

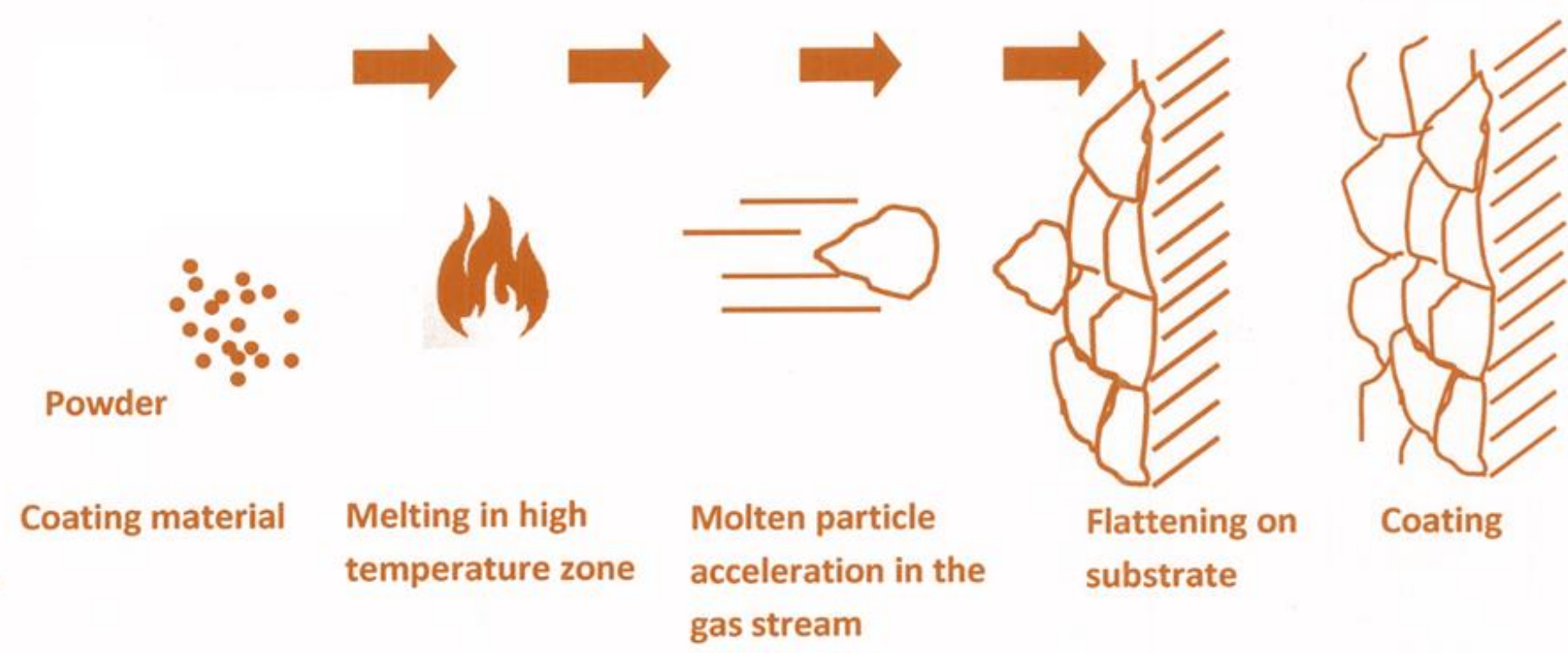
CENTRE FOR ENGINEERED COATINGS (CEC)

International Advanced Research Centre for Powder Metallurgy and new Materials (ARCI)
Hyderabad

“To provide a wide range of surface engineering solutions to private and public sector and transferring the state-of-art technologies to Indian Market”

