Case novel hard metals for extreme aggressive environments

Development of high temperature erosion and corrosion resistant material

- Titanium carbide with superalloy-type metallic matrix.
  - Bulk components or coatings
- The hardness values of the materials can be varied between 1000-1800 HV1
- Due to metallic matrix, toughness is significantly better compared to ceramic materials.
- Applications for example hot-corrosion resistant components, components for power plants like nozzles or combustion chamber components.

- Erosion and oxidation resistance up to 1300°C
- Boundary between laser coating and base material
- Microstructure of HVOF-sprayed coating