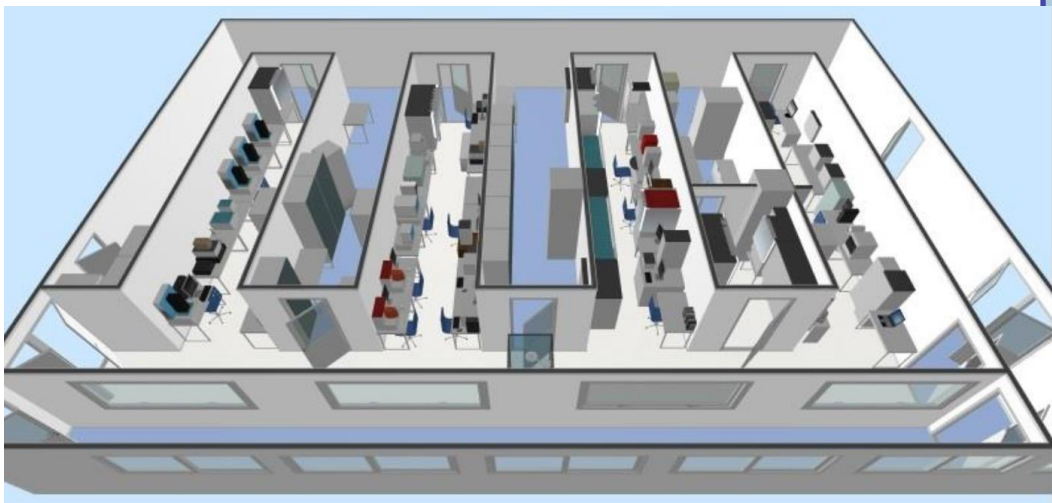


MST lab ved USN



MST lab ved USN



NORFAB Nasjonal infrastruktur



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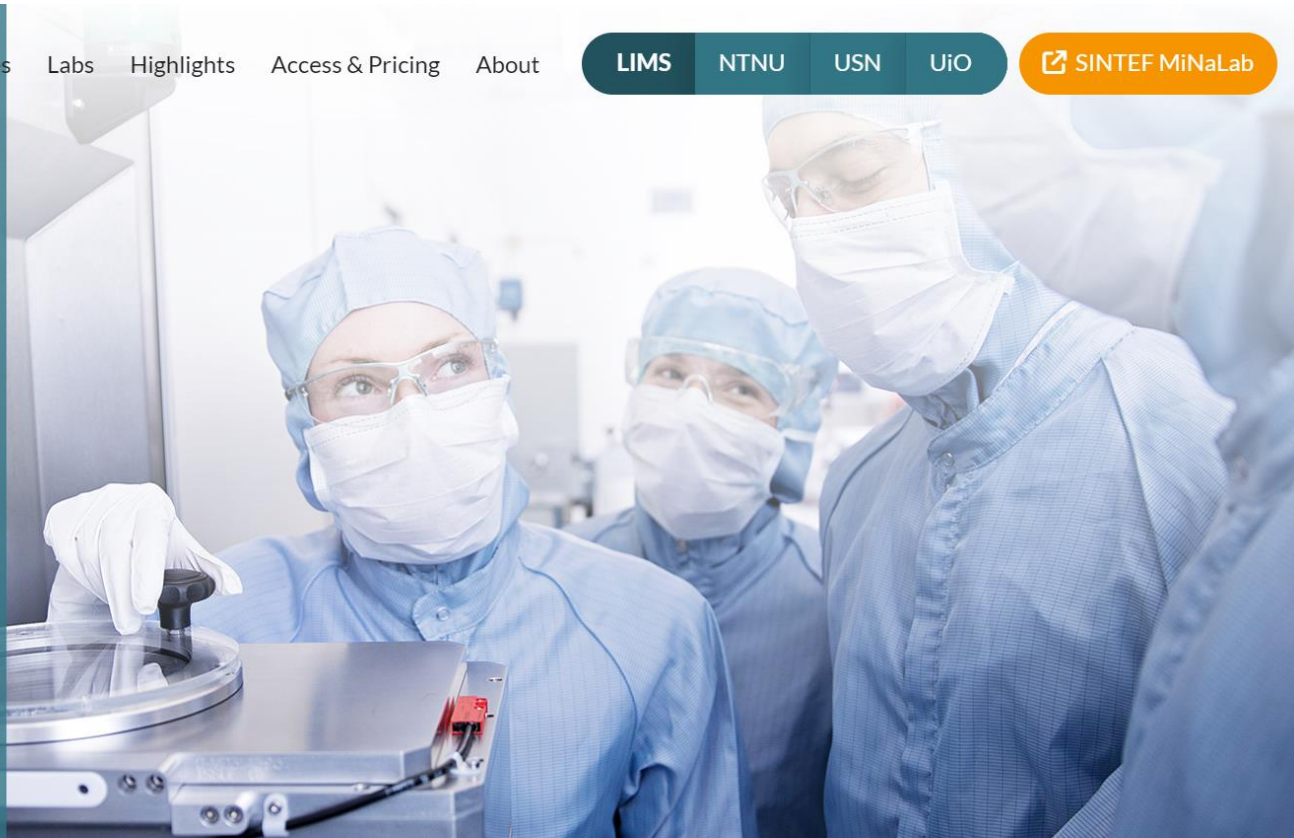
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The Norwegian Infrastructure for Micro- and Nanofabrication

