



# **CMP INDUSTRY EVOLUTION**

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**PREPARED FOR CMPUG  
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# Outline

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- 1. Impact of Downturn and Recovery**
- 2. Likely Industry Evolution**
- 3. Changing Industry Structure**
- 4. Conclusions**

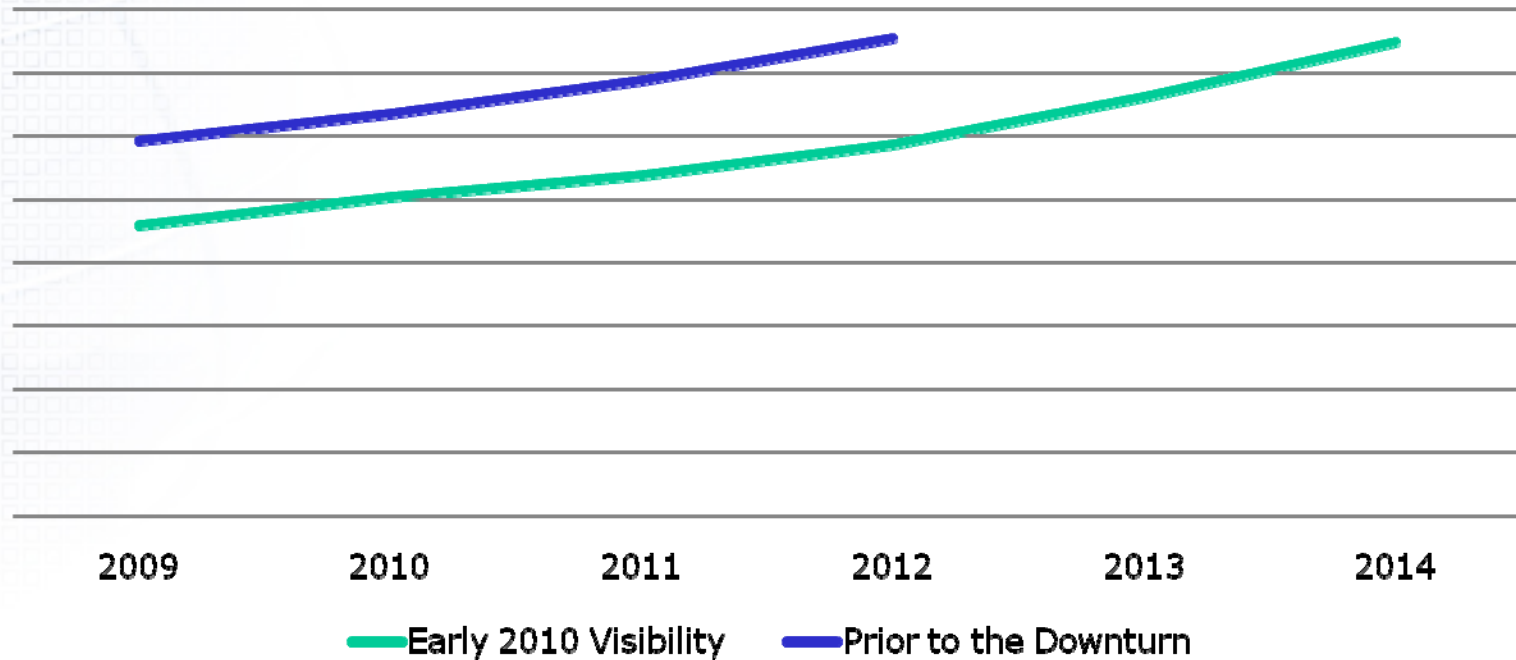


