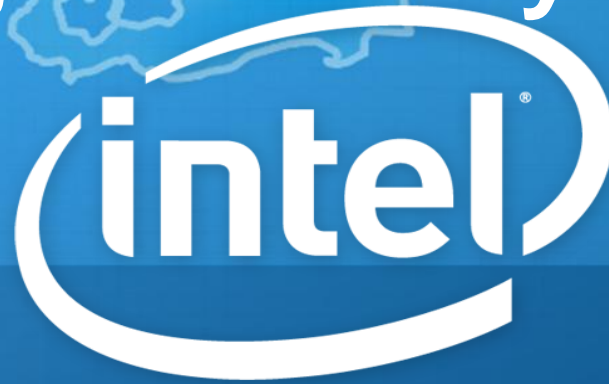


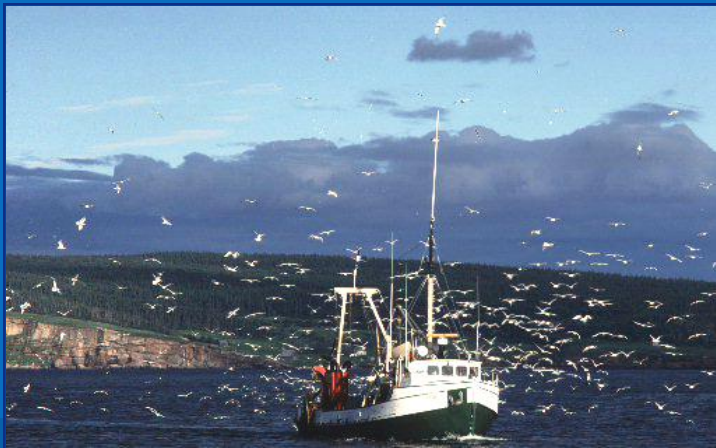
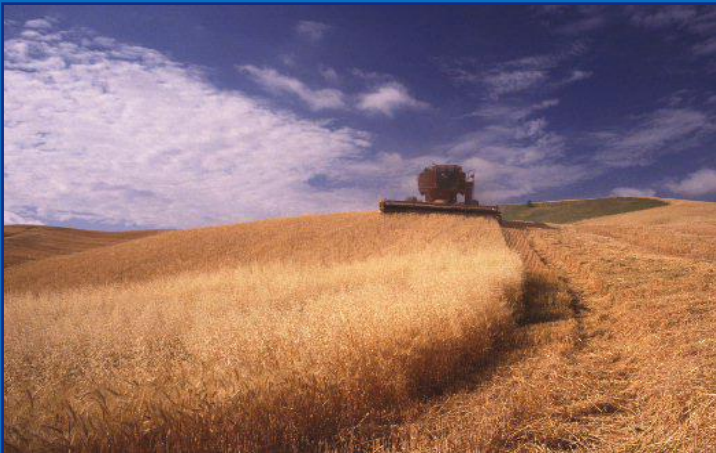
Collaborative Networks for Innovation in a Knowledge Economy



