Intel Corporation Bridging From Commercial Technology to DoD Needs

August 28, 2023

Jim Brinker
President & General Manager
Intel Federal LLC
Vice President, Intel Corporation

intel



Commercial Technology for Mission Capabilities

RAMP

(2020)

Rapid Assured Microelectronics Prototype Program



Design
Secure design flows in the cloud

Enables cloud-based chip design and demonstration of Microelectronics

Quantitative Assurance.



RAMP-C

(2021)

RAMP - Commercial



Foundry

Domestic foundry technology

Enables leading-edge US Foundry for commercial customers.



SHIP

(2019)

SOTA Heterogeneous Integrated Packaging
Prototype Program



Advanced Packaging
2D and 3D heterogeneous packaging

Enable unclassified SOTA heterogeneously integrated package design and manufacturing for defense-specific packages.





Increasing Demand & Volume

Government Unique Requirements

TS/Q
Secret/L

Classified Data Handling Law and Policy

- Increasingly tighter control based upon national security impact
- Boundary conditions defined by Executive Order & law/policy
- Partially aligned to protection of Commercial Intellectual Property
- Certification audits required
- Specific/separate infrastructure required to support
- Government cleared personnel and approved facilities

Controlled (EAR, ITAR, CUI)

US Law and Policy

- Prevent export/release of sensitive information to foreign actors
- Broad application

Microelectronics
Quantifiable Assurance
(MQA)

Microelectronics Quantifiable Assurance

- Sensitive production in commercial environments
- Framework for programs to utilize risk-based decision-making

High Volume Commercial

Intel Core Commercial Business

- Driven by commercial market forces
- 'Commercial Off The Shelf' products and services



Delivering Leadership Manufacturing: IDM 2.0

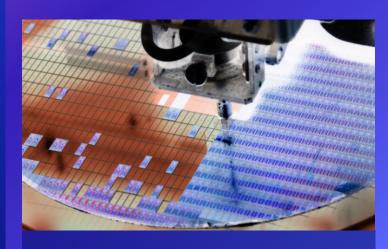
Product Leadership, Supply Resilience, Superior Cost

Internal Factory Network



Intel's global, internal factory network for at-scale manufacturing

External Foundries



Expanded use of third-party foundry capacity

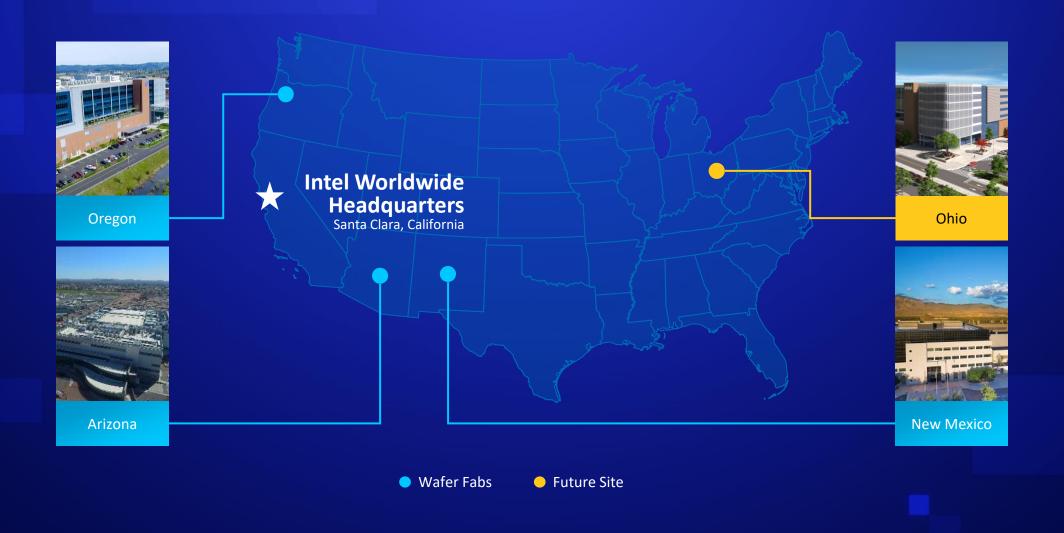
Intel Foundry



Building a world-class foundry business, Intel Foundry Services

Leveraging Intel's leading-edge packaging & process technology & world-class IP portfolio

US-based Manufacturing Capacity and Software Development



Aurora – Argonne National Labs





Artificial Intelligence

Analytics

HPC Simulation



Researching Our Universe on Aurora Exascale

Research Scientist Jimmy Proudfoot talks about the impact Exascale supercomputing will have on his work researching our universe.

Watch the video



Neuroscience Research on Aurora Exascale

Senior Computer Scientist Nicola Ferrier explains how neuroscience research will process exabytes of data on the Aurora Exascale Supercomputer.

Watch the video



Propelling Aerospace Research on Aurora Exascale

Aerospace Professor Ken Jansen explains how engineers will create faster and more complex models and simulations on Exascale supercomputers.

Watch the video



CANDLE Taps Deep Learning to Identify Effective Cancer Treatments

CANcer Distributed Learning Environment (CANDLE) taps deep learning to explore the biology of cancer, and identify highly effective treatments.

Watch the video

#