# Impact of Downturn & Recovery



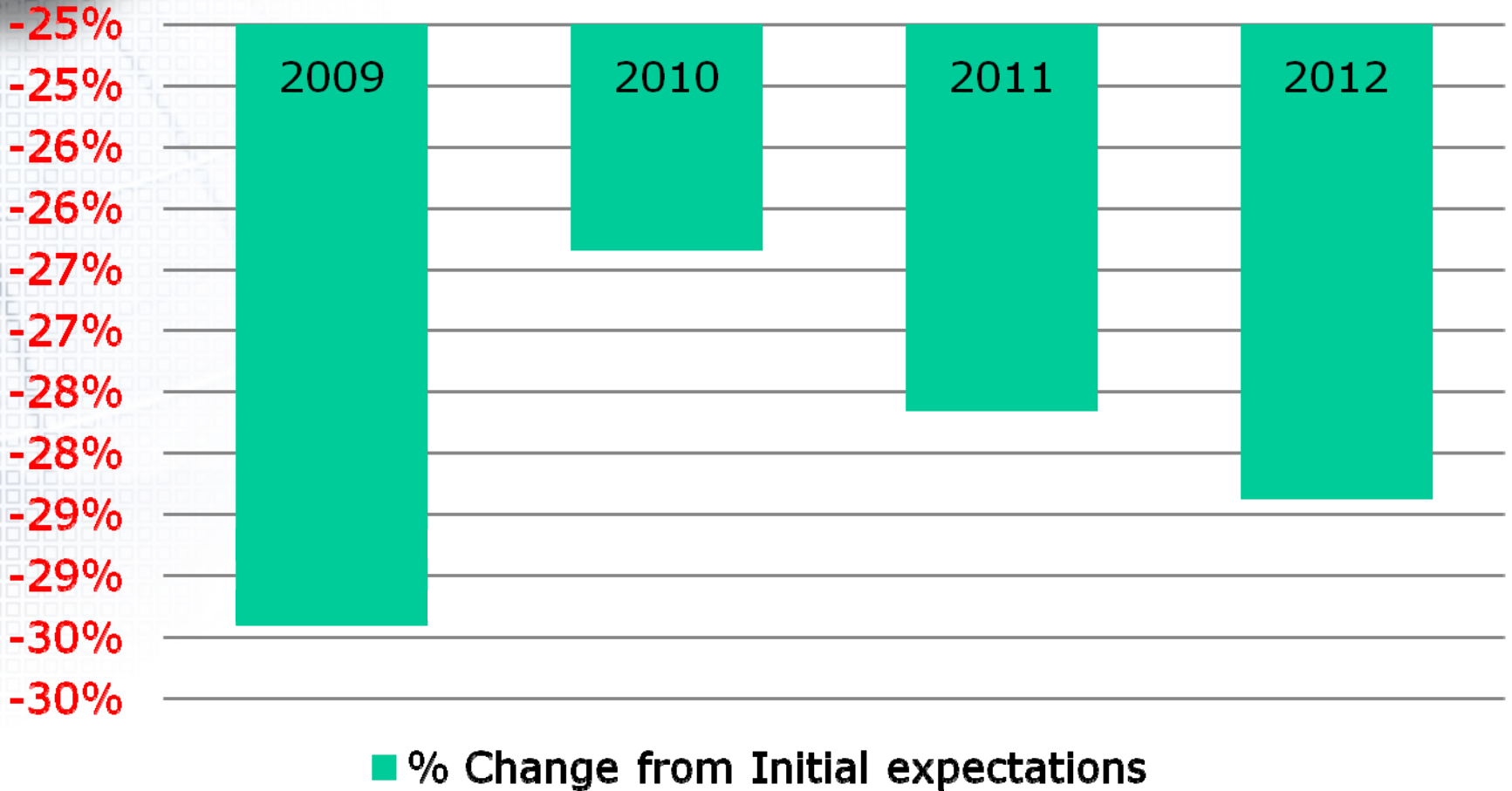
# Perspectives on the Future of CMP

# of CMP Operations





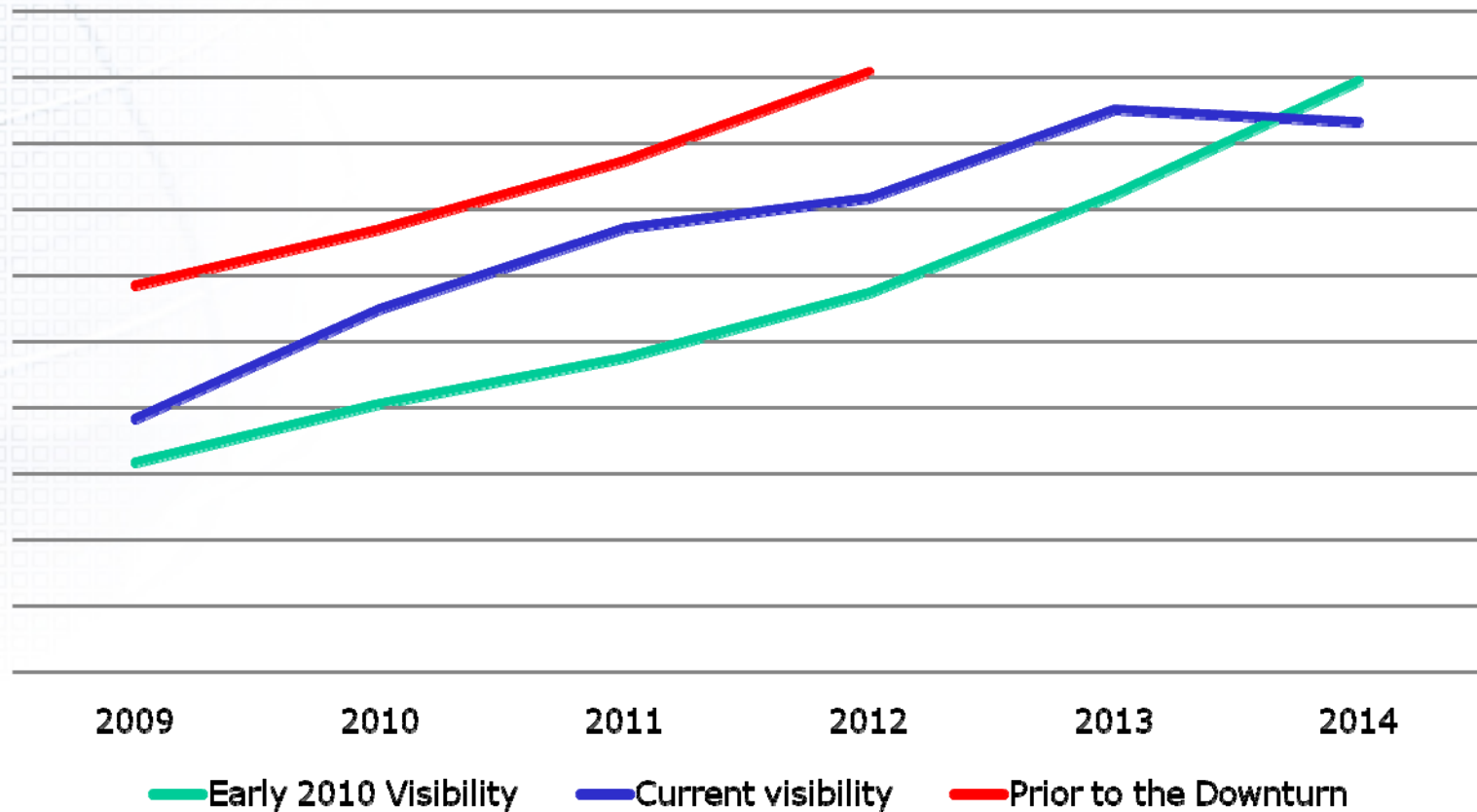
# As a result of the downturn, the number of CMP operations was initially thought to be 25 to 30% lower than anticipated in 2008





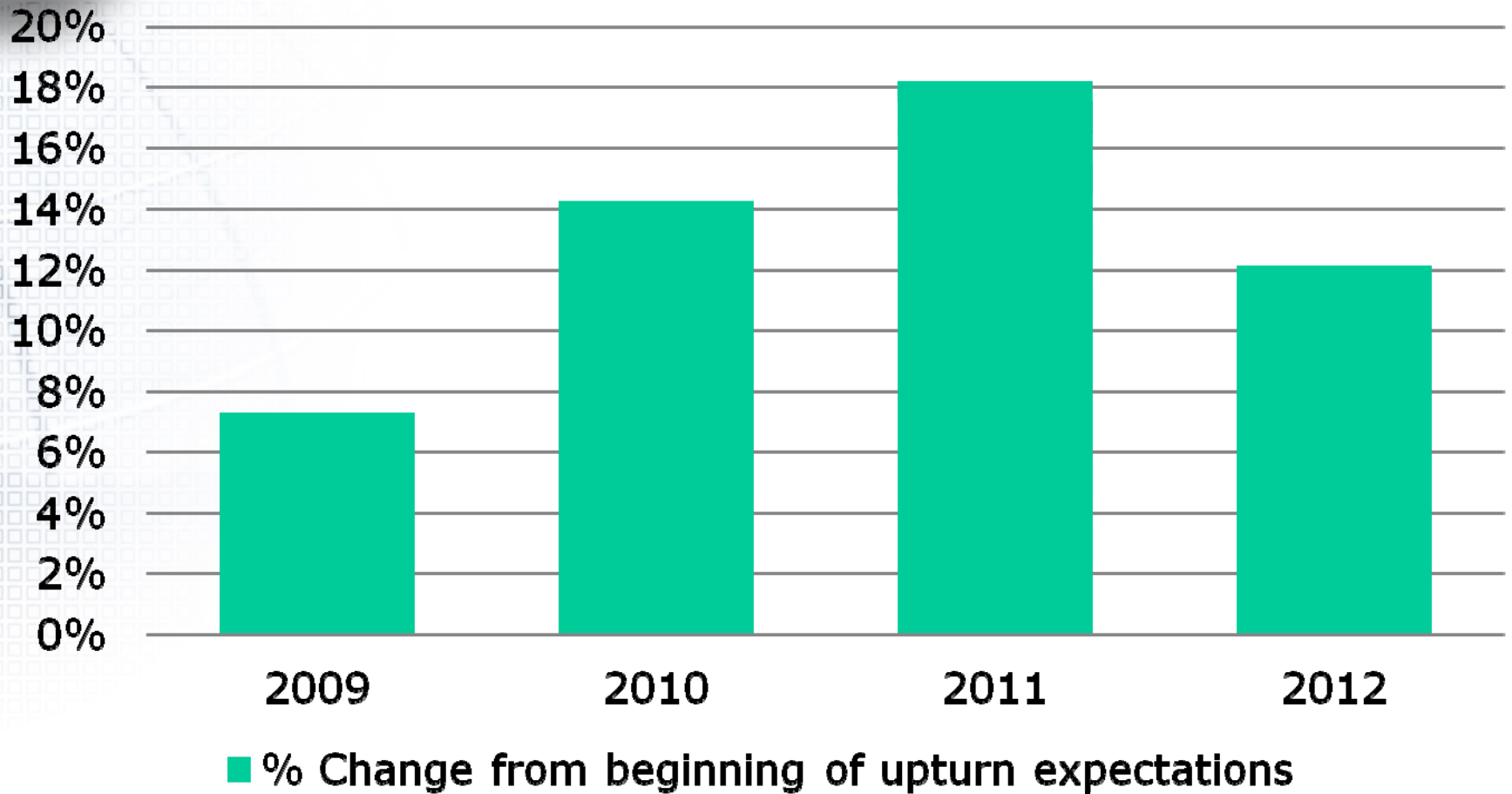
# But, reality is always somewhere in between