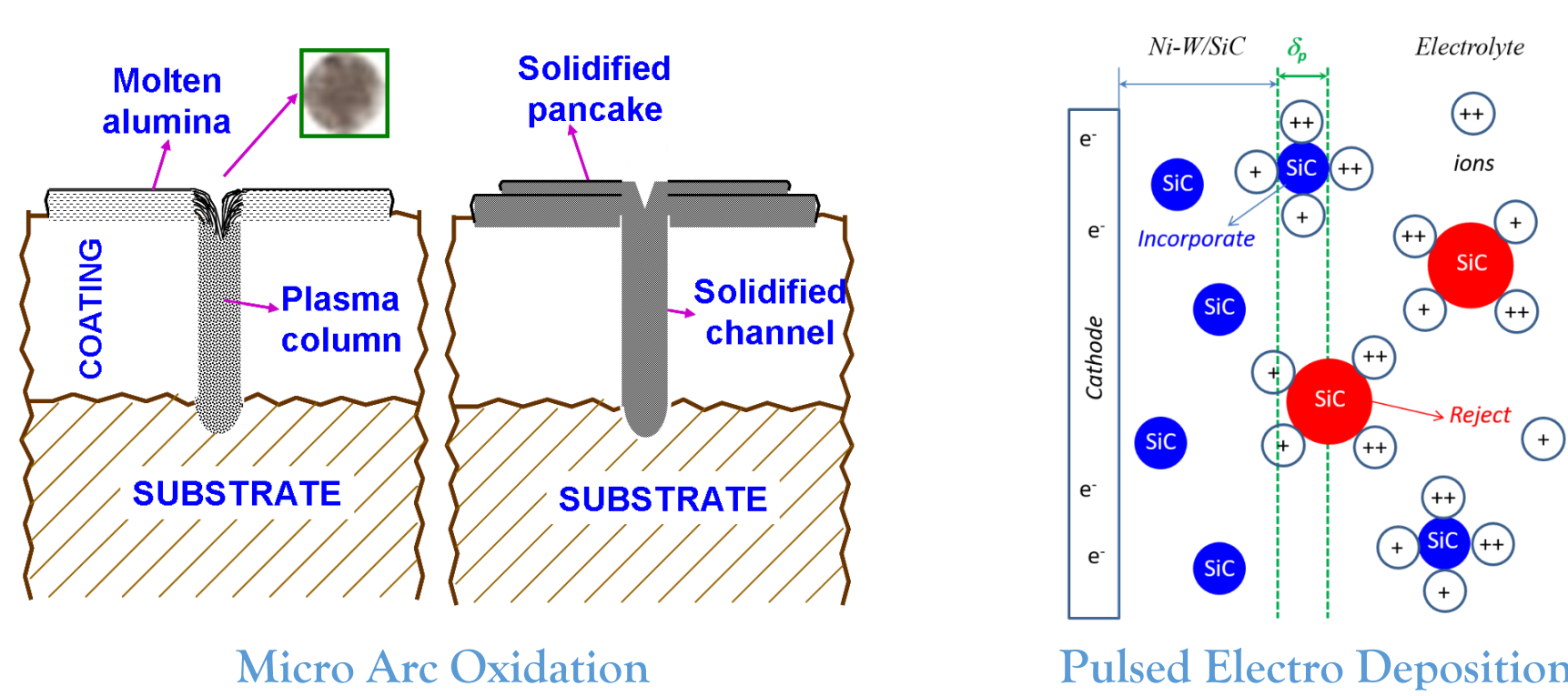
MAJOR FACILITIES

Thermal Spray techniques:



