**Results and Outlook:** deposition of new coatings in the material system V-Al-C-N on industrial plants, to achieve metastable nanostructured hard layers through systematical variation of deposition parameters as power density, plasma pressure and variation of the partial pressure of process-gases (Ar:N₂ and/or CH₄).

**Aim of the work:** characterization of binary, ternary and quaternary hard coatings in the material system V-Al-C-N produced by industrial scale reactive magnetron sputter deposition.

**General approach:**
- binary coatings: VN, VC, AlN, (AIC)
- ternary coatings: VAIN, VCN, VAIC, AICN
- V-Al-C-N coatings

**Realisation:** d.c. magnetron-sputter industrial deposition system (CemeCon CC800/8) with rf processing mode (for 2 of 4 cathodes).

**Flexible controlling:** variation of many parameters in each process step possible.

**General approach:**
- binary coatings: VN, VC, AlN, (AIC)
- ternary coatings: VAIN, VCN, VAIC, AICN
- V-Al-C-N coatings

**Results in d.c.-magnetron-sputtered binary VN-, VC-, ternary VAIN- and quaternary VAICN-coatings:**