An Intel Foundry Business Scenario

What will Intel foundry business look like?

Intel broke ground on New Arizona Factories a year ago and followed with announcements for factories in Ohio, Germany and expansions at all existing factories. If we add up the Capex, we are talking $100B in the next 5-6 years and commitments to $200B in next 10+ years. This is all in addition to the ~20B per year to support new technologies in existing Fabs

Intel Stated that they will release 4 Nodes in 5 years and will ramp foundry to have billions in revenue in 2025 and compete with Samsung/TSMC in 2030

Intel announced partnerships and financing with investors and is looking for massive government support

This is great aspirational leadership by Pat Gelsinger. "We are the greatest Semiconductor company ever, we can dominate Foundry" Unfortunately there are some challenges.

1) Intel claims foundry revenue of $600M per year. This is not wafer foundry work. This includes mask making and tool sales. Actual wafer sales are less than $350M per year. Which means Intel will need to grow 10x to pass HH Grace in revenue to be in 6th place .... and it will be half the size of SMIC at that point.

2) Intel is purchasing Tower which is a great company and will provide excellent mature foundry capability. But Intel wants to focus on leading edge which Tower never works on.

3) Intel has committed the Fabs so customers can believe Intel could have tons of capacity. But to get that capacity intel needs to spend 20B+ before wafers start. If you build it, they will come. If they don't come, Intel will collapse. If you don't build it, they definitely wont come. Paradox

4) The is no chip shortage on advanced foundry. If Taiwan get invaded, the market either continues under PRC politics or Electronics collapses (Foundries exist other places... but systems and packaging assembly.... its mostly in China and Taiwan. If there is a China war, Intel could end up being the victim due to no PC, Server, networking upgrades (we all use old stuff)

5) Intel was counting on spending all its huge earnings on capex. Then the PC market dropped and Intel lost Datacenter Share to AMD. Cash Flow is VERY negative.

There are other challenges to Intel and insights that we can discuss in person or on phone.

So what will actually happen:

1) Intel will clear land and potentially build shells for new Fabs (6-8 of them). This will happen at a slow pace and trickle into 2024

2) Intel will try to convince customers to not only sign with Intel but actually pay money up front for capacity. Signing without volume commitment is easy. Apple qualifies and signs with suppliers all the time and then awards supply to others. Everyone needs a backup. Intel is a good backup. Why someone would pay in advance is not clear.

3) Assuming Intel delivers on Intel 4, 3, 20, People will commit small amount of volume to Intel sometime in 2024. The sum total will be about 25K wafers per month in 2025 up to 60K+ wafer per month in 2026. This is less than one fab. This is well below Intel forecast but is actually quite good for a new foundry. As usual, that is the issue.... separating reality from hype.

4) One Fab will ramp in 2025 with others delayed and on hold.

5) Intel will ramp other sites and fabs IF business continues to grow. Intel will cancel/delay indefinitely over half the fabs and or sites. Intel needs to grow 10X faster than TSMC or Samsung. TSMC and Samsung Factory ramps in US are good benchmark to measure Intel against

What would my my scenario wrong and Intel successful???

1) Intel actually executes on Intel 4,3,20 on time with leading cost. It is better Faster Cheaper than TSMC.

2) TSMC/Samsung is unable to deliver for companies at the leading nodes on time

3) Government passes laws requiring people to buy from Intel.

These are just scenarios and far from what Intel claims will happen. BUT...

That's the beauty. WE provide milestones so YOU can decide if Intel is on track. You can judge whether people are committing to Intel or not. We even throw in timeline tracking of Intel factory builds and pictures and tool installs

As a Employee of Intel for over two decades, I would love to be wrong and see Intel dominate technology like they did in the old days (ie when I was there).

Set up a meeting and we can discuss how this will play out and we can provide you with milestones to track. We are at IEDM all week.... call or text

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