Connecting, supporting and enabling research and innovation within Micro- and nanotechnology in Norway.



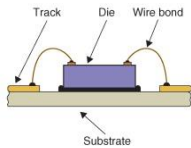
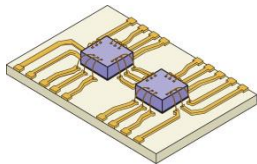
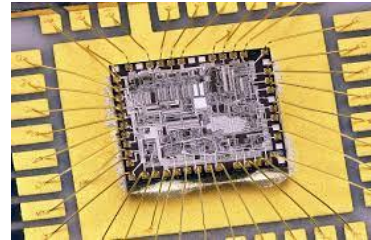
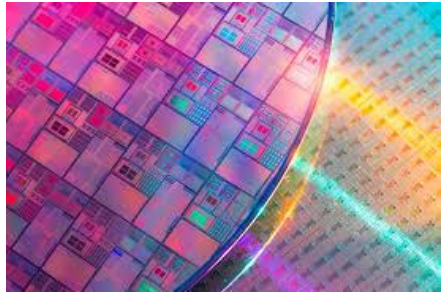
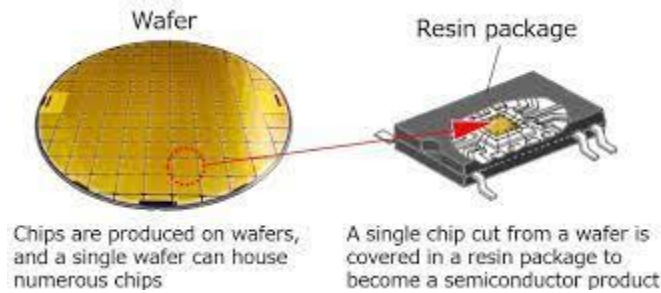
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NORFAB (MST lab) LIMS (lab instrument management system)

