

# PXD9 Production

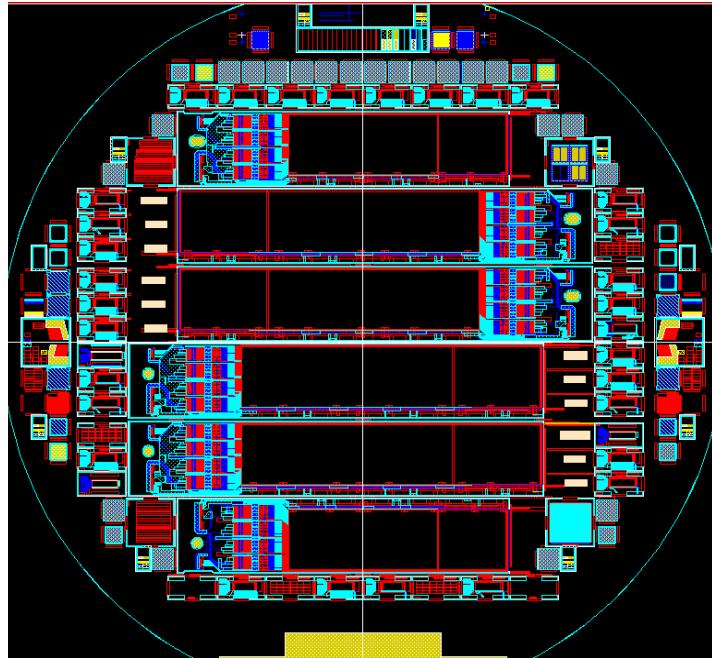
2 new production batches  
running time-delayed

- PXD9-20 – 7 wafers
- PXD9-21 – 12 wafers

# Wafers Modules Yield\*

- Extrapolation based on previous PXD9 statistics
  - \* 60% yield for grade A modules > 99% working pixels (pre tests)

19 wafers  $\times$  0.6  $\times$



Expected numbers

1 IF	$\rightarrow$	11
1 IB	$\rightarrow$	11
2 OF	$\rightarrow$	22
2 OB	$\rightarrow$	22

# ● Module Production Phases

## Phase 0

a) oxidation and back side implant of top wafer



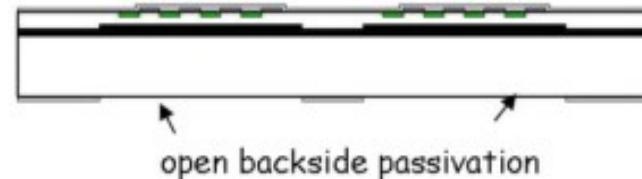
Handle <100> Wafer



b) wafer bonding and grinding/polishing of top wafer

Phase 1: poly gates, implants, first contacts  
Phase 2: 2 layer Al metallization, contacts

c) process → passivation



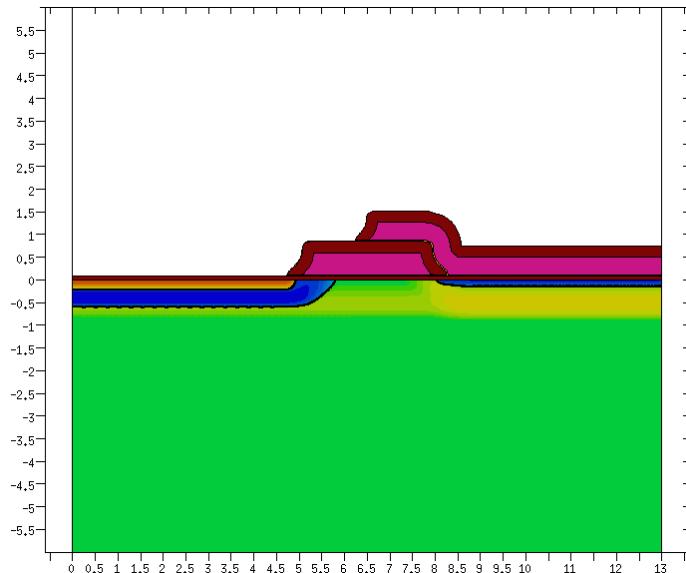
d) anisotropic deep etching opens "windows" in handle wafer