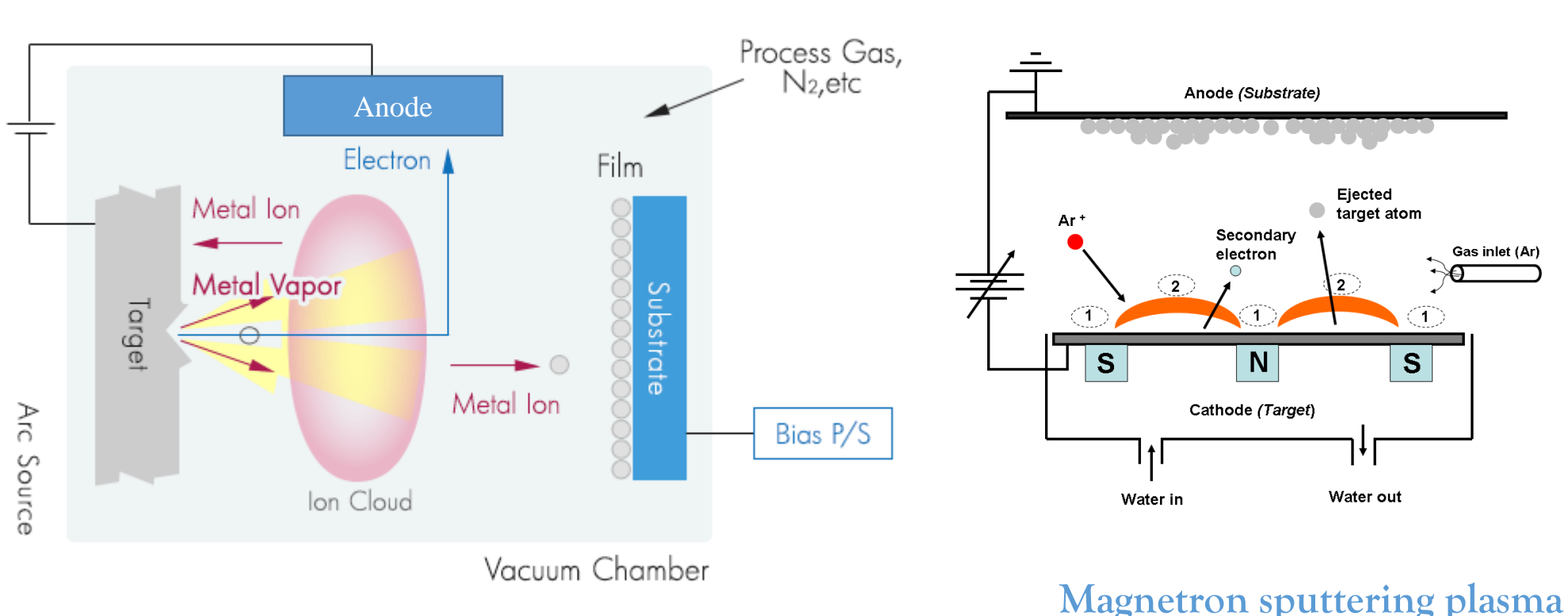
- Cold Spray
- Detonation Spray (Mark I & II)
- Solution Precursor Plasma Spray
- Axial feed Plasma Spray
- High Velocity Air Fuel Spray

Electrochemical methods:



- Micro Arc Oxidation
- Pulsed Electro Deposition

Physical Vapor Deposition (PVD):



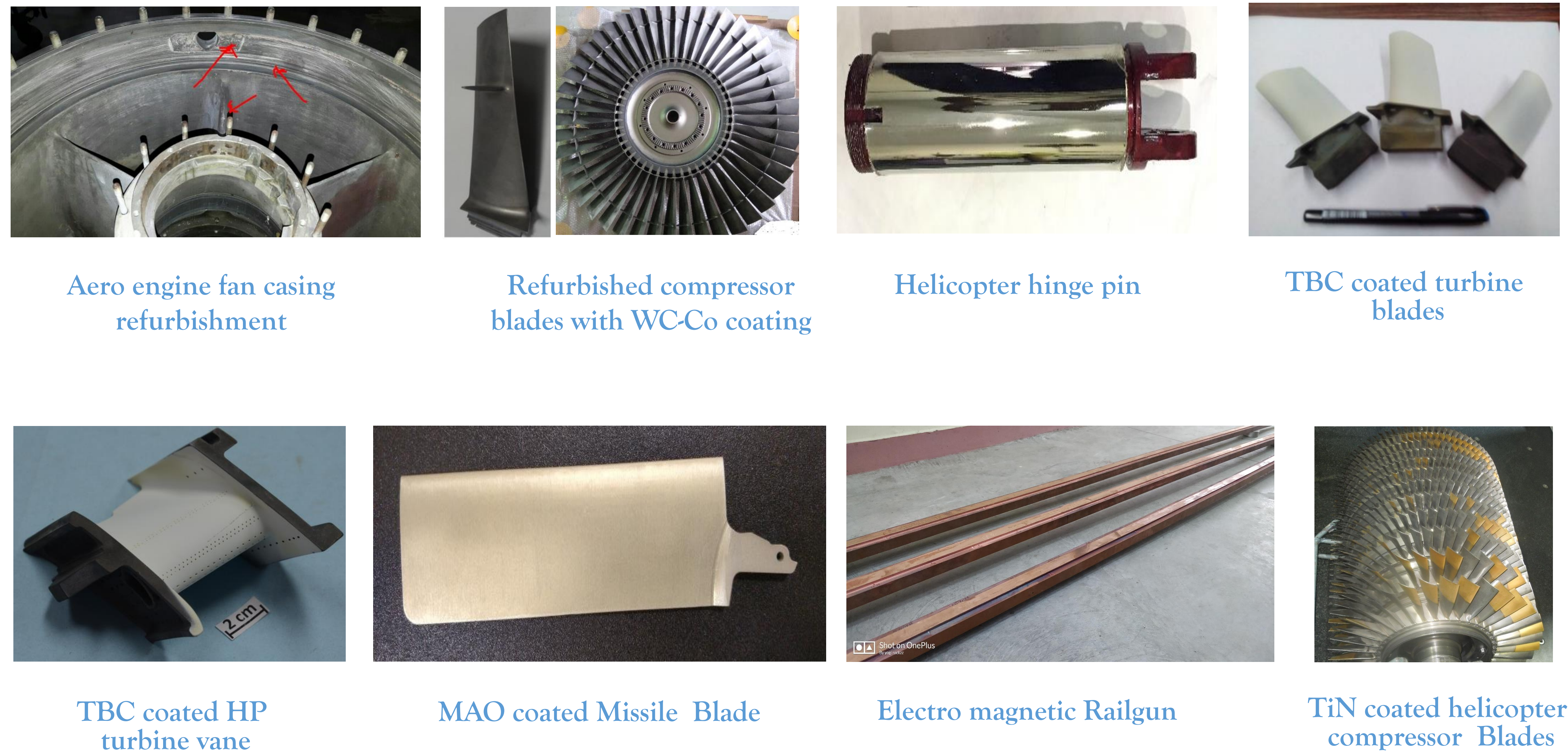
- Electron Beam Evaporation
- Cathodic Arc
- Magnetron Sputtering

Characterization Facilities:

