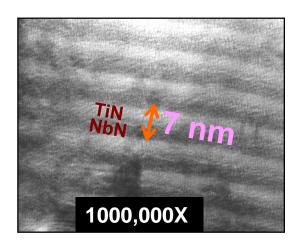
## **Moving From Micro to the Nano Age**

## Nanolayered multilayer Coatings and Nanocomposite Coatings as Futuristic Superhard Materials

Apart from high hardness (>40 GPa) the nanostructured coatings exhibit high oxidation resistance, toughness, corrosion and wear resistance.



TiN/NbN multilayer coating



Semi-industrial sputtering facility



TiN/a-C nanocomposite coating



**TiN coated HSS drill bits** 

NAL has developed capabilities to deposit nanostructured coatings on small components.



- TIN/NbN, TIN/CrN, TIAIN/CrN, TIAIN/CrAIN
- TiN/a-C, TiN/Si<sub>3</sub>N<sub>4</sub>, TiAIN/Si<sub>3</sub>N<sub>4</sub>, CrAIN/Si<sub>3</sub>N<sub>4</sub>