## # CMP Operations



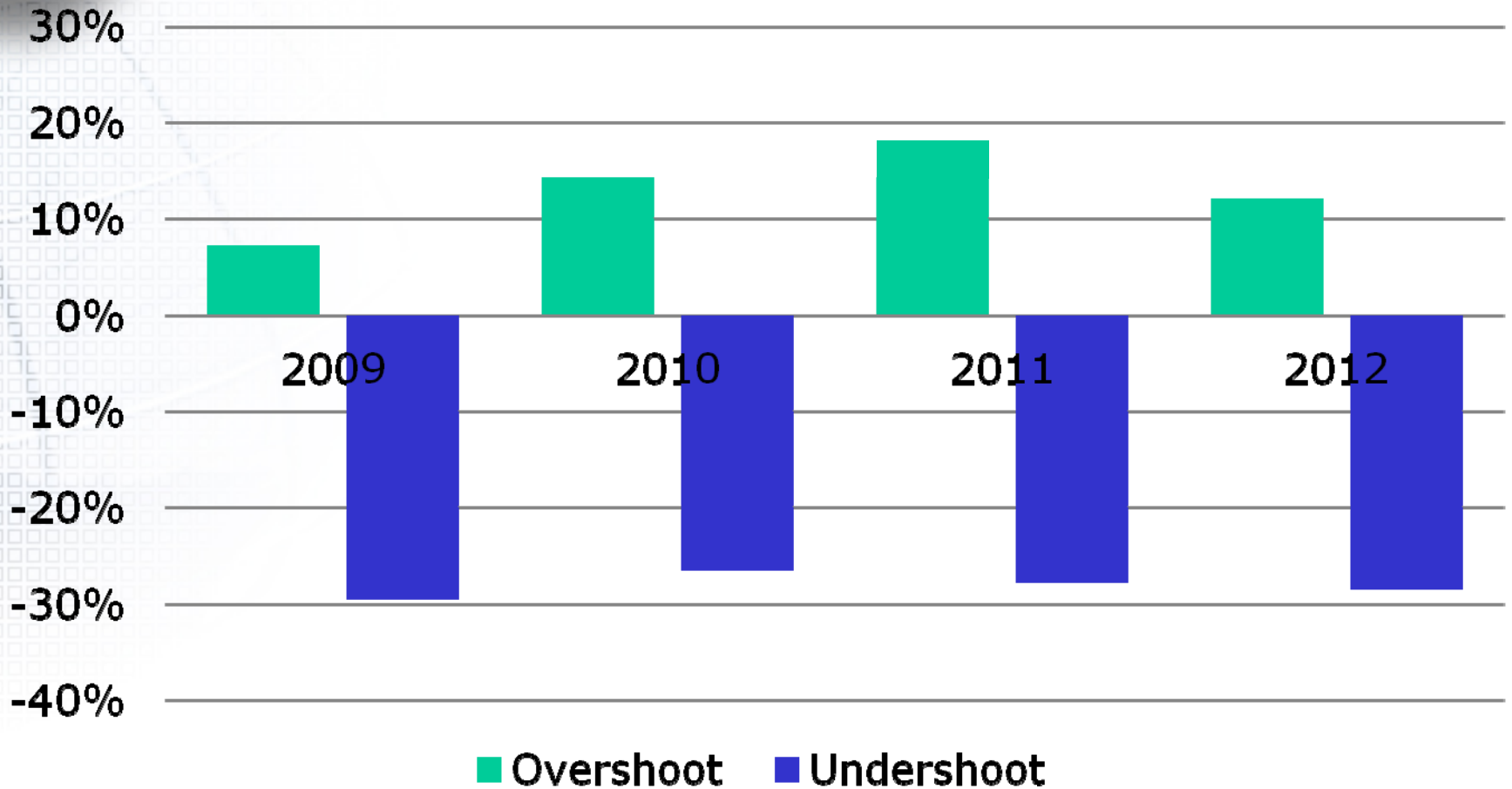


# % Improvement off the bottom





# But a business cannot be managed in this way







## And what we saw was

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- Rapid head count reduction
- Limited amounts of hiring during the upturn
- A lack of belief that we are in an upturn and certainly a lack of belief the general economy is recovering strongly
- Many deer in the headlights

