

## Imec.IC-link test solution services

Imec.IC-link offers you a full industrialization solution for your application-specific ICs (ASICs). From small-volume to mass production, we open doors to the best test houses in Europe and East Asia.

Partnering up with imec.IC-link gives you access to more than 30 years of experience and strong in-house know-how. You also benefit from our solid partnerships with state-of-the-art test houses and reliability & failure analysis providers from all over the world.

Our experience covers all market segments, including consumer, industrial, medical, automotive and space.

### We offer most

- Experience with advanced technologies for mixed-signal ASICs, memories and image sensors.
- Access to the latest high-end automatic test equipment (ATE) systems: Teradyne UltraFlex, Advantest 93K.
- Radiation testing campaigns with a portable ATE system: one platform for screening and radiation tests.
- Access to the major package & test houses in East Asia for high-volume production at low cost.

#### DESIGN

- DFT, DFM
- Test specification
- Qualification strategy

#### INDUSTRIALIZATION

- EWS & FT test solution
- