Mask Manufacturer as a Customer

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1. Concerns
   – Defect level?
   – Flatness?
   – Storage / Handling?

2. Standardization
   – Substrate handling
     • Carrier from blank vender
   – Defect dispositioning
   – Metrology
     • Defect, flatness, etc.

3. Infrastructure needs
   – Metrology tools
   – Handling tools
Substrate Control System

Optimize the best position of the substrate based on supplier’s defect information

Plate

Mask Data

PH : Pinhole defect

Search best rotated position
Substrate Control System

Calculate the probability of the defect influence based on defect information and pattern layout.
Summary

1. Substrate structure, material, and specification need to be fixed based on lithography requirement.

2. Data management through “Mask food chain” will be needed to control the defectivity.

3. Specifications and metrology need to be standardized based on the global requirements.

4. Technologies and tools for various area need to be developed with industry support.