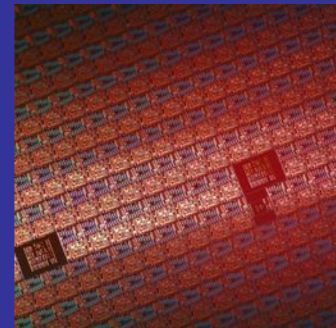
Accelerating the next technology revolution

Sidewall Deposition – EUV Mask Blank
IEUVI Mask Feb2010



Frank Goodwin

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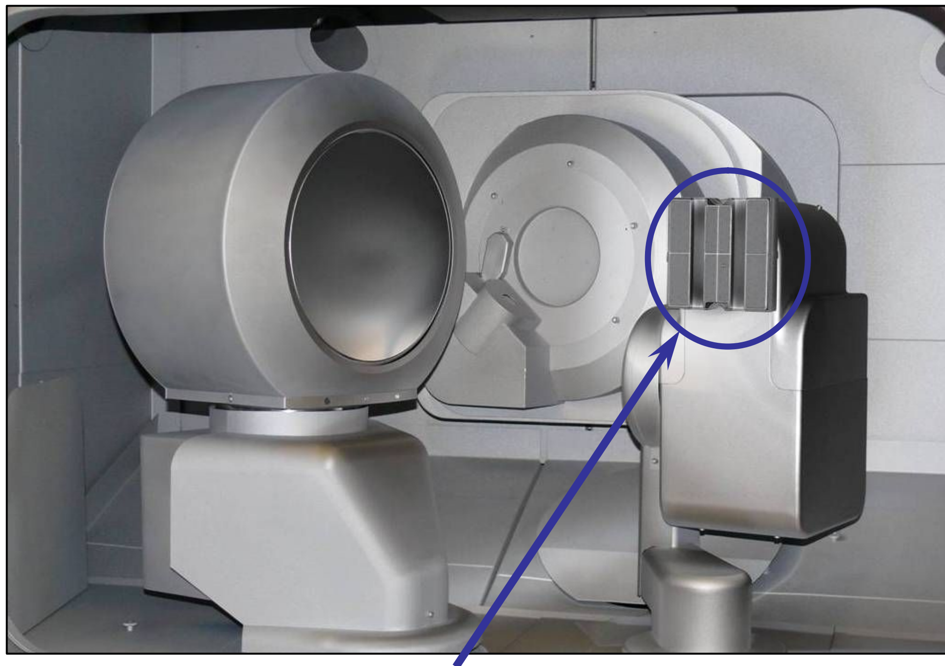
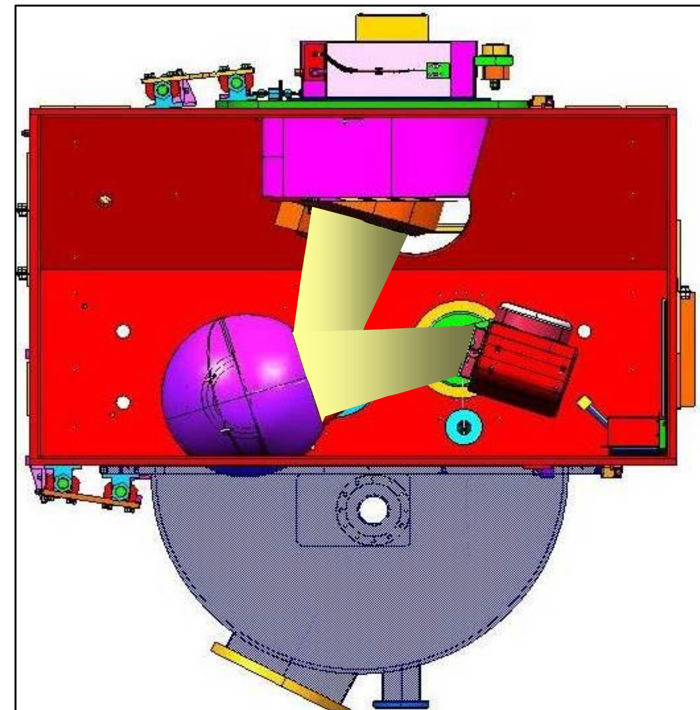
Multilayer Deposition Tool

Deposition of the Si/Mo multilayer film uses a ion deposition process where material is sputtered off of target and deposited onto a substrate

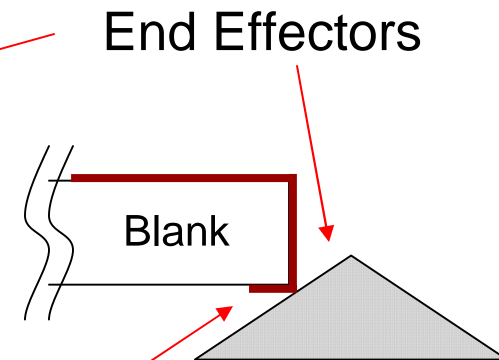




Location of substrate during deposition.
Without shielding the films will deposit on the sidewall and back of the substrate.

Handling Issues

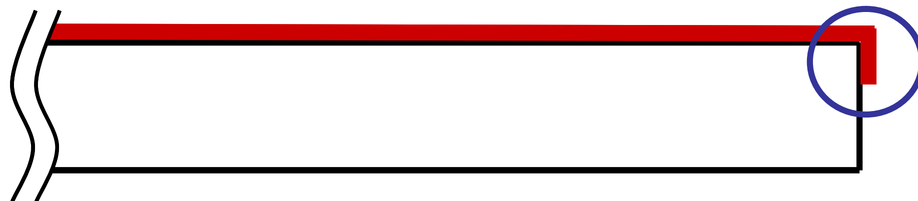
With the current handler of the deposition tool the end effectors come into contact with the film material deposited onto the backside and sidewall of the substrate



Contacts the mask blank at corner of substrate
In contact with backside deposition of ML due to e-chuck

Substrate Shielding

- To prevent backside deposition we are implementing a new shielding concept for the substrate chuck.
  - Will eliminate the backside film deposition and provide partial protect the sidewall.



Plan to maintain a warp around of the film of the top of the substrate

- This is the best solution we have currently to protecting the backside while maintaining and low defect multilayer film deposition process.