

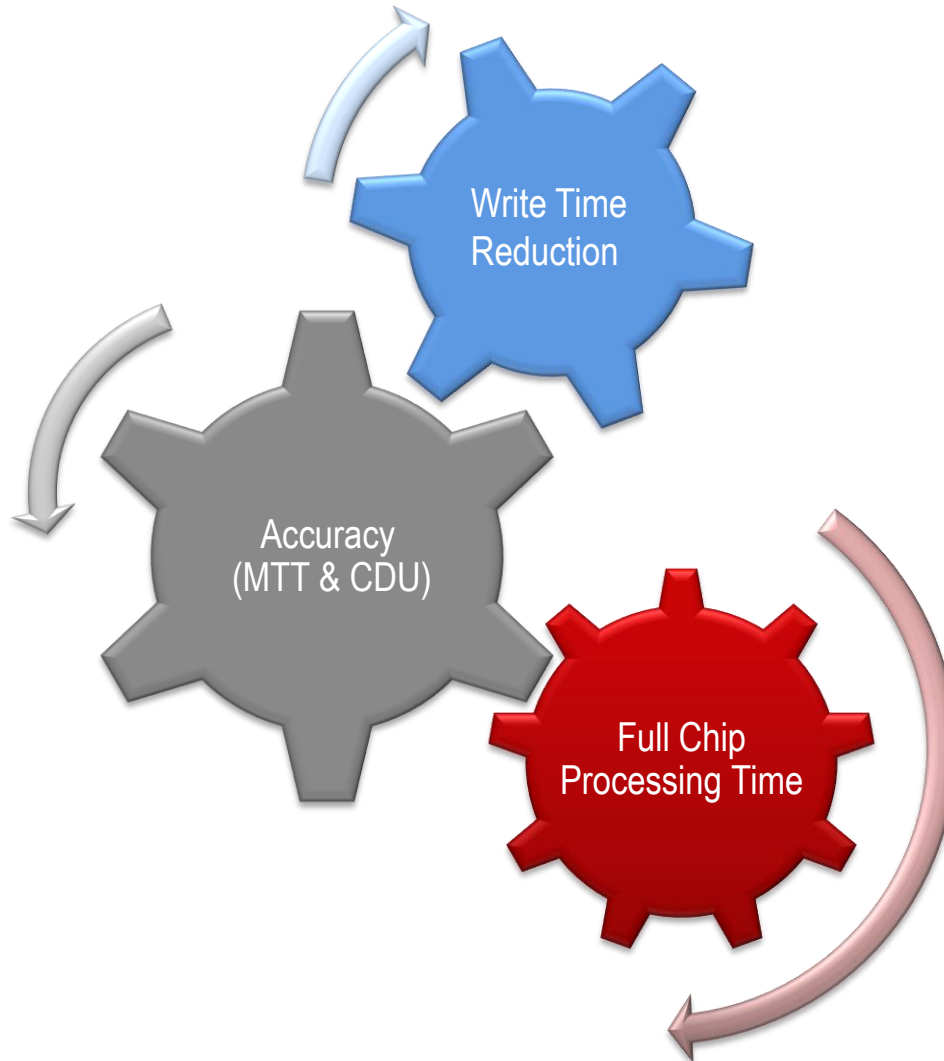


# Full-Chip MB-MDP is Here

**Aki Fujimura**  
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[www.ebeam.org](http://www.ebeam.org)