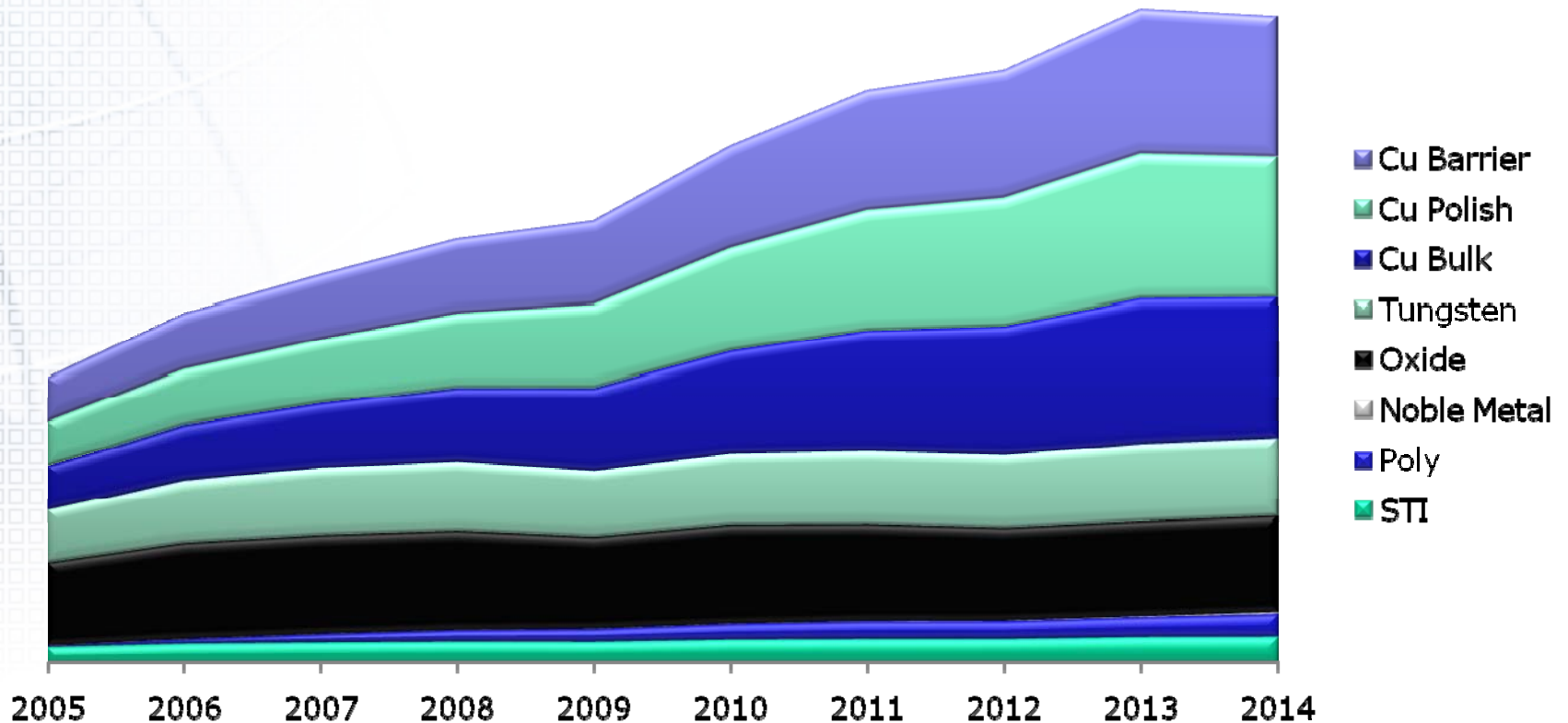


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## **Likely Industry Evolution (or what we expect to see)**

