BATTERY MANUFACTURING

LAB SCALE PROCESSING

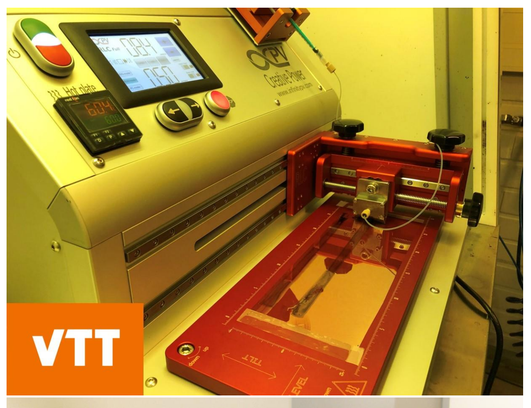
Slot die coating:
- Coating width 10 -125 mm, length < 280 mm
- speed 0.1 – 5 m/min
- Heatable processing possible < 90 °C

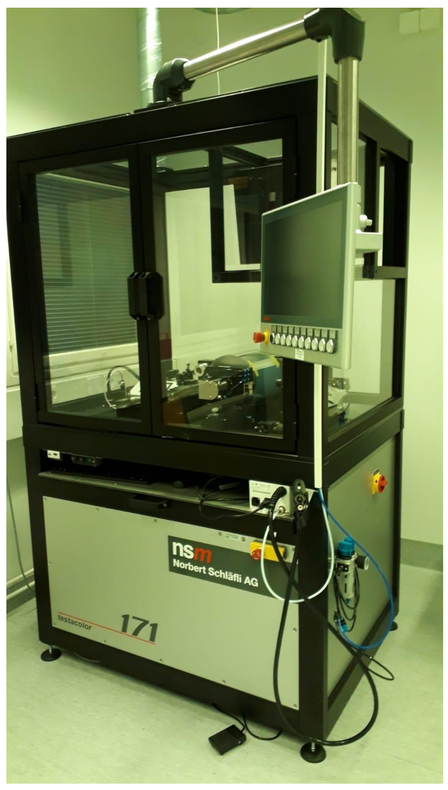
Bar coating:
- max 325 x 250 mm^2
- speed 0.3 – 13 m/min

Blade coating:
- 100 x < 250 mm^2
- speed 0.3 – 13 m/min

Screen Printing:
- Max 200 x 300 mm^2
- Speed 1 sheet/min

Annealing/curing:
- Convection oven, UV





PILOT SCALE PROCESSING

Slot die coating:
- Coating width < 280 mm, Speed 0.1 – 30 m/min

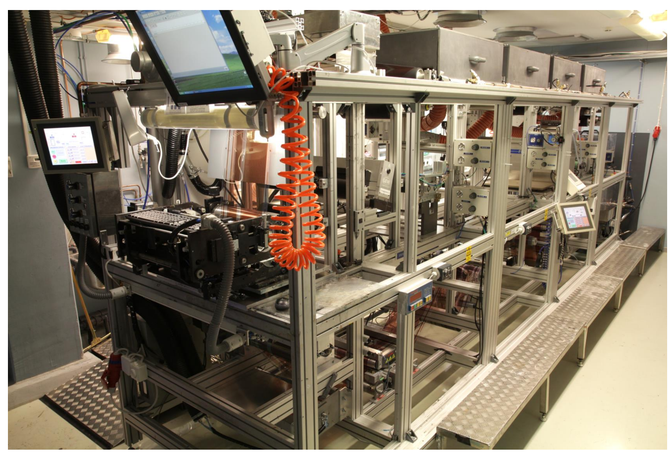
Bar coating:
- Coating width 280 mm, Speed 0.1 – 30 m/min

Rotary screen printing:
- Printing width < 280 mm, Speed 0.1 – 30 m/min

Annealing/curing:
- Convection oven, UV, IR

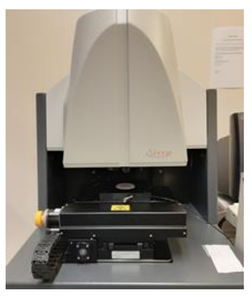
Cutting:
- Kiss cut, die cut, slitting
- UV –laser, Elas LTD, C123
  - UV, 355 nm
  - Frequency 100-500 kHz
  - Laser power 5 W
  - Sheet cutting area 200 x 200 mm
- CO_2- laser, Rofin SCx20, C123
  - CO_2, 10,6 µm
  - < 10 kHz pulsed, 10-100 kHz CW
  - Laser power 200 W
  - R2R/MOTF (mark-on-the-fly)/ Stop and Go Mode
  - Sheet cutting area 70 mm x 70 mm / 140 mm x 140 mm / 280 mm x 280 mm

Calendering
- 10 – 50 bar, width <280 mm



CHARACTERIZATION METHODS

- Optical microscopy
- SEM
- Profilometer
- 3D microscopy
- FTIR spectroscopy
- White light interferometry
- Four point probe
- Contact angle measuring
- + wide variety of other tools available at VTT (please ask if you need special characterization methods)



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beyond the obvious