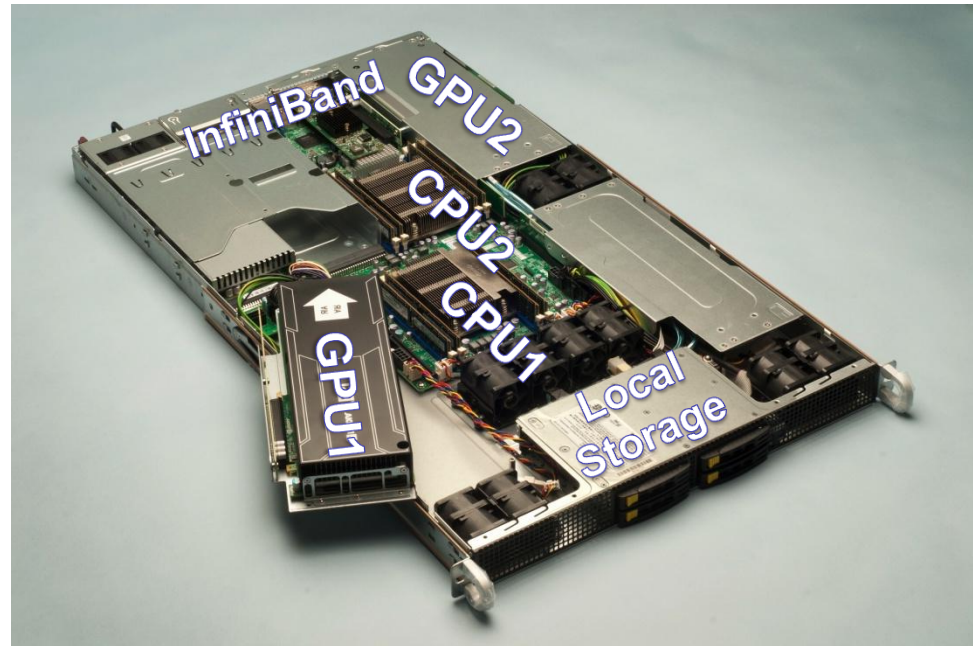
# Full-Chip MB-MDP is Here



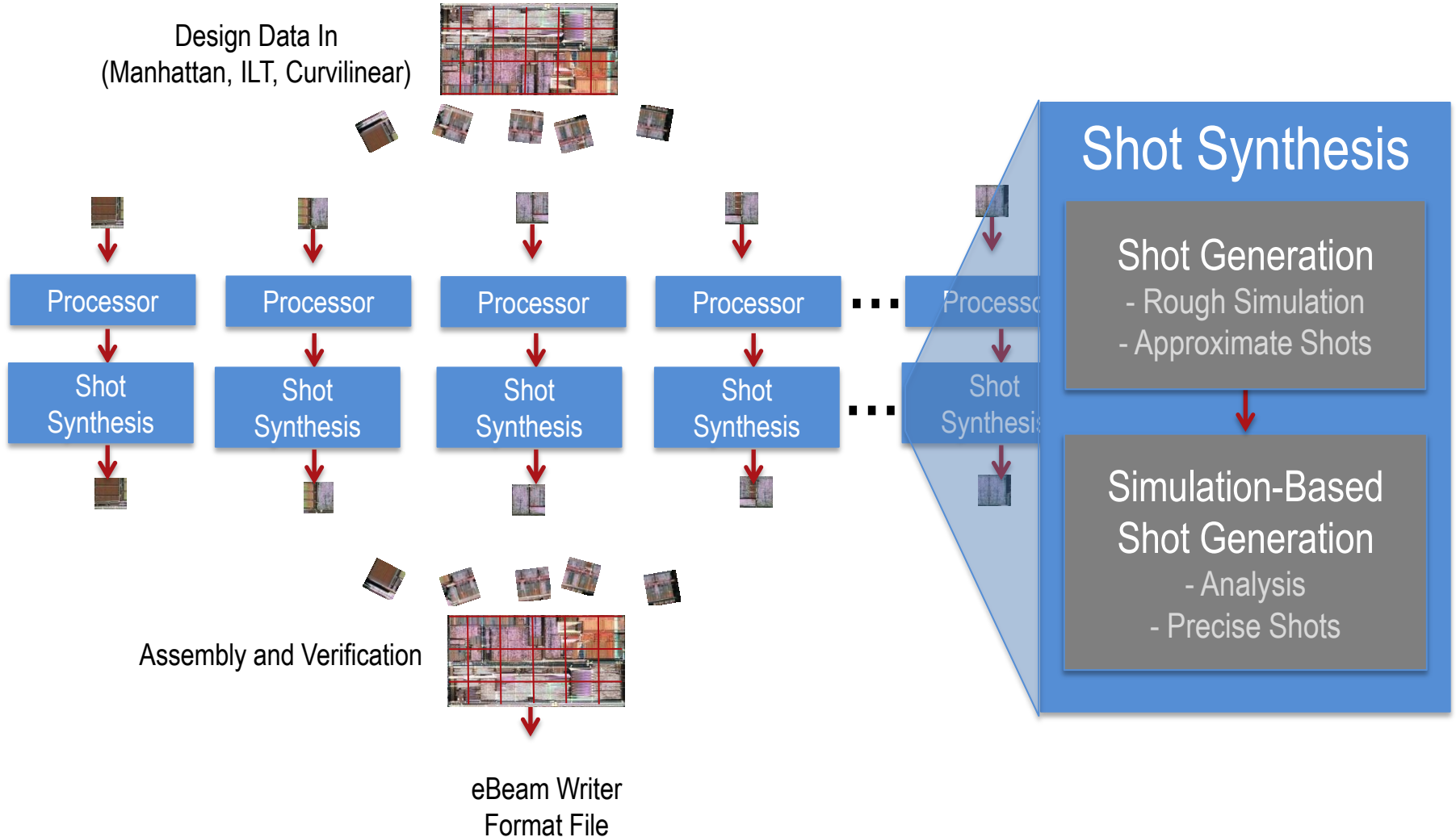
# Full-Chip Accuracy Enabled by the Computational Design Platform