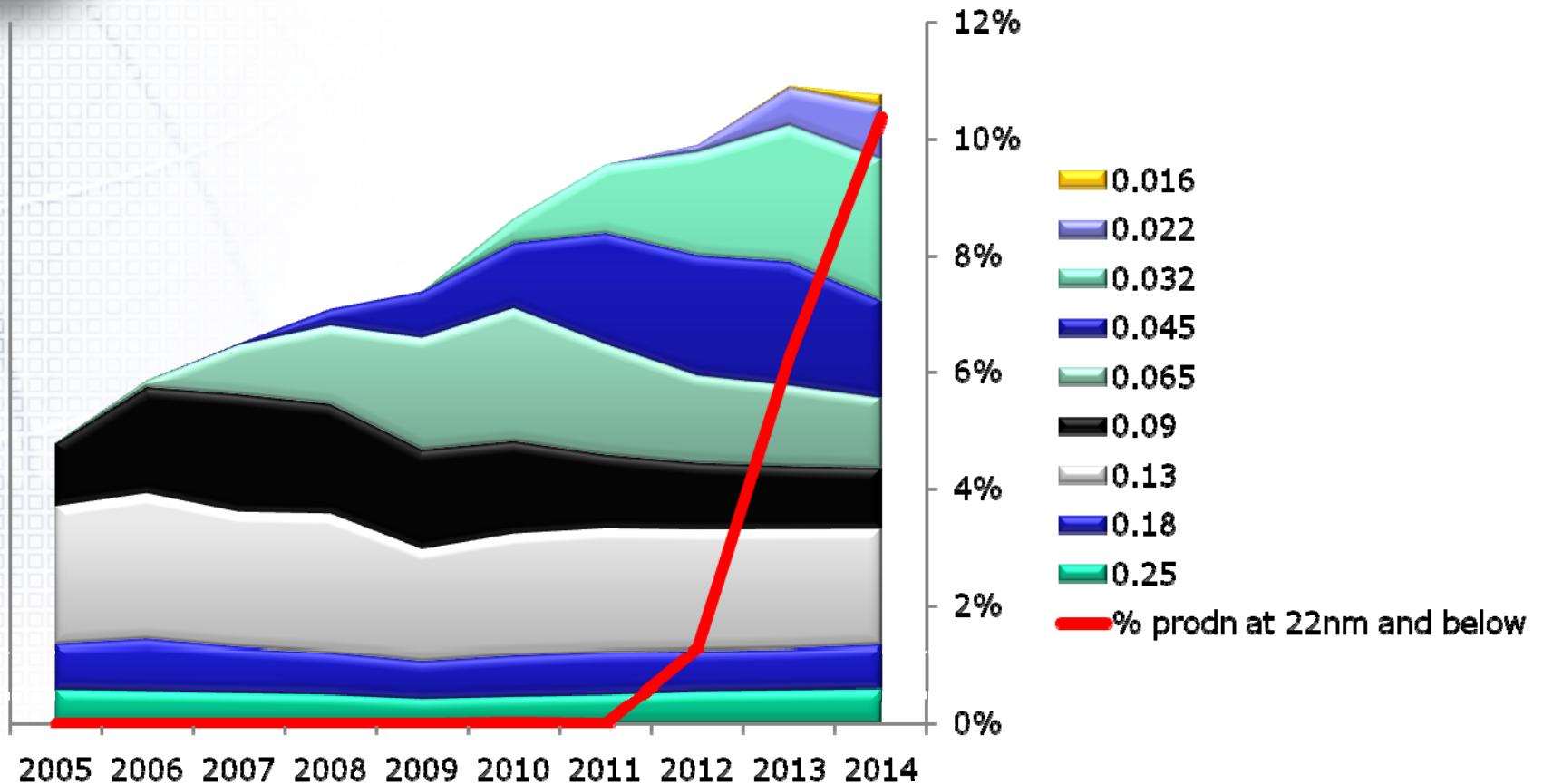


# CMP operations will grow by 11% CAGR from 2009 - 2014



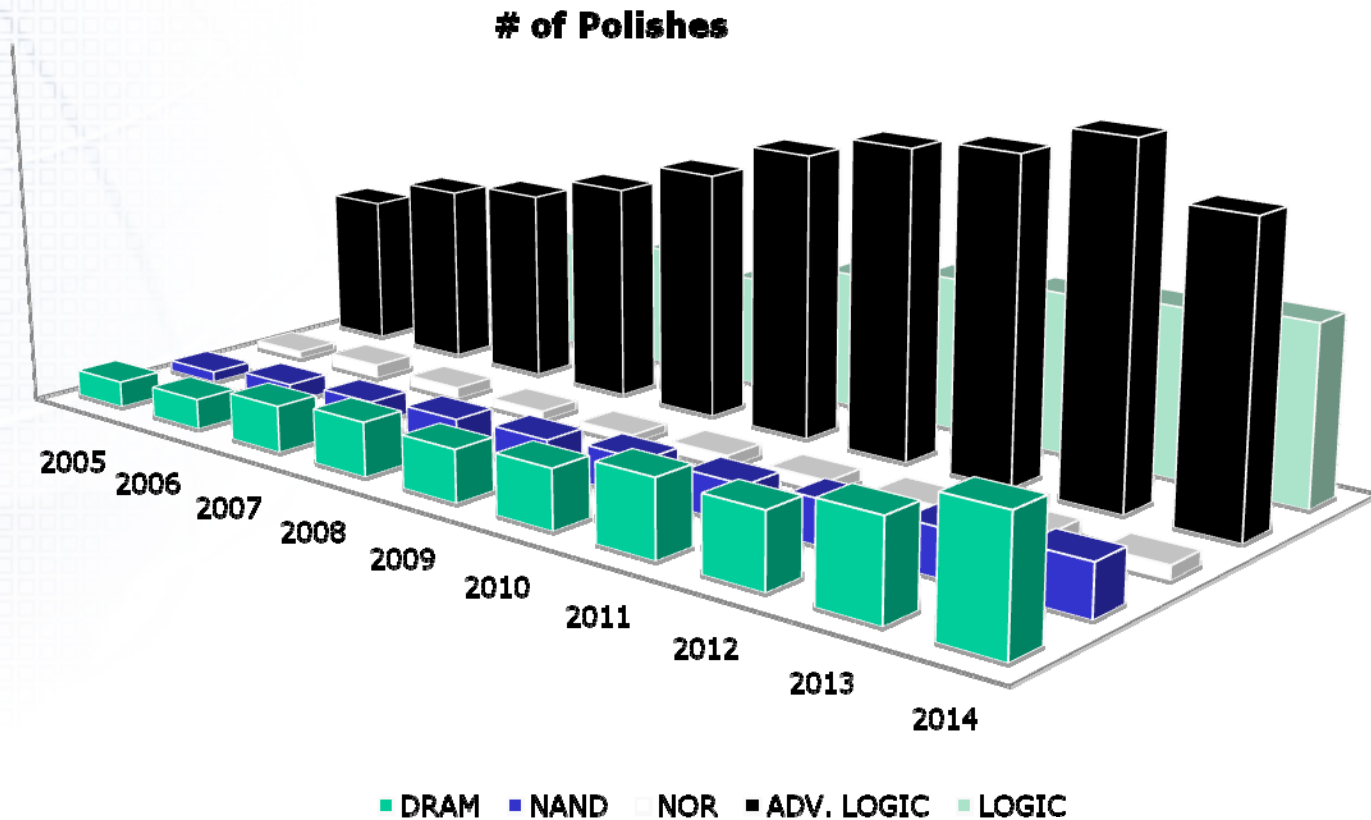


# New nodes bringing in new product opportunities



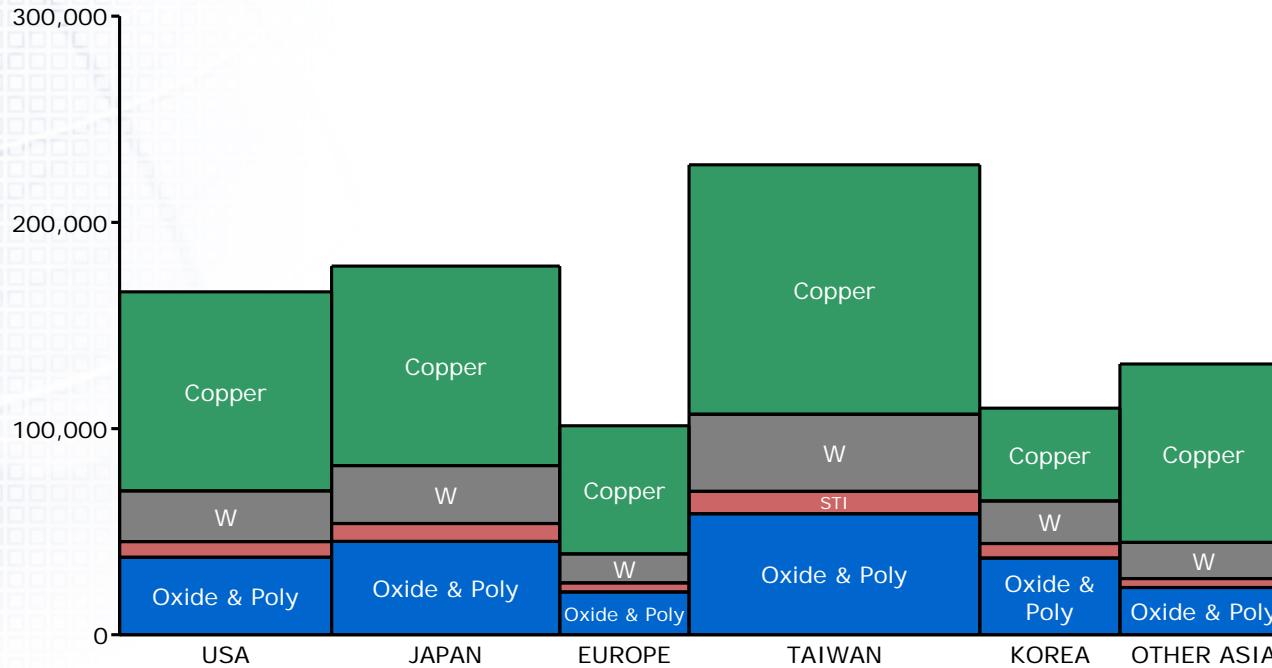


# Strong growth from Advanced Logic and DRAM for CMP