Phase 3: thinning, Cu process  
dicing, final tests



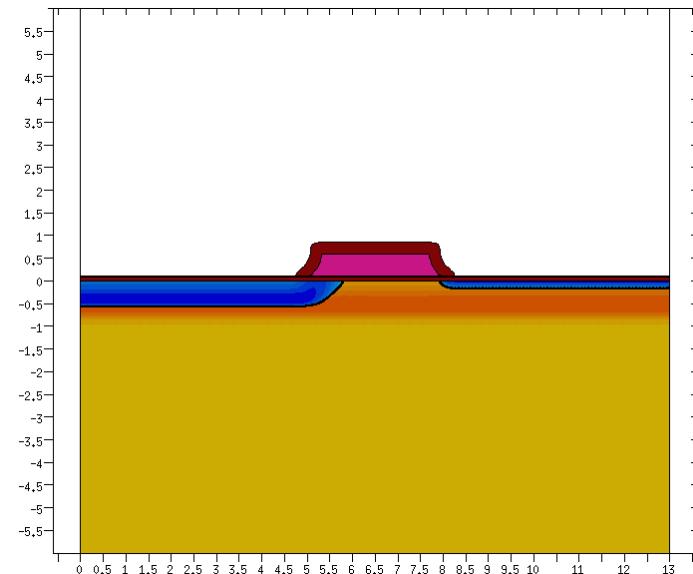
# Within Phase 1

PXD9-20



Both poly layers  
and all implantations done  
→ layer deposition for first  
contact system

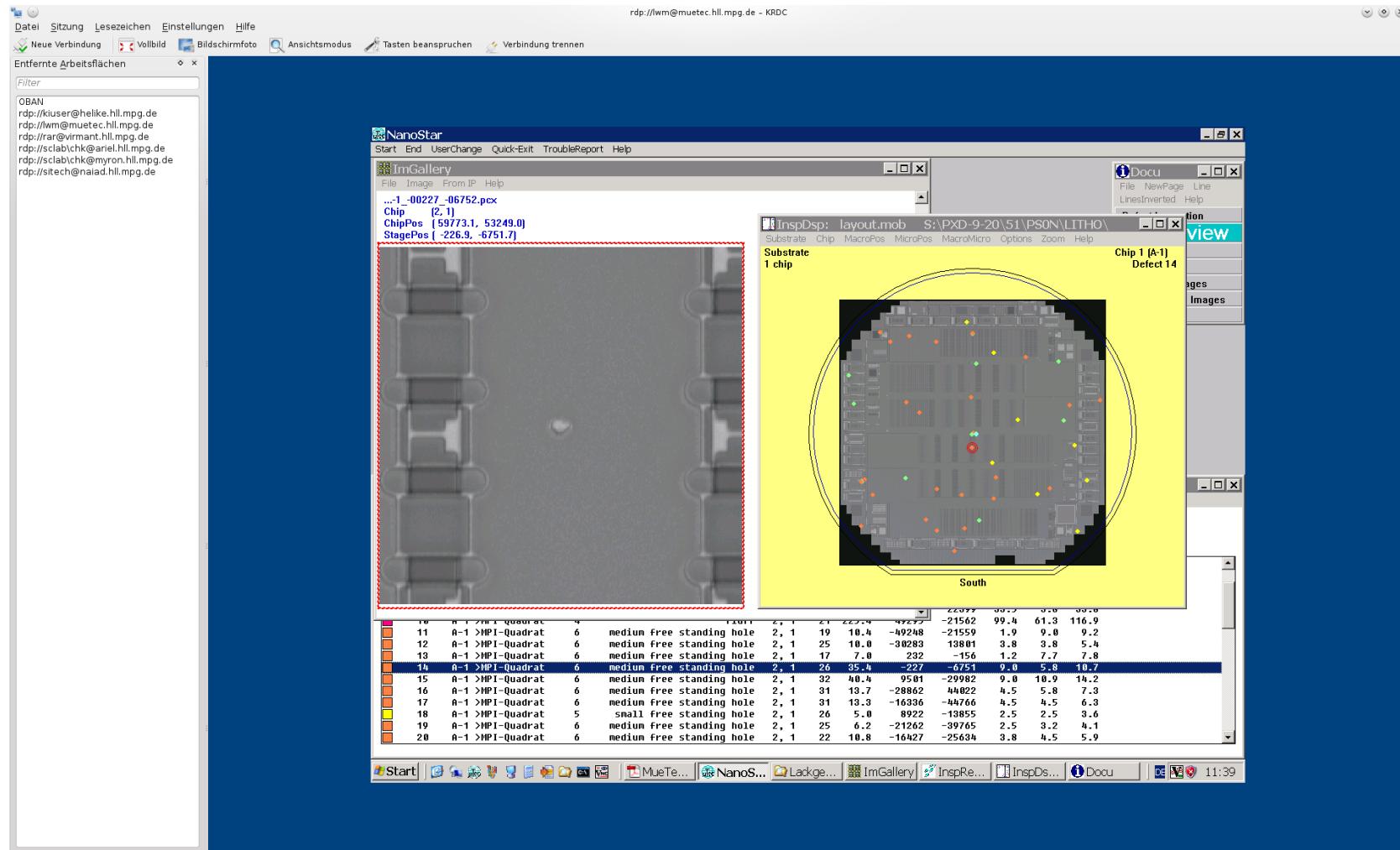
PXD9-21



first poly layer finished  
→ clear implantation  
(3rd of 6 implantations)



