Intel Visual Computing Institute

A New Hub in Europe for Worldwide Innovation

Justin Rattner

Intel Sr. Fellow and Vice President, Chief Technology Officer
Visual Computing – 3D and More

Looks real, acts real, sounds real, and feels real
Converging Trends

Immersive Connected Experiences

- Visual Computing
- Social Networking
- User-Generated Content
- Broadband Connectivity
- Mobile Computing
Extraordinary Performance Demands

- Entertainment, Learning
- Social Networking
- Personal Media Creation and Management
- Health and Medicine

Performance

- TIPS
- GIPS
- MIPS
- KIPS

Dataset Size

- Kilobytes
- Megabytes
- Gigabytes
- Terabytes

Models

3D and Video

Multi-media

Text

Single-Core

Multi-Core

Tera-Scale and Larrabee

Intel
Research Challenges for Visual Computing

Realistic Images, Behaviors, and Sounds

Infrastructure for the 3-D Internet

User 3-D Content Creation

Computational Perception
Intel VCI Research Themes

- Advanced Rendering and Visualization Technologies
- 3D Internet and Novel Networking Approaches
- Sample-based Data Representations
- Visual Simulations
- Acquisition and Processing of Real-World Geometry
- Motion Capture of the Human Body
- Content- and Context-aware Visual Interaction
- Virtual Humans
The Intel Visual Computing Institute
Saarland University - Saarbrücken, Germany

$12 Million funding from Intel
A dozen researchers in 2009. 5x in 5 years
New research hub to advance visual computing

Along with
The Max-Planck Institute for Informatics
The Max-Planck Institute for Software Systems
The German Research Center for Artificial Intelligence
Intel Labs Europe

Partnersing with Europe to address major research challenges