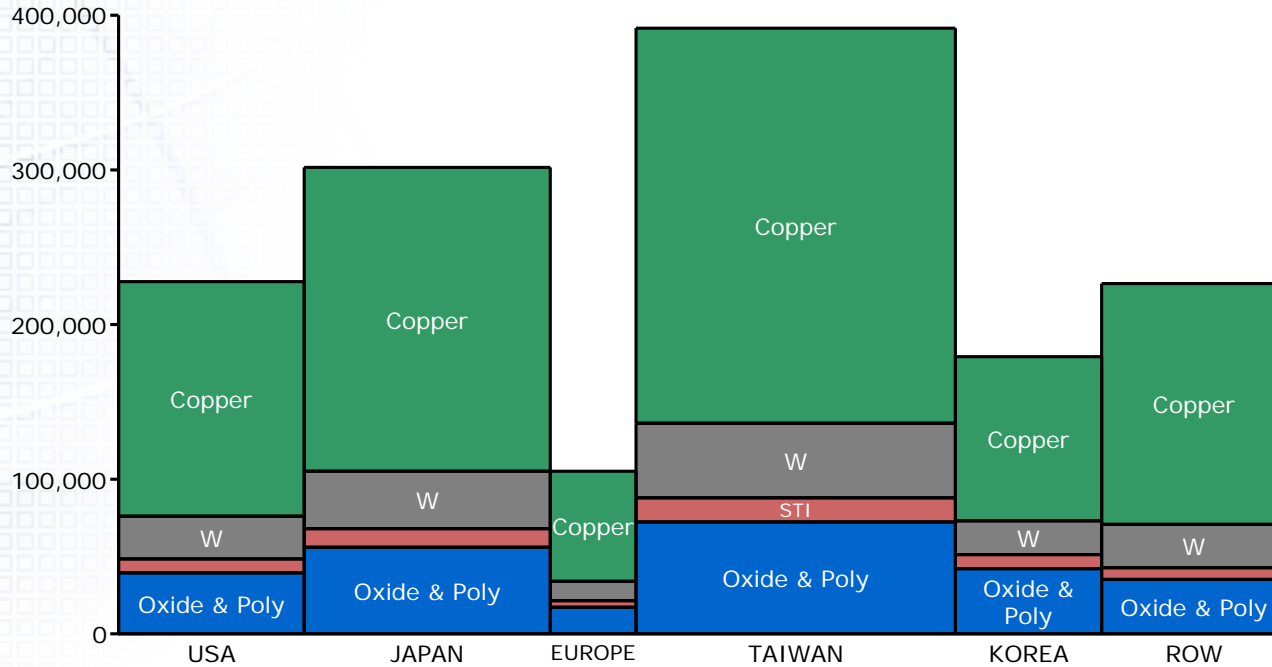
# Continued migration to Asia



POLISHES BY REGION, 2009



# Continued migration to Asia



POLISHES BY REGION, 2014



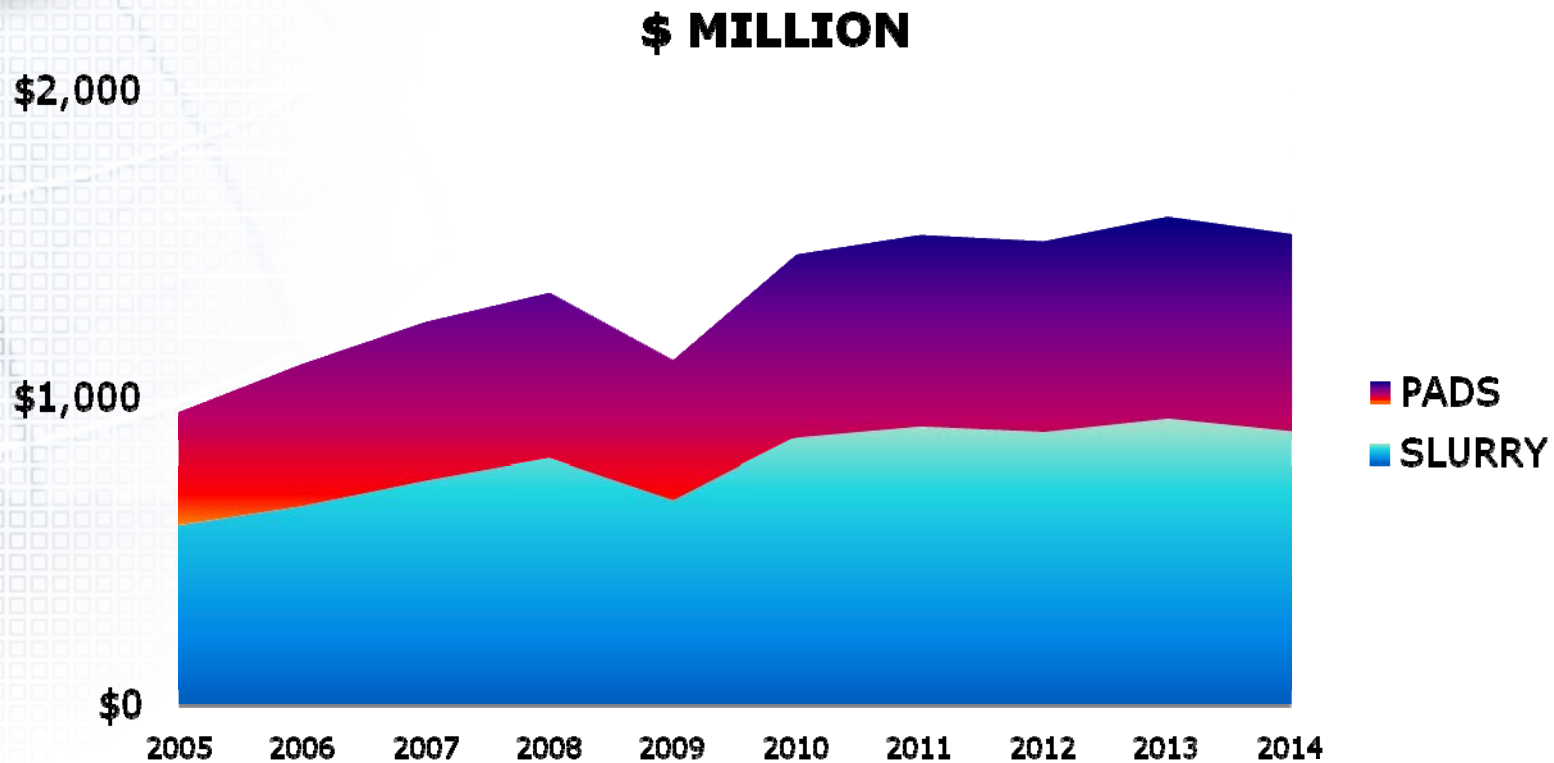
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## Changing Industry Structure



