

When NOT to Use ASICs

Rick Van Berg

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When not to Put Effort Into ASICs

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Hieronymus Bosch

HEPIC2013

Direct Commercial Equivalent

- Obvious (but maybe not to everyone...)
- Non-commercial equivalent- not so obvious and we do share designs to some extent, but probably not enough....
 - Maybe we need some better interchange mechanisms so new initiatives can easily search to see what devices are still supported (e.g. no more ASD8s but maybe an ASDQ could work)?

Imitation is the sincerest of flattery.
- C. C. Colton

Clever Ideas

- If it solves a real problem for a real detector/experiment – great
- If not, write up a note for TNS and fudgetaboutit

For the wisdom of this world is foolishness with God.
For it is written, He taketh the wise in their own craftiness
- 1 Corinthians 3:19

Requirements Documents

- Good to have but, if that is the only connection between the project and the engineer, then more Brooklynese
 - Without intellectual involvement in the larger group then not very likely to succeed
 - Physicists need to know what is possible & engineers need to know what is truly necessary

"Before I built a wall I'd ask to know
What I was walling in or walling out
And to whom I was like to give offense."
- Frost

This Process is So Cool

- Ah, but the physics is way cooler – so give up the toys and work on the problems
 - OK to work “ahead” of needs a bit (why we have an R&D program) – but be realistic – HEP will not need or use 22nm devices this decade, maybe never...
 - Same for the really cute idea – if it is really good publish it and let AD or TI build it – we can’t compete in manpower or budget, have to focus

But Our Idea is Better!

- Well, maybe, but if it ain't obvious to everyone after your second presentation, toss a coin and be willing to work on another piece of the problem

*Dans ses écrits, un sage Italien
Dit que le mieux est l'ennemi du bien.
-Voltaire*

Great Leap Forward

- We are going to do something that Intel or Linear or... can't do? Really?
 - What is a reasonable leap?
 - Are our “commercial partners” really able to do what they claim and will it extend to our problem?

The bridge at Arnhem proved to be 'a bridge too far'. After 10 days of bitter fighting the operation ended with the evacuation of the remainder of the 1st British Airborne Division from the Arnhem area.
- September, 1944

Because IC's is What We Do

- Poll all the buggy whip makers?
- All problems are nails?

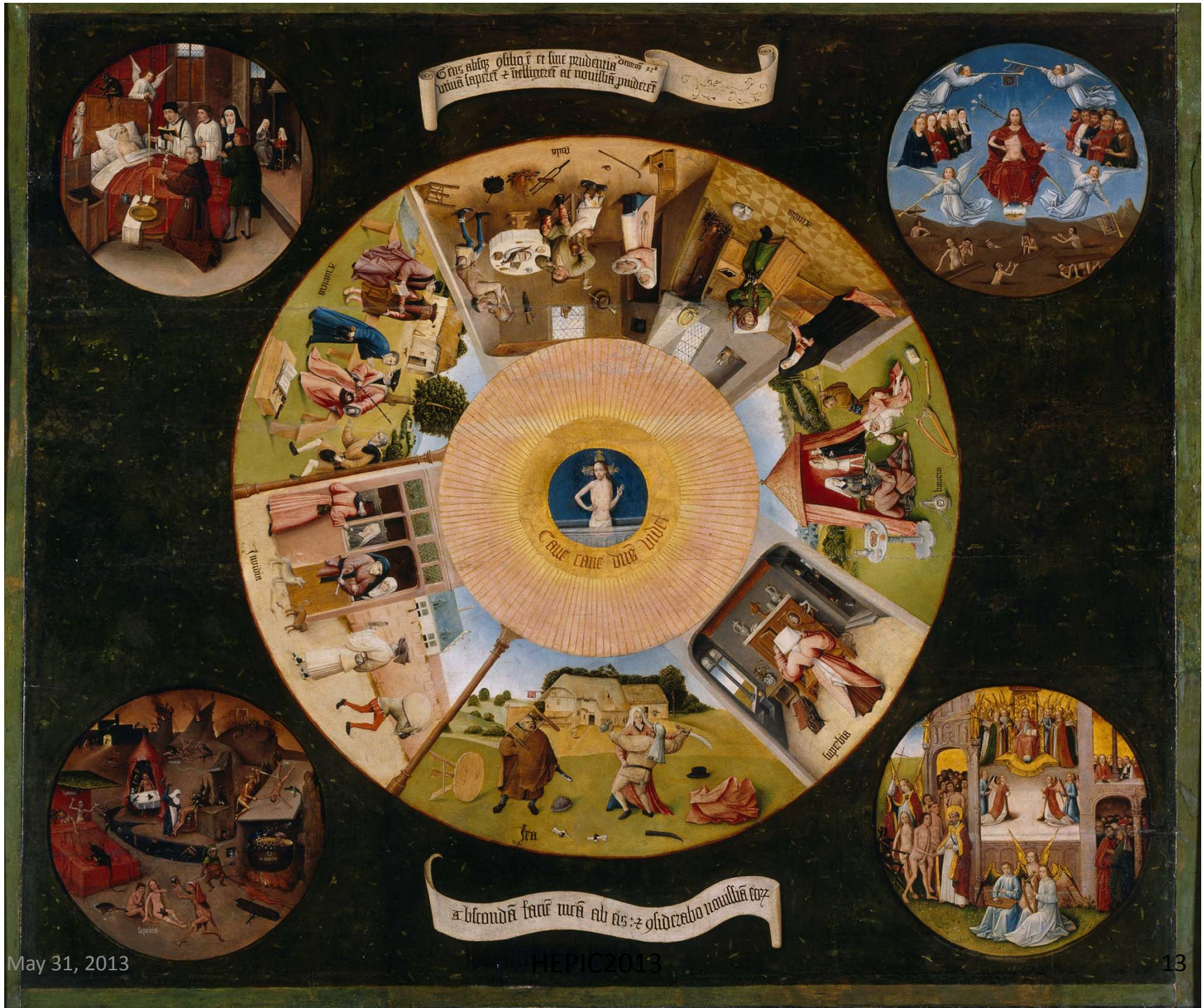
“The expert knows more and more about less and less until he knows everything about nothing.”
- Mahatma Gandhi

Summary

- Direct Equivalent
- Clever Idea
- Requirements Doc.
- This Process is so cool
- But Our Idea is Better
- Great Leap Forward
- Because IC's is What We Do

This is not a new list!

- Direct Equivalent
- Clever Idea
- Requirements Doc.
- This Process is so cool
- But Our Idea is Better
- Great Leap Forward
- Because IC's is What We Do
- Gluttony
- Pride
- Wrath
- Lust
- Envy
- Greed
- Sloth



ca. 1500-25, Prado



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