Using your NTNU PhD to start a new business

WE HELP GOOD IDEAS
Consultancy / Patents / Financing / Market Surveys / Business Development Prototypes / License Agreements / Contracts and Agreements
Creating value from research results and good ideas
An innovation toolbox for employees and students

NTNU
2 700 Employees
22 000 Students

Helse Midt-Norge
16 000 Employees
6 Regional bodies

HST
420 Employees
8 000 Students
We have been helping inventors since 2003, and this is what has happened so far:

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631 130 399 kr
«Softmoney» for our spin-offs
IDEAS and opportunities

PEOPLE skills and expertise

ECO-SYSTEM for innovation

FINANCE and FtO

An organized VALUE CREATION PROCESS with tasks accomplished to a given quality, time and profitability

SPIN-OFFS and TECHNOLOGY LICENSE
Thermal spraying of silicon carbide (SiC)
Modified SiC powder and coating deposition:

FORMULA

SiC + [10 – 30wt.% oxide sintering aids in form of metal salts]
- Metal salt precursor: \( \text{Al(NO}_3\text{)}_3 \rightarrow \text{Al}_2\text{O}_3 \)
  \( \text{Y(NO}_3\text{)}_3 \rightarrow \text{Y}_2\text{O}_3 \)
  \( \text{Mg(NO}_3\text{)}_2 \rightarrow \text{MgO} \)
  - Oxide sol-precursor: \( \text{Al(OH)} \rightarrow \text{Al}_2\text{O}_3 \)
  \( \text{Zirconium n-butoxide} \rightarrow \text{ZrO}_2 \)
  \( \text{Titanium(IV) isopropoxide} \rightarrow \text{TiO}_2 \)

Other types of oxide-sol precursor or metal salt precursor also possible to use

Method of production:
  a) Prepare \( \text{Al(NO}_3\text{)}_3 + \text{Y(NO}_3\text{)}_3 \) in ratio 5: 3 molar to yield Yttrium Aluminum Garnet (YAG) phase upon calcination at 1000 C
  b) Prepare 5wt% of SiC suspension + cationic dispersant. Homogenize the suspension by stirring.
  c) Add precipitator, in our case: AHC with ration [AHC: \( \text{Al}^{3+} = 10:1 \)], mixed well.
  d) Start titration process of YAG precursor metal salts 2 ml/min
  e) Spray-dried the suspension
  f) Calcination of the spray-dried powders at 1000 C
  g) Ready powders to thermally spray using HFPD.
Thank you!