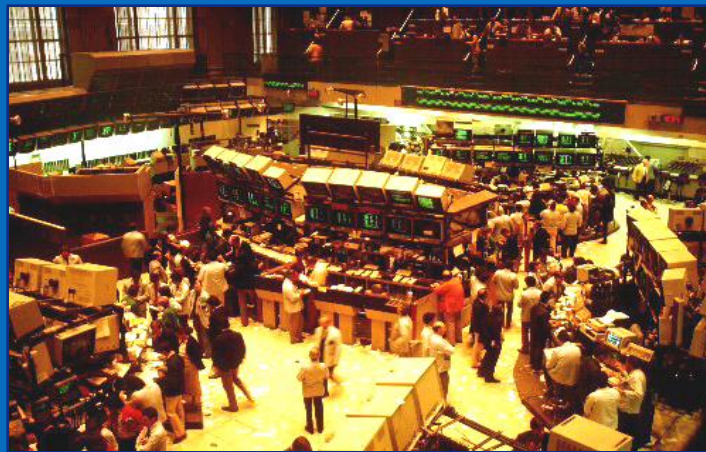
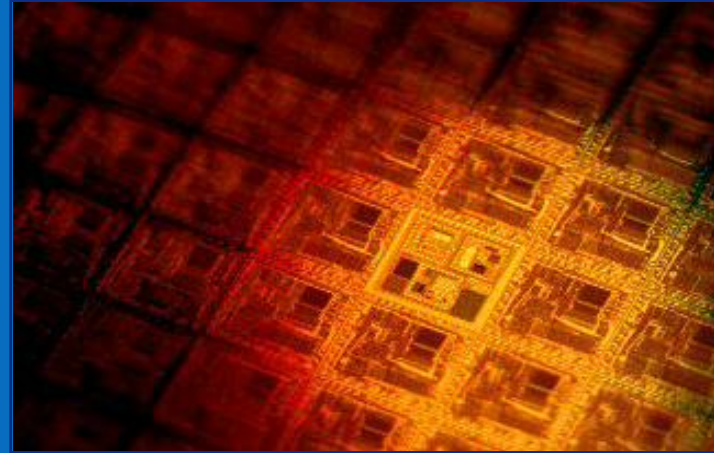
Intel Labs Europe

**Prof. Martin Curley,
Senior Principal Engineer,
Director, Intel Labs Europe**

The Changing Shape of Society From Resource Based . . .



To Knowledge Based . . .????



..natural resources as Capital!

Intel ® Innovation Centres



**Market Efficiency
(Maximum Customer Benefit)**

**New
Paradigm
Needed**

**Cost
Efficiency
(Minimum Production Costs)**

**Ecological Efficiency
(Resource efficiency &
Minimized Pollution)**



20th Century Technologies:

- **Generated significant global wealth because they delivered something of value at an affordable price**
- **Depended on delivery of cheap power (“electrification”). Basically, globally delivered electrons on demand**
- **Required development of significant infrastructure and standards**
- **Created significant unforeseen problems requiring lots of attention**
 - **traffic jams**
 - **inner city decay**
 - **nuclear waste**
- **Greatly improved the quality of life and strongly impacted the way the world operates**

21st Century Technologies:

Will generate significant global wealth because they will deliver something of value at an affordable price

**Will depend on delivery of cheap knowledge (“knowledgeification”)
Basically, deliver knowledge elements on demand**

Will require development of significant infrastructure and standards

Will generate significant unforeseen problems requiring lots of attention

- **Internet jams**
- **Terrorism**
- **Useless, redundant, incorrect information**

Will greatly improve the quality of life and strongly impact the way the world operates

**Open
Innovation
Pyramid**

Closed
Innovation

Co-Innovation

Open Innovation

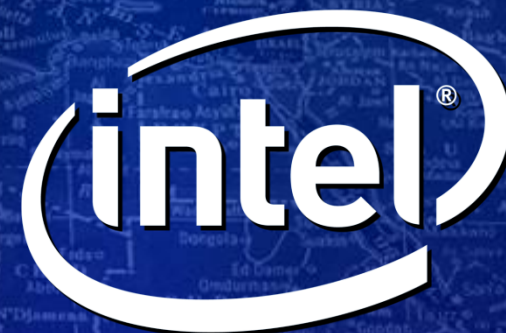


Intel® Innovation Centres



Intel Labs Europe

- **Formation of Intel Labs Europe was to advance IA innovation & European competitiveness**
 - Closer collaborations with European researchers and policy makers
 - 900 Researchers, 21 Labs
- **Six new innovation collaborations announced in 2009**
 - Intel Visual Computing Institute, Saarbrucken
 - Exascale Computing, Paris and UltraMobile Lab Toulouse
 - Innovation Value Institute, Ireland
 - Open Labs in Munich and Ireland
- **Agenda focused on advancing Digital Europe**