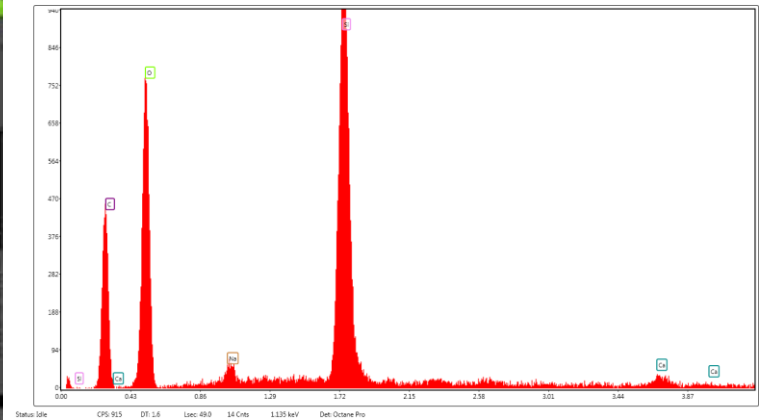
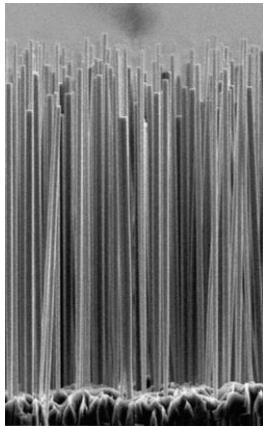
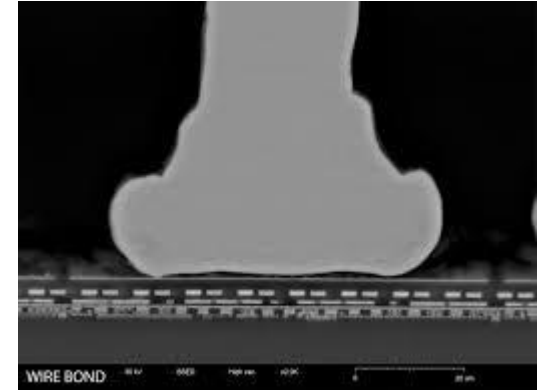
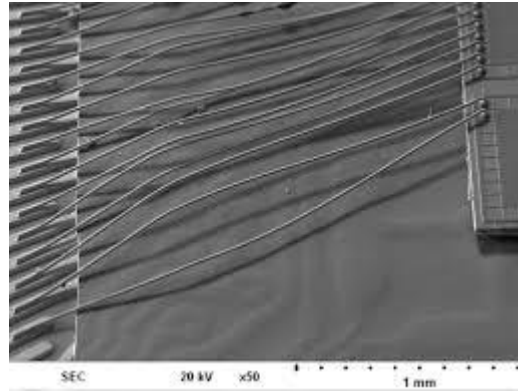


NORFAB (MST lab) Hva er vi i stand til å utføre?



- Metallisering
- Lage PN overganger (ute)
- Etsing metall
- Etse 3D i silisium (DRIE)
- Sage skive til chips
- Montasje chip
- Wirebonding/Flip chip
- Innkapsling
- PCB montasje

NORFAB (MST lab) Hva er vi i stand til å utføre?



NORFAB (MST lab)

160 utstyr i lab

USN MST-Lab



Location: between Farsberg and Horten, 100 km south of Oslo

Cleanroom area: 400 m²

The MST-Lab is a flexible cleanroom facility for MEMS processes on silicon wafers and other substrates with emphasis on bonding, packaging and Micro-Systems-Technology. Therefore the laboratory also contains advanced tools for testing, dicing, pick and place, fine-pitch wire bonding and different flip chip methods. In addition, MST has laboratories for material preparation and characterization, microarray measurements (electrostatically and optically) and bioMEMS research like assembly, packaging and testing of lab-on-chips and microfluidic microsystems.

Website



Technologies and equipment at USN MST-Lab

Thermal processes	Thin film deposition	Lithography	Dry etching
Cluster Cleanroom (Heraeus)	Acquaflex VIG Microtech G200	Flare Hood 4 for General Solvents	CR6 Deep 3 etcher
Cluster wafer chamber	Electroplating 04	Flare Hood 5 for sensitive chemicals	Plasma Cleaner PPS
Diffusion	Electroplating of Cu and Sn	Flare Hood 7 - Capable	
Cryofreeze	Flare Hood 9 - For electroplating Ti and	Mask Aligner - Hot Spot 8x80	
Press-to-join	Litho-Flare bench J Metal finger	Mask Aligner - EVG G20	
High temperature furnace	Plasma Cleaner AC30	Maskless aligner	
Oven Dioxide 50"	Perforator G20CAN 00	Spinco wet dry 500 Spinco	
Oven Dioxide 80"	Spinco K-3	Spinco 1 Spinco 1	
Oven Dioxide 100"	Thermal Cycler Model/Mobat-T35M	Spinco 2 AD Flat Spin 00	
Oven Temata		Spinco Spin 008	
Quartz Oven Heraeus HiTech furnace		Wet Drying 40 Plus	
Post Cure Chamber			
Temp chamber Heraeus Hiendo			
Temp Chamber Heraeus Hiendo			
Temp chamber Lenton 200			
Temperature Shock chamber			
Thermal Chamber Heraeus TQ200			
Thermal Chamber Lenton 04 RT200			
Thermal Chamber ThermoTE 75H1E			
Thermal Chamber Heraeus HiTech			
Thermoshake TS-00			
Tube furnace 2" inner, For bonding only!			
Tube Furnace High Temperature 2"			