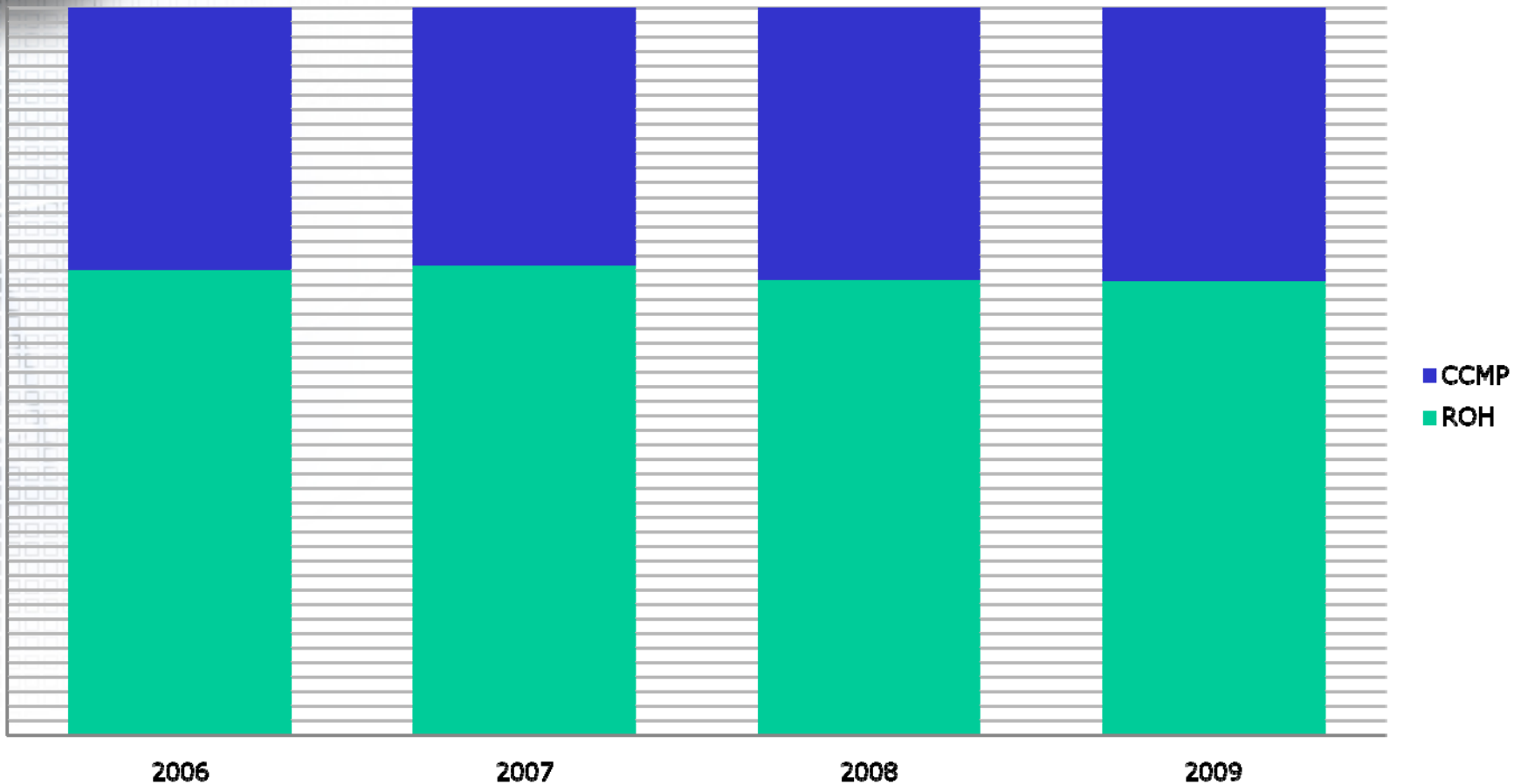


# Consumable suppliers are not expected to catch their breadth for at least a few more years



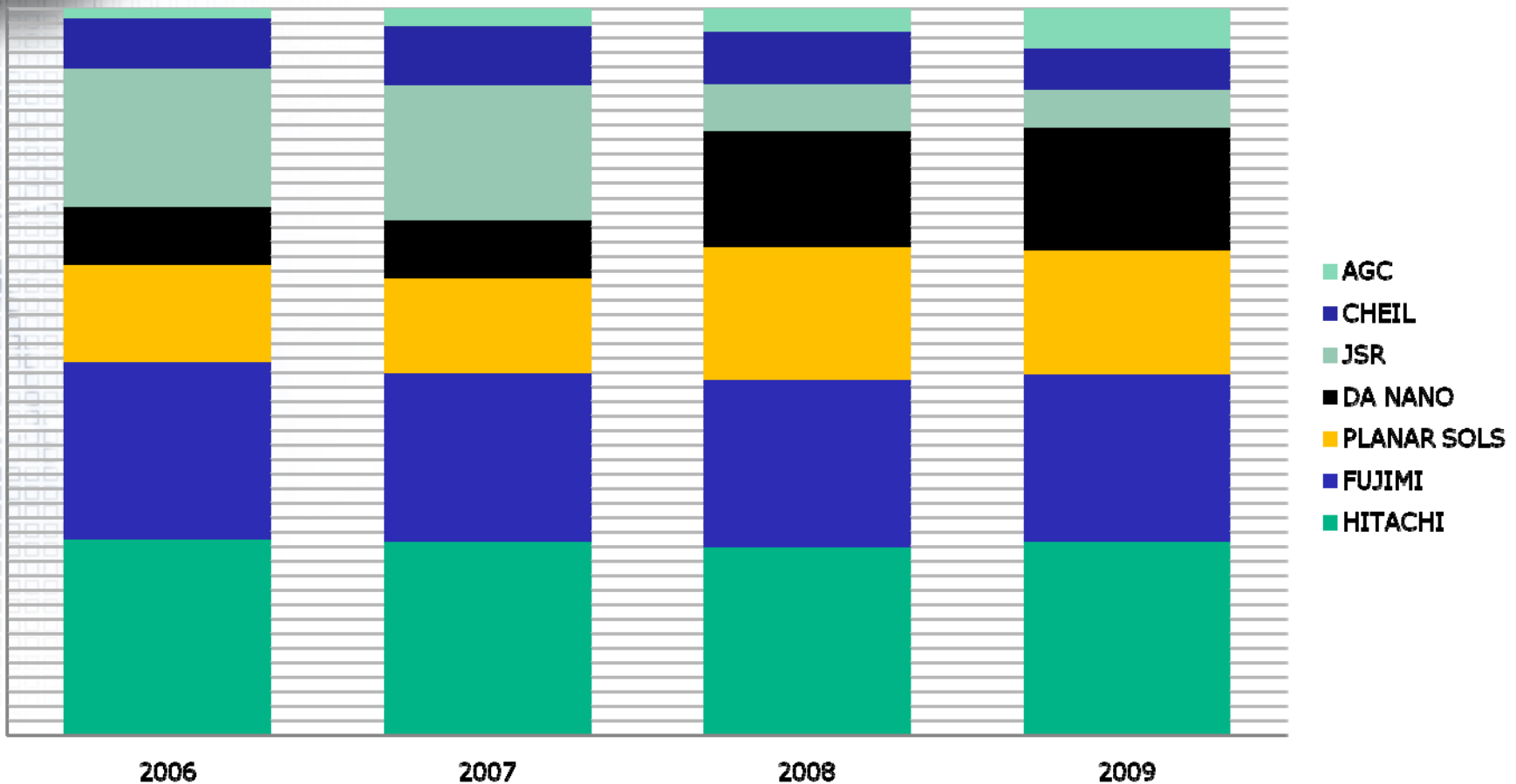


But based on existing base and strength of new products, we expect to see the industry leaders maintain relative share