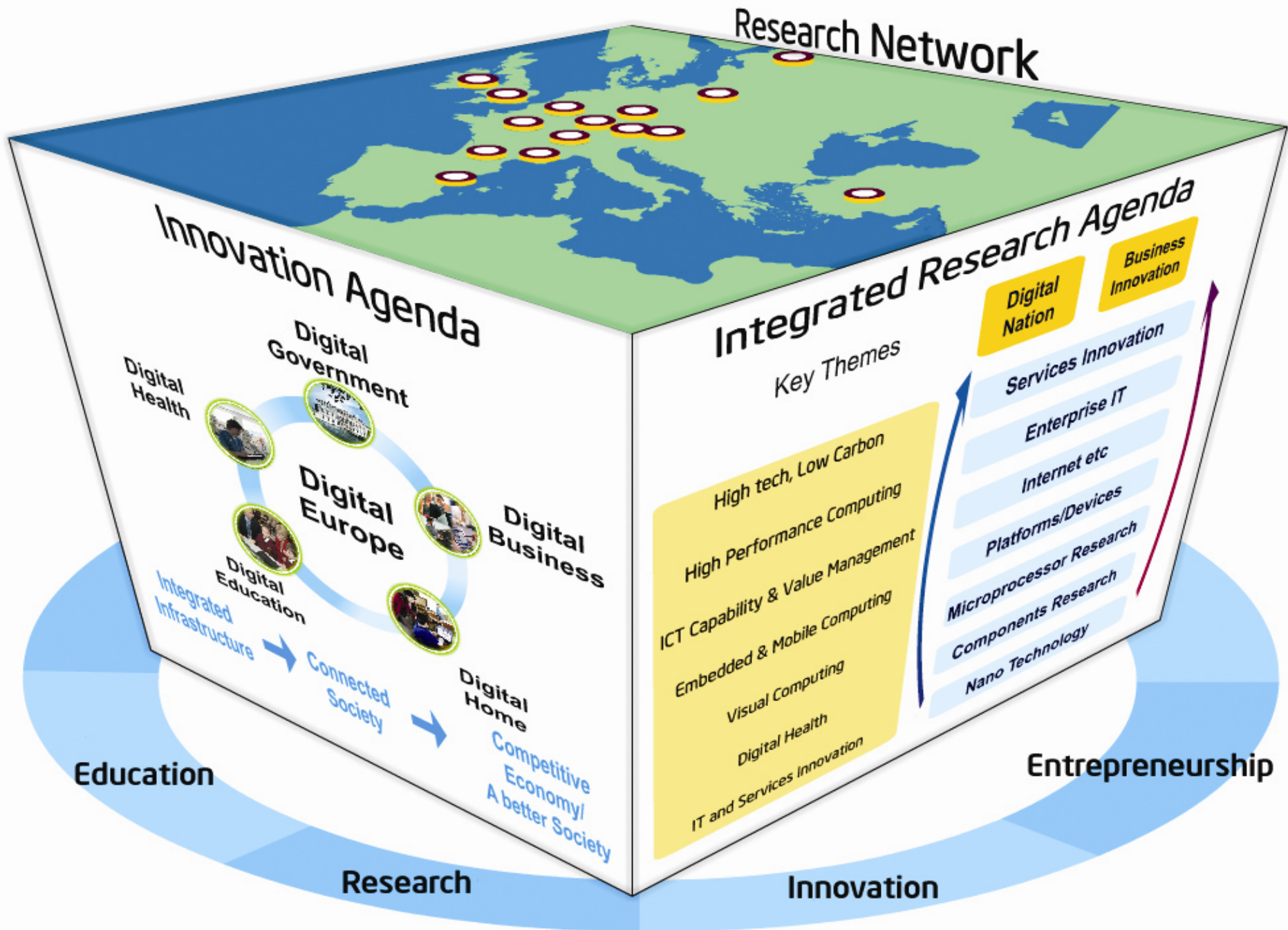


Further Extension of Intel's Commitment to Innovation in Europe

Intel Labs Europe



Mission: Advance Intel Architecture Research and Innovation AND partner to advance European Competitiveness and Society



