



# **SEMI China Compound Semiconductor Materials Std. Technical Committee GaN Task Force**

**Date: 12.05**

**STANDARDS**

## Leaders of GaN Task Force

No.	Name	Company	Industry Chain
1	Ronghua Wang	Runxin Micro	GaN Power Devices
2	Guoqiao Tao	Enkris	GaN Epitaxy
3	Yi Pei	Dynax	GaN RF Devices

## Members of GaN Task Force

No.	Name	Company	Industry Chain
1	Jiangbo Wang	HC-SEMITEK	GaN Optical/Electronic Devices
2	Hongtu Qian	Dynax	GaN RF Devices
3	Neng Zhang	Sinopatt	Substrates
4	Tiezhong Ma	Akoptics	Metrology
5	Xuelin Yang	Peking. Univ.	GaN Epitaxy
6	Isadora Jin	ZYt	
7	Niefeng Sun	CETC-13	GaN Devices
8	Jianzhe Liu	BST	Materials

# Task Force's Charter

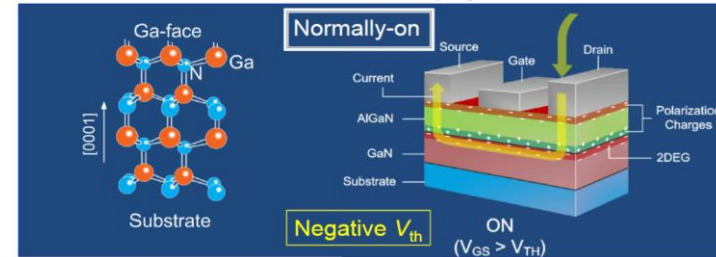
The objective of this task force is to develop standards for GaN materials and wafers for electronic and optical devices.

# Task Force's Working Scope

Establish standards (such as test methods and specifications etc.) of GaN materials and wafers for electronic and optical devices.

# Background – GaN Applications

## GaN Lighting



## GaN HEMT: from THz to kV



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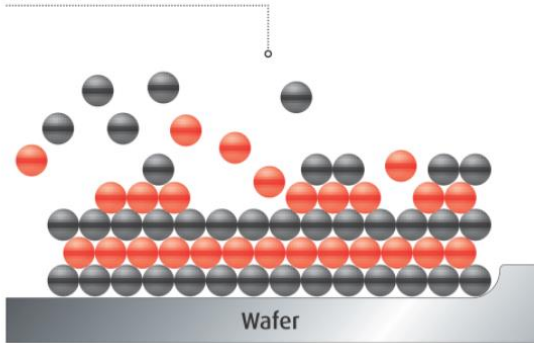


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Shuji Nakamura

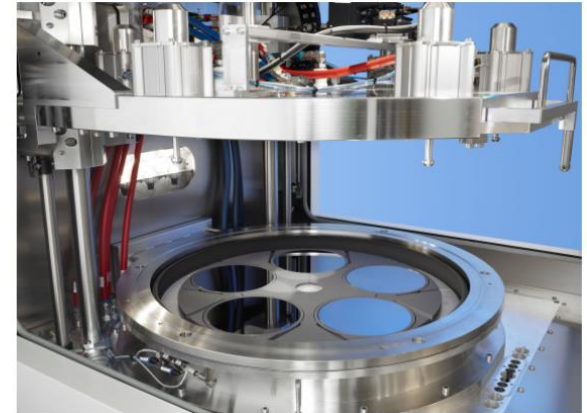
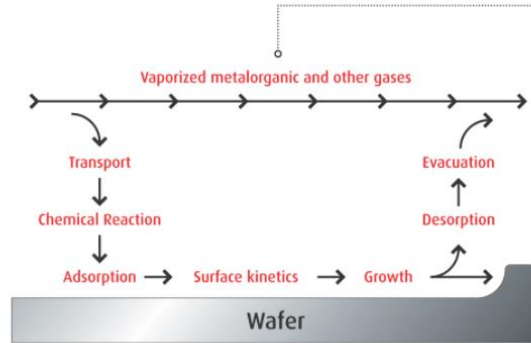


# Background – GaN Epitaxy

Surface processes while growing layers on the substrate

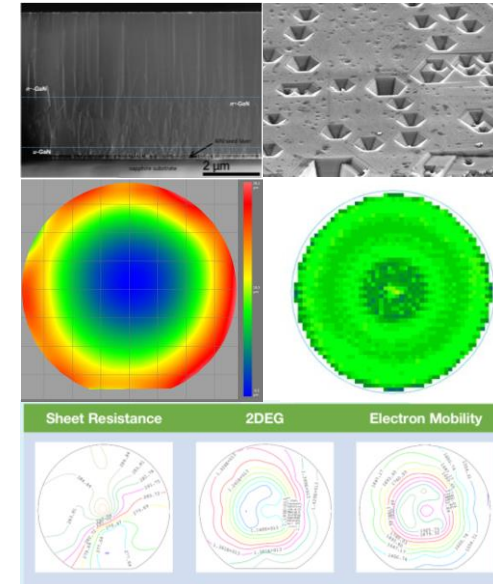


Deposition process takes place on the substrates (wafers)



# Background – TF Proposed Topics

- **Substrates**
  - PSS & other engineered substrates
- **Metrology**
  - Dislocation Density (CL)
  - Doping Concentration - CASA 010-2019
  - Wafer Bow/Warp
  - Residual Stress
  - $\text{Al}_x\text{In}_y\text{Ga}_{1-x-y}\text{N}$  Composition (X-ray)
  - Film Thickness (PL, Ellipsometry )
  - Contactless Hall: charge density & mobility - CASAS 027—2023





# New SNARF

NO.	Title	Company
1	Specification of Multiple Materials Substrate for GaN Epitaxial Growth aiming at HB-LED	Sinipatt



**THANK YOU**

**STANDARDS**