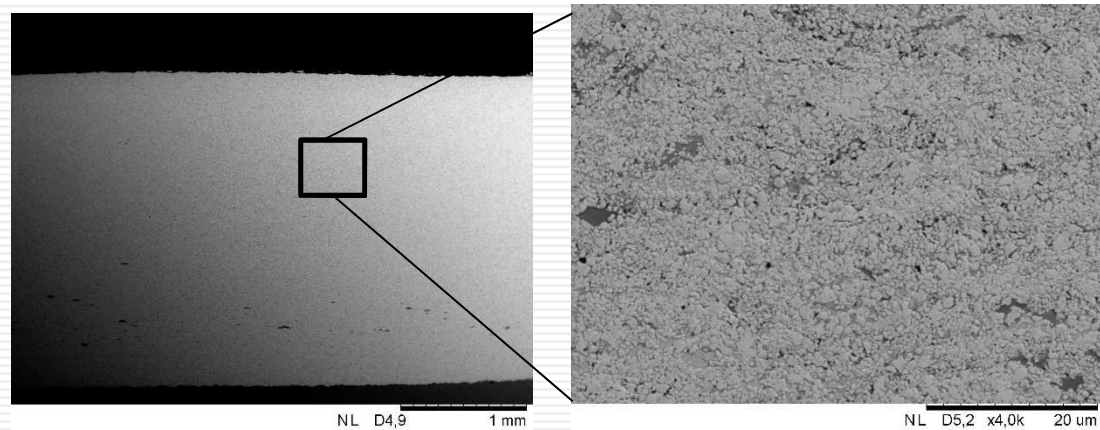
Creating function-dependent architectures



HVAF



Thick and Dense WC-Co-Cr coatings by HVAF



Project partners and missing links

Partners:

1. Austria (Feedstock/material provider)
2. Finland (Academic partner)
3. Sweden (Partners which includes Thermal spray process expert, service provider for commercialization and also end users)

Missing link:

1. Industrial partners from countries other than Sweden