Characterization	Bonding and packaging	Chemical and biological methods	Sample preparation
Acoustic resonator characterization	Ball handler - 207140 00	Autoclave	Cleaning System Health step
Acoustic-Phase-Const measurements	Bonding Machine Microsil	Biological Safety Cabinet 2 BIO	ION MILLING 8x800
AFM XE-300	Critical Point Dryer	Biological Safety Cabinet 3 BIO	MMPrep system for spinco/epitaxial/mold
Dipcoater	DA-Hatch-Laufer Inc.	Centrifuge Eppendorf 5702S	Relating Equipment 1 Steuers DP-0
Gas chromatography/mass filter	De-Solvec 707	Centrifuge MerckSigma	Relating Equipment 2 Steuers DP-0
Heat treatment	Flare-Hood Bonding/Flare/Flex (Autoclave)	Chamber 80/80 2000	Relating Equipment - Logitech PM2
Hi-Load Detector	Flare-Hood Bonding/Flare/Flex (Manual)	Concent Multi-parameter analyzer	
Impedance measurements	Flare-Hood Bonding/Flare/Flex (Manual)	Depositor Chemix Micro Springsystem 1	
Impedance Spectroscopy	Flare 1-40 N	Ethanolite	
Optical Microscope i Luma DM3000M	IP-Camera Pivision PL-6710T	Electrochemical workstation	
Optical Microscope i Luma DM3000	Optical Microscope Zeiss V10	Electro-Chemical workstation	
Optical Microscope i Luma DM3000 XL	Shimadzu Database S02	Electro-Process	
Optical Microscope Olympus XD17M-G20	Microscopic bath PD1001	Electro-Process	
Optical Microscope Olympus MD10	Microscopic Cleaning Standalone	Flare Hood 1-BIO	
Probe Station PVD Probe II	Vacuum parker	Flare Hood 2-BIO	
Probe Station RF	Vacuum welder/Bustec	Flare Hood 3-BIO	
Probe Station, Pacific Wireless	Wire Bonding System EVG 50N	Flarehood 4 for Gold wire bonding	
Prostatator-Cryo, Leica/Hitachi	Wire bonder (Ball)	Incubator Biorad CD130	
SMM 300, PVA 767LA	Wire Bonder (Ball) Delcor 30-0	Incubator Leland	
Scanning probe, Coda	Wire bonder/wedge, TRT	Incubator, OrbiLab 6000	
SEM Hitachi SU 3000	Wirebonder (Ball) resolut Delcor/ML10	Litho-Flare bench 1 BIO	
SEM Hitachi SU 8200		Reader - Ticon Spectra Plus	
Spectrofluorometer-F50		Reader 3 Bio T4, Synergy0	
SFC		Shimadzu database PCR	
		VU Photomicroscope - Spectro	

Other

- Glennlab
- Laser Cutting Machine
- Laser Welder, Electrobra
- Optical Lab
- Post welder
- Screen printer
- Shimadzu QTL 5000
- Vacuum Chamber

STATISTIKK USN MST LAB 2022

- All time high antall bookede timer i LIMS



Nøkkeltall USN MST LAB 2022 fra LIMS

Total	Antall
Brukere (aktive 2022)	84
Instrumenter	150
Bookinger	4051
Bookede timer	50 648

	Antall
Prosjekter	57
Eksterne bedrifter	20
Labingeniører	5+1 leder

Seneste Investeringer MST lab NORFAB3 støtte fra NFR

- XRF fra Rigaku
- HF Våtetseutstyr fra Osiris
- Laservibrometer fra Lyncee
- FTIR og Raman utstyr
- DCS Digital Scanning Calorimeter
- Mekanisk sjokktester
- Bond Shear Tester hi temp

