



ASML

EUV Source Workshop, around SPIE 2005

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EUV costs **must** be less than ArF costs

Typical ArF laser costs today

- Operating costs (electricity, etc) are a small part of the scanner operating costs
- Laser consumable cost: 28.5 k\$/bp
 - Average pulse usage per year, at 4 kHz: 15 bp
- Total cost: **425 k\$ / yr**

Target EUV Source (+Collector+ Debris Mitigation) module: <425 k\$/yr

- Operating costs – electricity + gases will be additional to scanner
- Consumables – fuel? electrodes? debris mitigation components?
- Collector –
 - A consumable is replace 1x / yr
 - If lifetime is > 1yr, then replacement cost must be allocated on a per year basis

We need input on these items from the EUV source developers!!



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Best resist performance to date (to my knowledge)

Current throughput modeling:

- for >100 wph: **Peuv @ IF = 115 W @ 5 mJ/cm²** resist sensitivity

Status resist development:

	Best Results begin '04	Best Results end '04	Target @ 32 nm Node
Resolution	100 nm	30 nm iso, 35 nm dense	≤20 nm
LER	5 nm @ 35 mJ/cm ² & 100 nm res.	4.1 nm @ 18.3 mJ/cm ² & 50 nm res.	≤2 nm

Rohm & Haas, this conference