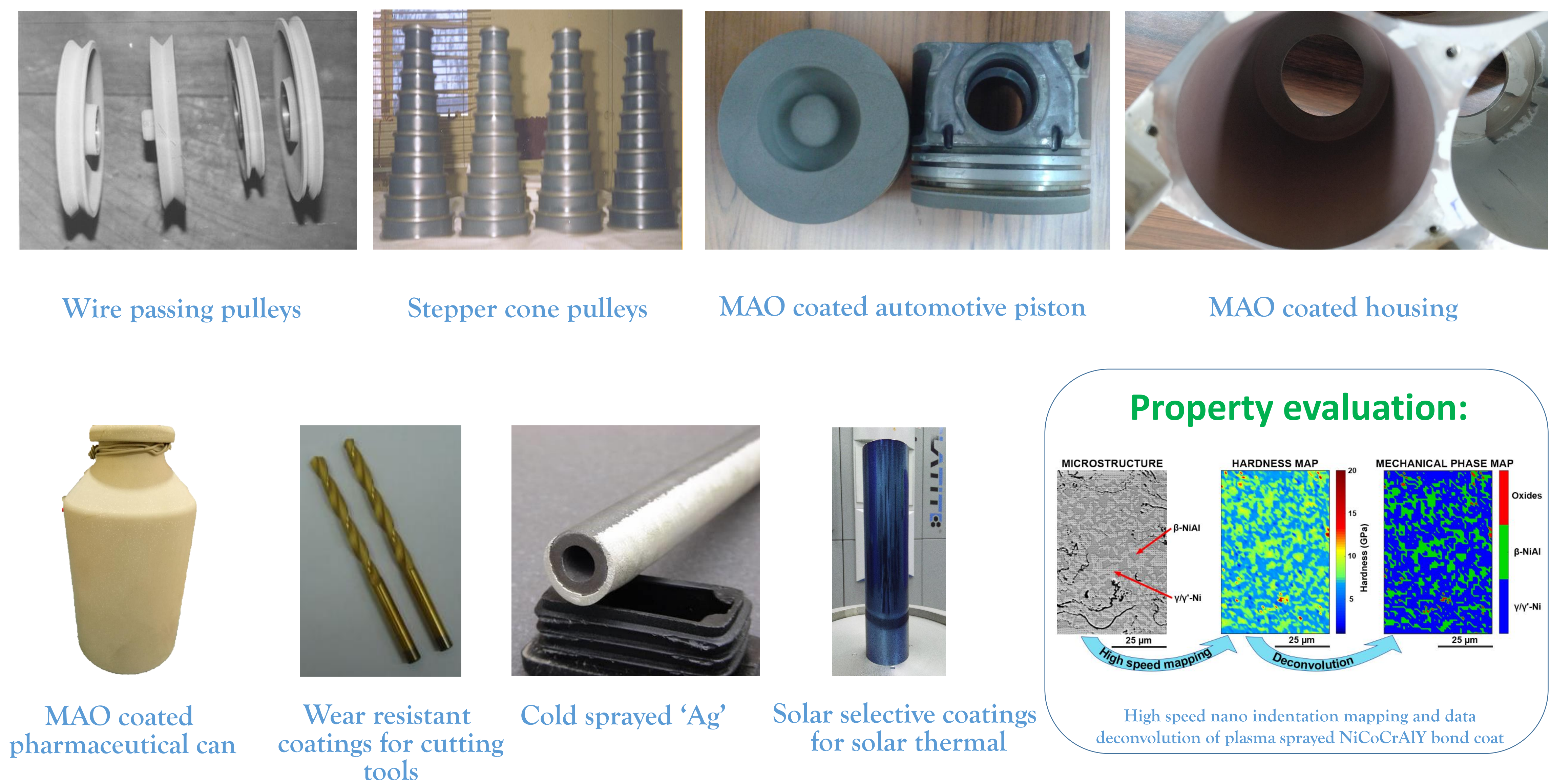
- Nanoindentation
- Scratch testing
- Micro Tensile testing
- Abrasion, Sliding & Erosion wear
- Thermal cycling
- 3D optical microscope
- Bending Fatigue
- Modelling & Simulation
- Mechanical profilometer
- Vacuum heat treatment
- Bond strength measurement
- Calo tester