Triple Helix Innovation

Dialog with PolicyMakers

- **DG Information Society, DG Research, Innovation and Science, UN, OECD etc**

Collaborate with European Universities/Research Institutes

- **Braunschweig Technical University, NUI Maynooth, Gdansk Technical University, Unversitat Politecnica de Catalunya, IMEC, CEA, CERN, Fraunhofer**

Joint innovation with leading European companies & engagement with high expectation entrepreneurs

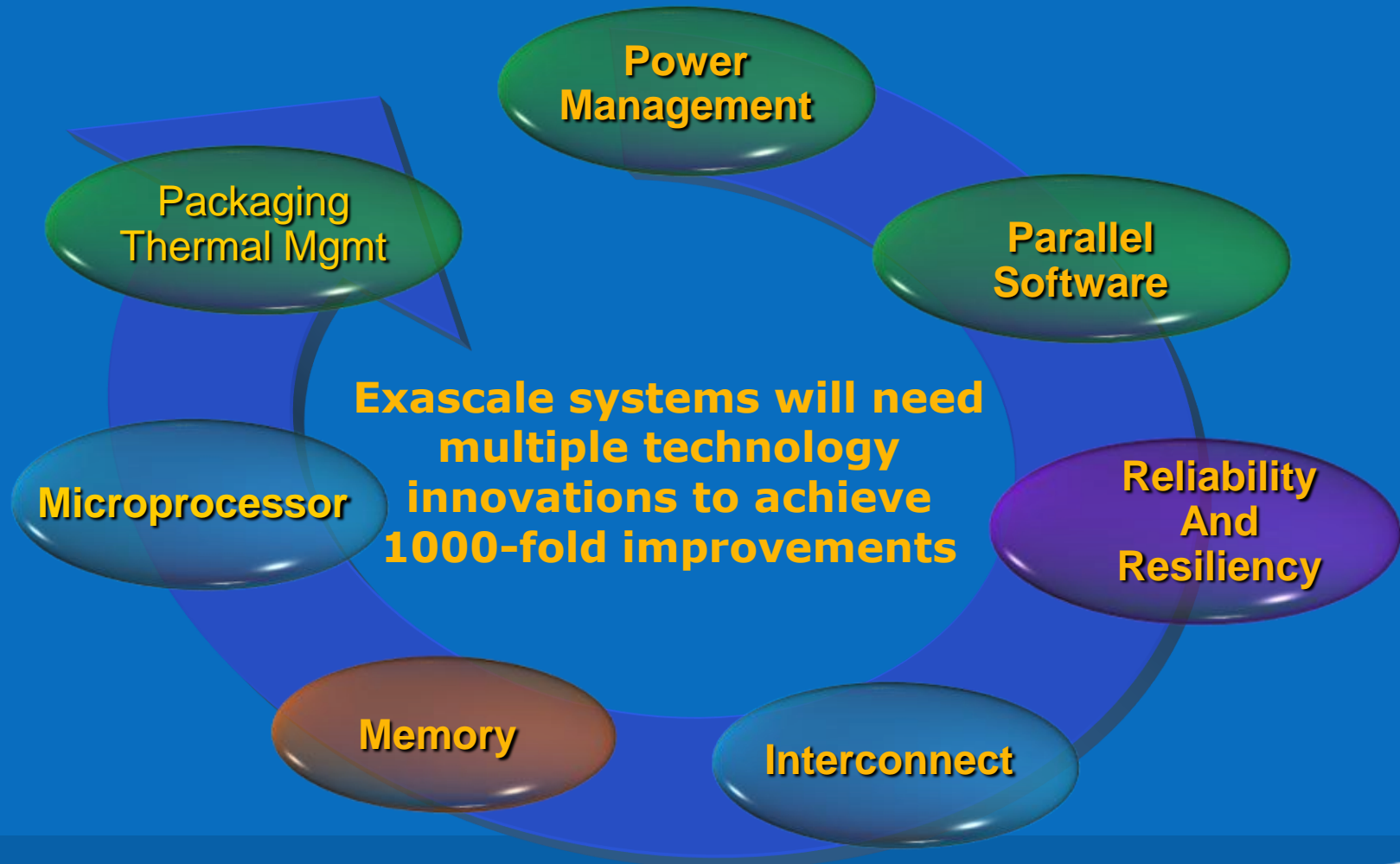
- **SAP, Nokia, Philips, Daimler, BMW, DHL**
- **Wavebob, Real-time technologies**