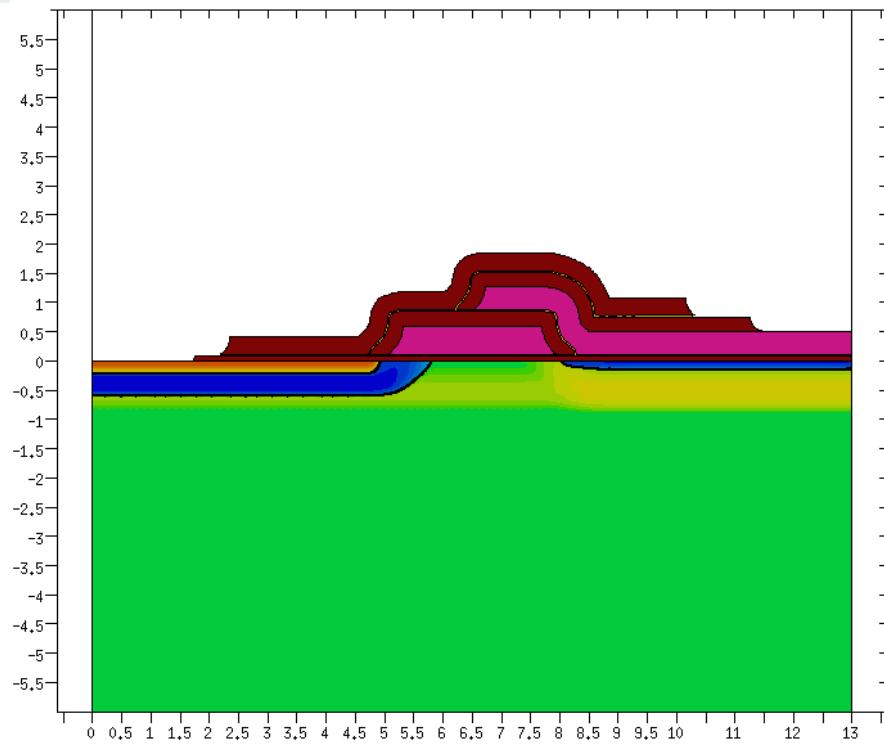
# Automized Visual inspections



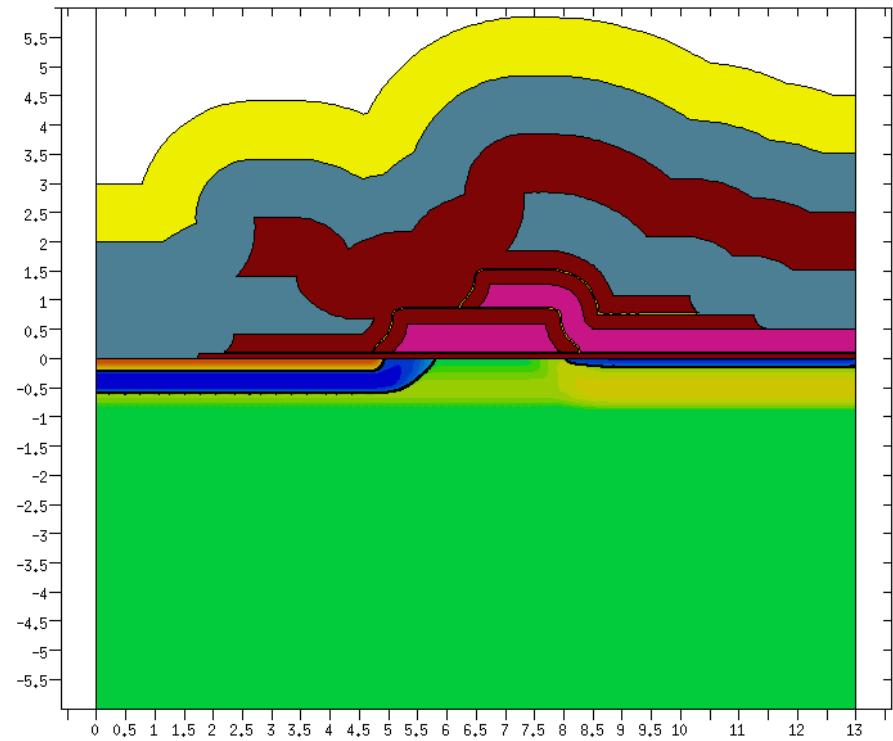
pson – source implantation

- Some steps to go

after phase 1



after phase 2



# PXD9-20/21 Schedule

- PXD9-20 (7 wafers): Phase 2 will be finished April 2019  
Phase 3: Summer 2019
- PXD9-21 (12 wafers): Phase 2 will be finished  
Summer 2019  
Phase 3: late Autumn 2019