APPLICATION SPECTRA

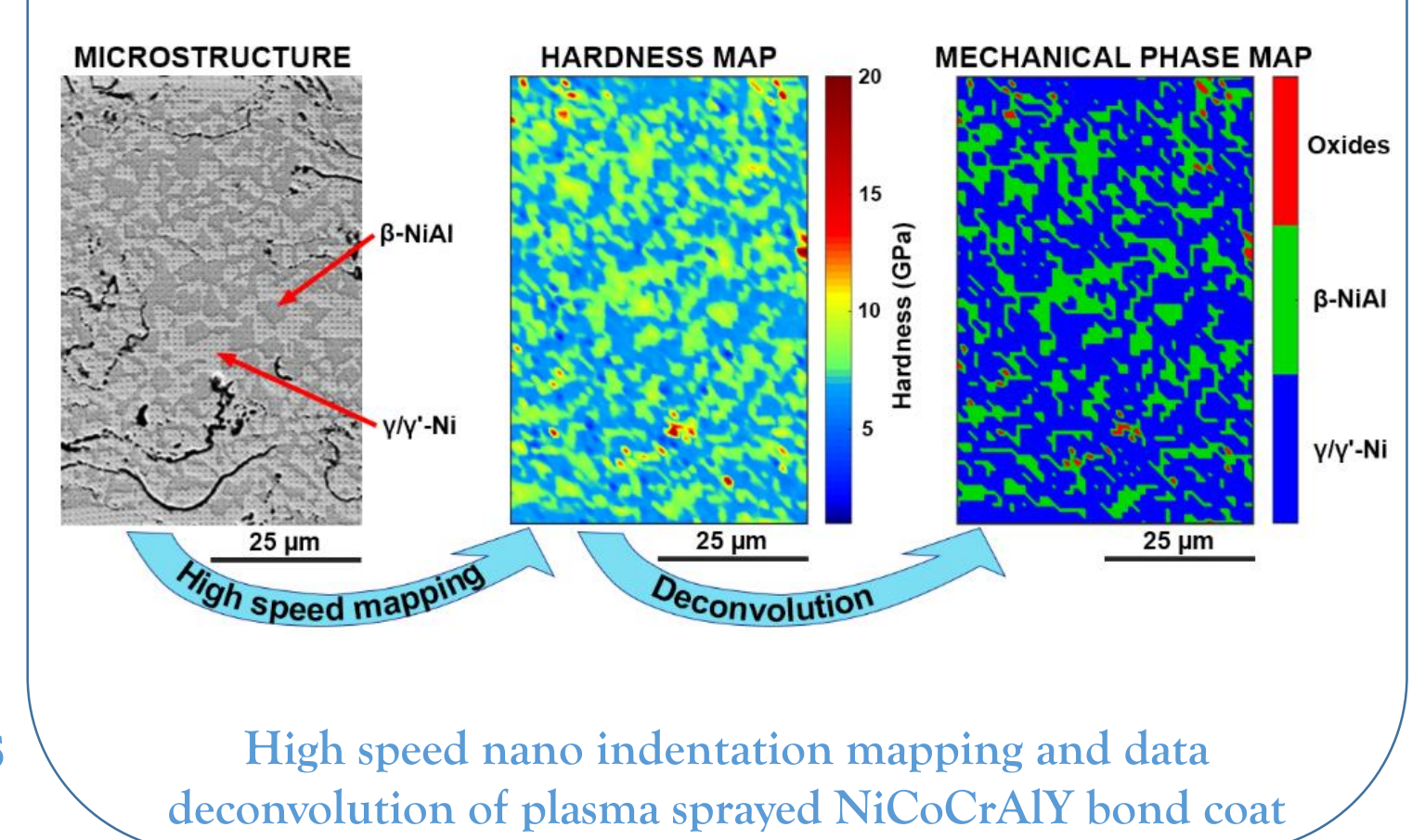
Strategic sector:



Civilian sector:



Property evaluation:



Technologies Transferred:

- Detonation Spray technology (Mark I)
- Micro Arc Oxidation
- Pulsed Electro Deposition
- Electro Spark Coating

Technologies ready for Transfer:

- Detonation Spray technology (Mark II)
- Cold Spray
- Pulsed electro deposition

Key Patents:

- An improved method for preparing nickel electrodeposite having predetermined hardness gradient (Indian: 285178)
- An improved gas dynamic cold sprayed device and method of coating a substrate (WO2018/154599A1)
- An improved solar selective multi-layer coating and a method of depositing the same (Indian: 303791)
- Process for continuous coating deposition and an apparatus for carrying out the process (US9365945)

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