- 400 TFLOPS of CPU + GPU computing
  - Coarse-grain, multi-threaded CPU and GPU parallelism
- Built for the Mask Shop
  - 11 TBytes RAID storage
  - Redundant InfiniBand™ Network

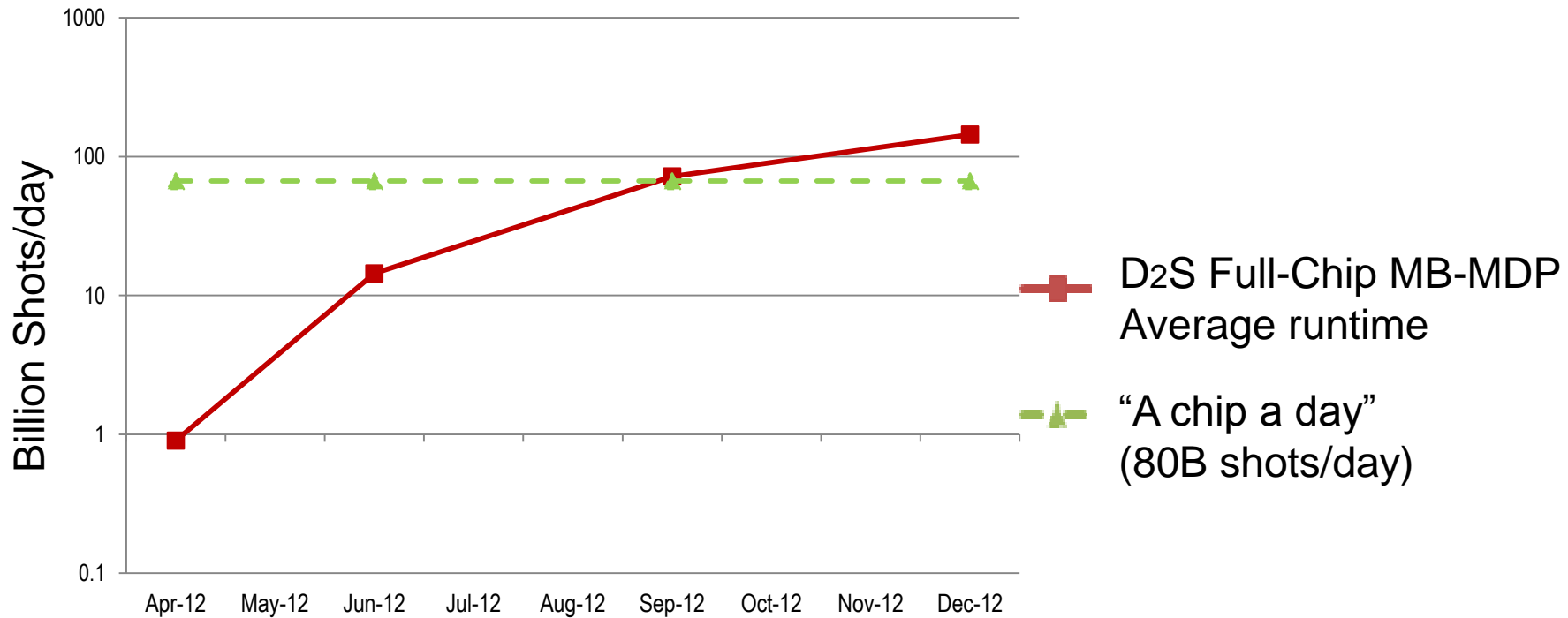


# Fully Automated Shot Synthesis Flow for Accuracy and Processing Speed



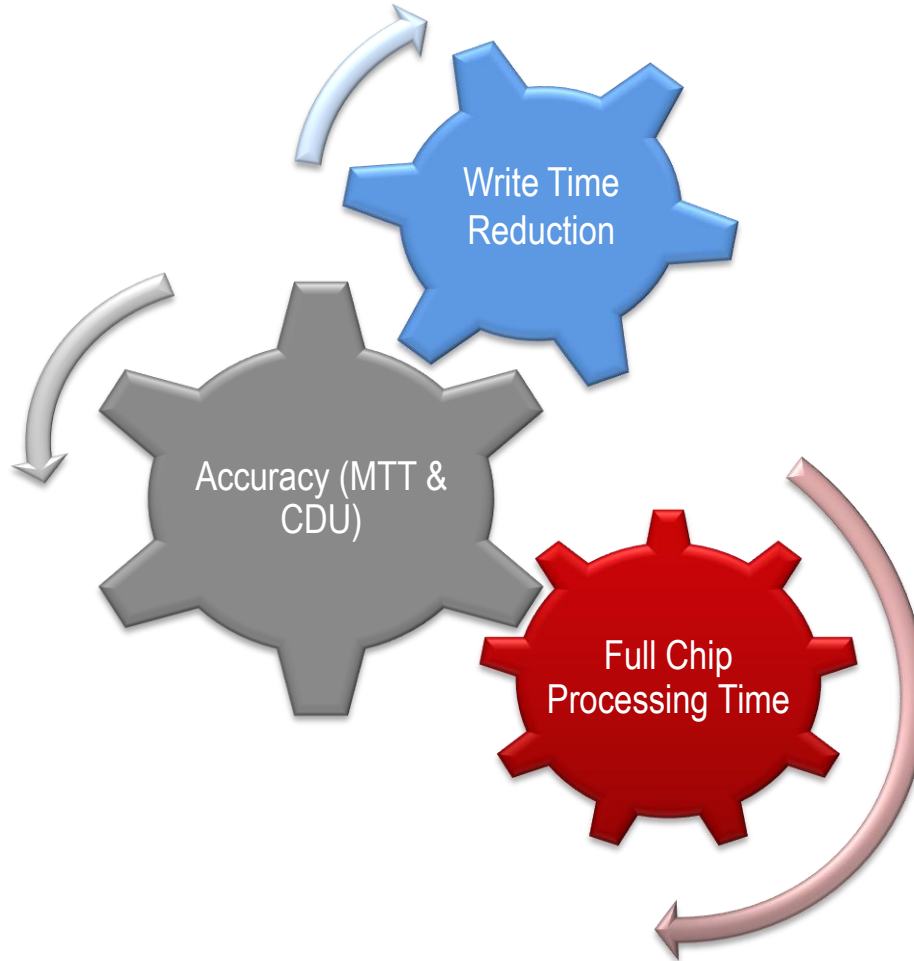
# Full-Chip MB-MDP is Here: Processing Time As Fast as the Mask Writer

D2S Full-Chip MB-MDP produces the shots in 80-300B shots/day, depending on the system configuration. Full-chip data for a typical system-on-chip (SOC) with 1600 mm<sup>2</sup> mask dimensions and with a shot density of ~50 shots/ $\mu\text{m}^2$  without exploiting shape hierarchy and repetition is processed in 24 hours or less on the standard D2S Computational Design Platform.



# Summary: Full-Chip MB-MDP is Here

## Collaboration across the mask ecosystem



# Hoya presentation

**Thursday 11:20am [8522-53]**

**“Shape-dependent dose margin correction using model-based mask data preparation”**

**Yasuki Kimura, Ryuuji Yamamoto, Takao Kubota, Kenji Kouno of Hoya Corp, and Shohei Matsushita, Kazuyuki Hagiwara, Daisuke Hara of D2S**