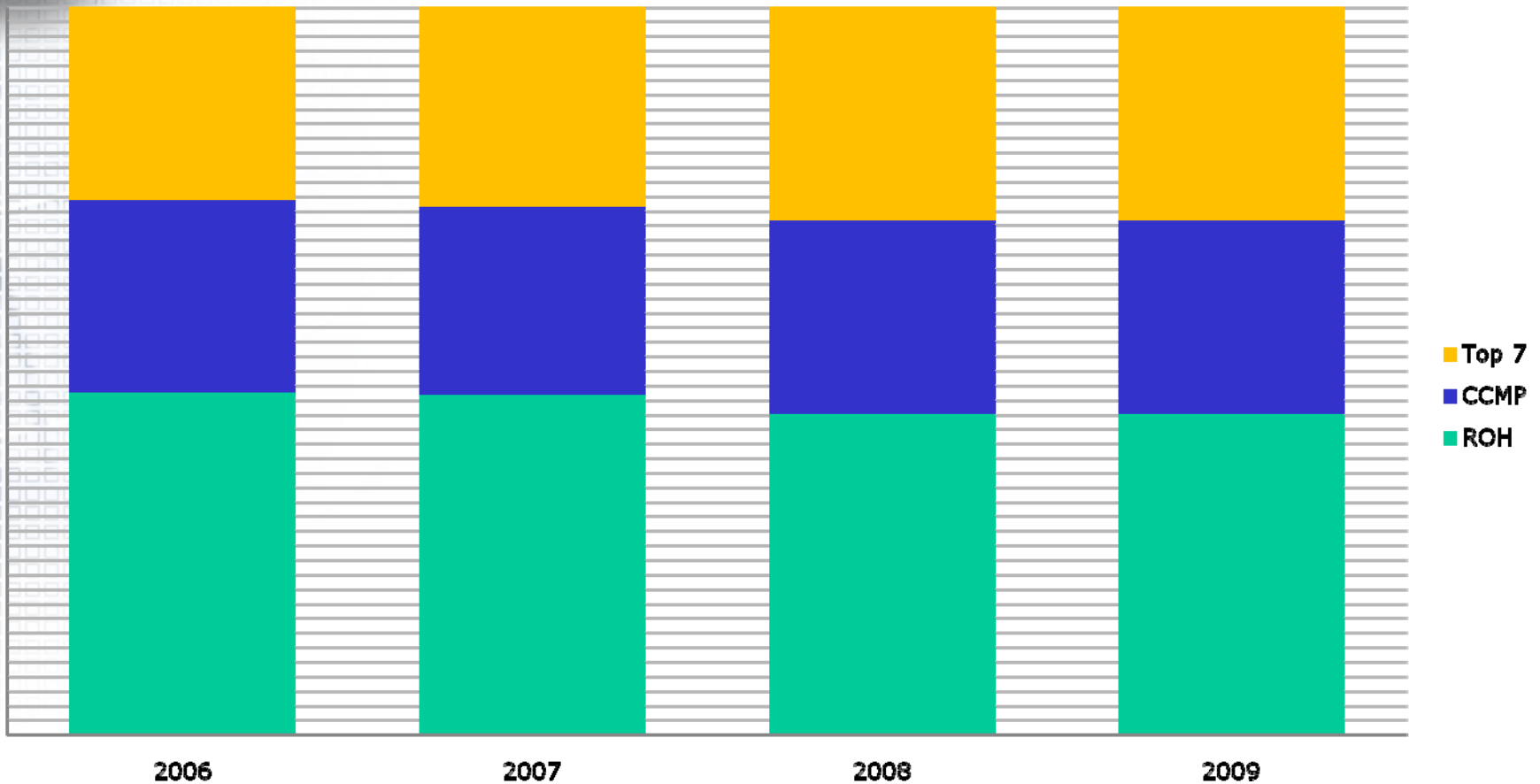


# Based on new products, we expect to see continued jostling among the next seven largest consumable suppliers



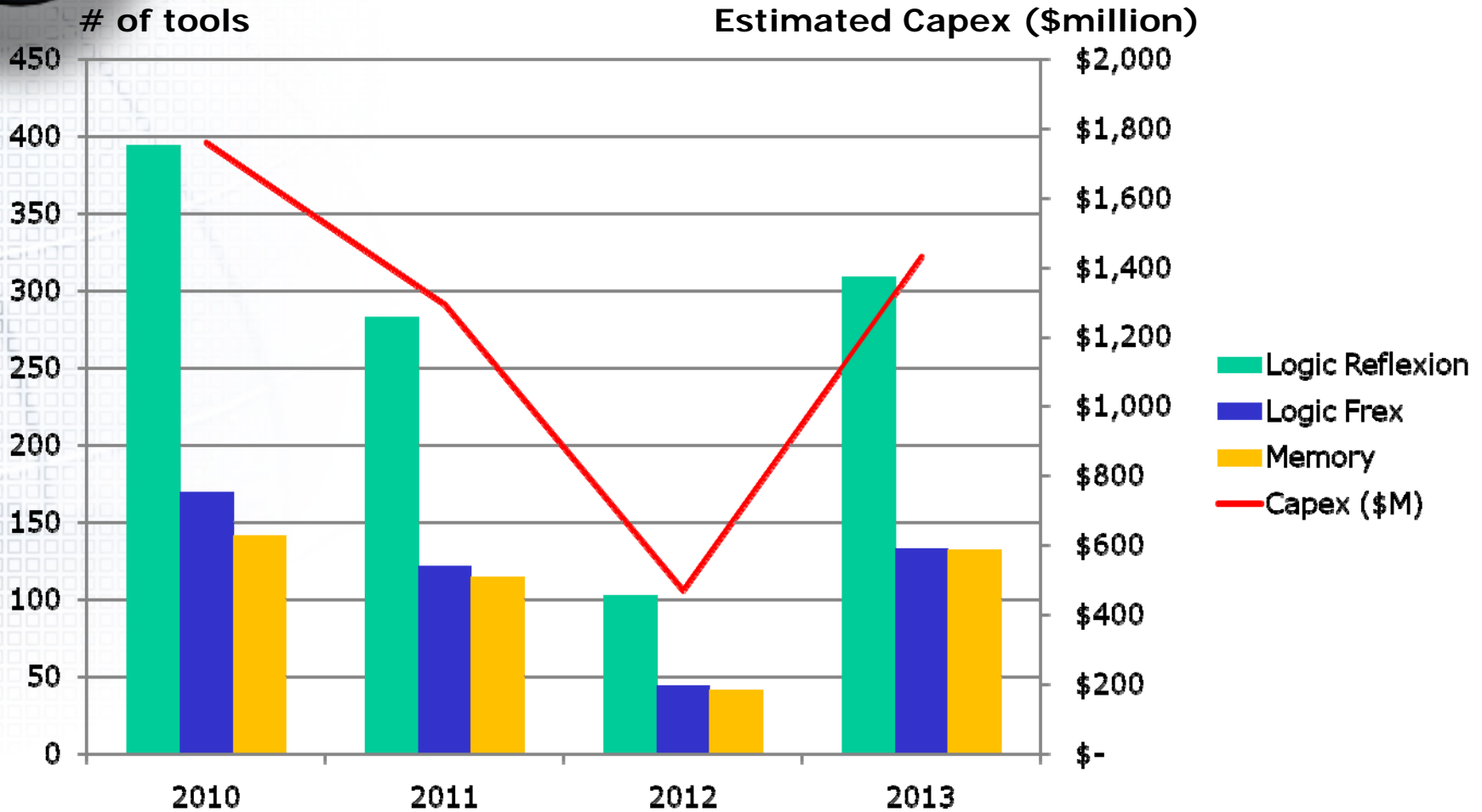


# But relative stability among the top tier and the next seven





# We also expect stability amongst tool suppliers





# We will see fewer buying centers

- Leading semiconductor producers with 300mm capacity, by region include the following companies:

Taiwan	China	Korea	Japan	USA	Europe
1. TSMC 2. UMC 3. PSC 4. Nanya 5. Inotera 6. Rexchip 7. ProMos 8. Winbond	1. SMIC	1. Samsung 2. Hynix	1. Toshiba 2. Elpida 3. Fujitsu 4. Renesas	1. Intel 2. IBM 3. TI 4. Micron	1. ST Micro 2. Infineon



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## Conclusions



# Conclusions

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- Evolutionary change not revolutionary change
- No rest for the weary until 2013/2014 time period
- All top tier materials suppliers already well positioned for growth in Asia and copper
- AMAT Reflexion will remain dominant platform
- Strong get stronger