Intel Labs Europe

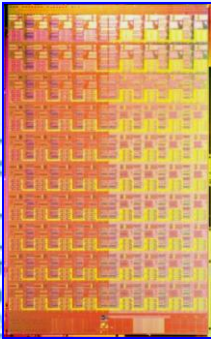


Exascale Systems Design

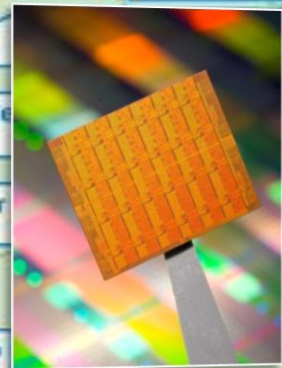
Significant Challenges



Intel Labs Europe



Teraflop
Research
Processor



Single-chip
Cloud Computer

Innovation Value Institute – Codifying IT and IT Innovation



Join Us! www.IVI.ie

Innovation Value Institute

IVI has members from leading industry, consulting, not-for-profit and academic organizations.

Steering Patrons

BCG



NUI MAYNOOTH



A Consortium of Leading Organizations using OPEN INNOVATION to designing approaches to Managing ICT for Business Value

IT@Intel

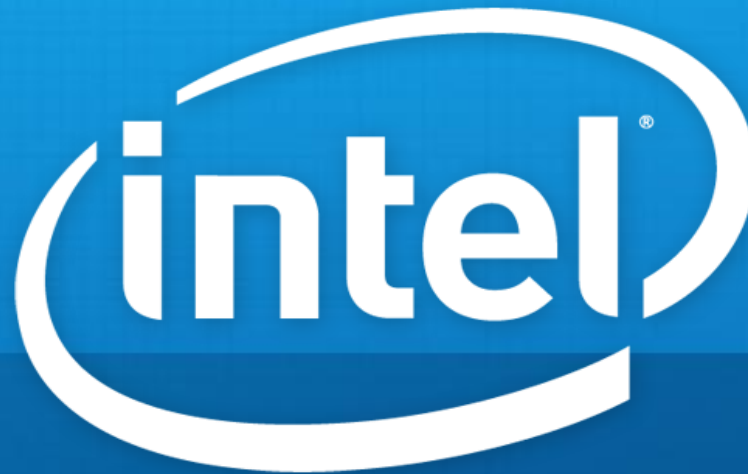


Active CIO Community

Chief Information Officer • Chief Innovation Officer



Thanks

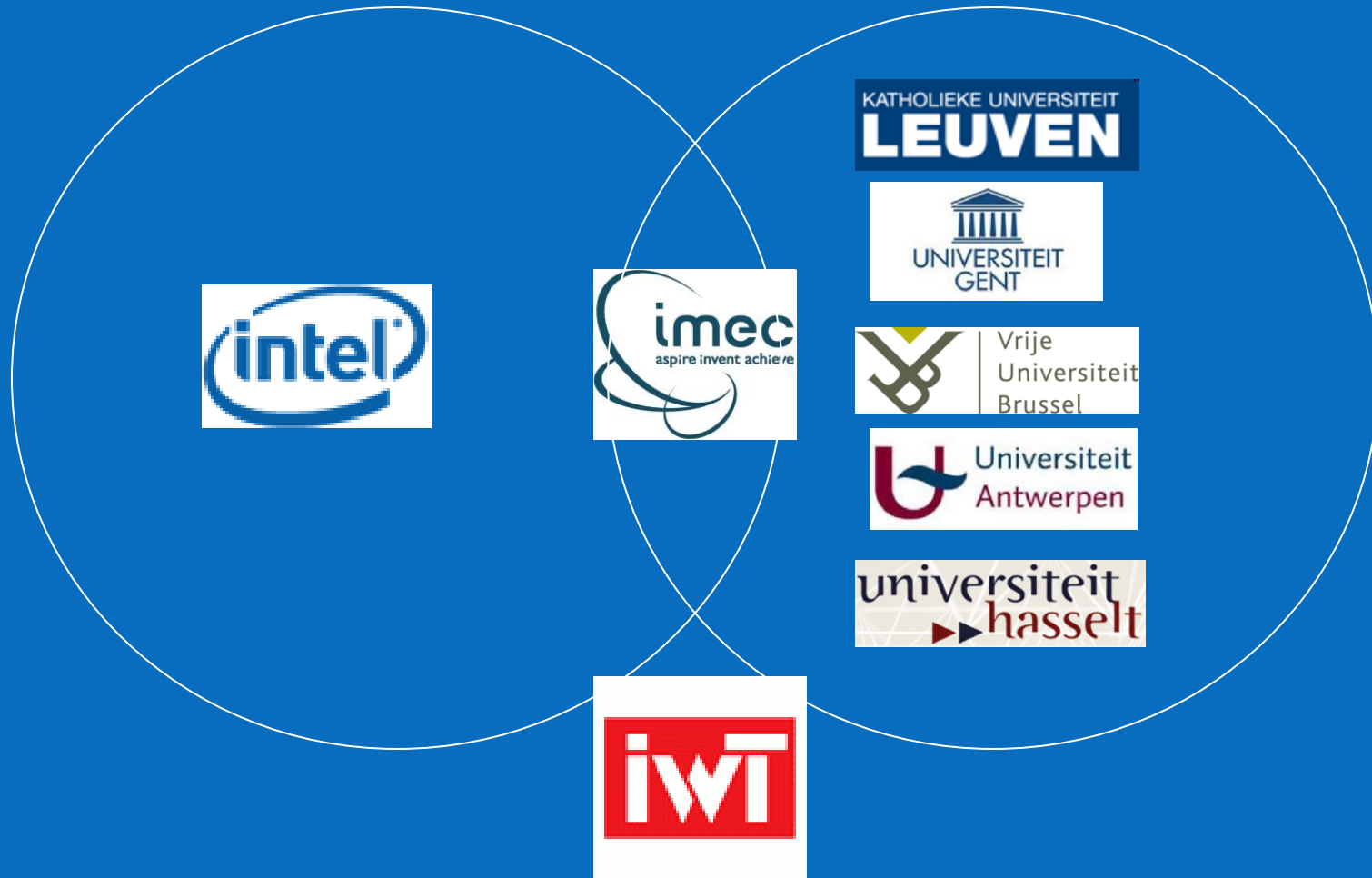


Intel Labs Europe



Intel Labs Europe

ExaScience Lab: Novel Research Structure



High Performance Computing – Exascale; State of the Art

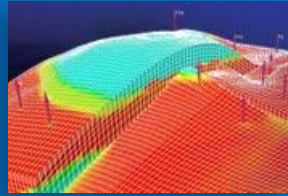
Large scale applications with insatiable appetite for performance



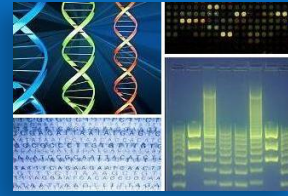
FSI



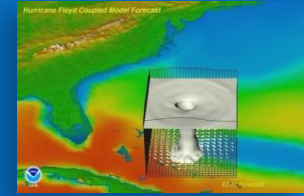
Manufacturing CAE



Energy



Life Science



Weather

Accelerated cycle of innovation & discovery



ExaScience Lab Focus Areas:

- Exascale Space Weather Science
- Exascale applications development toolkit and framework
- Exascale performance modelling
- Exascale scientific visualization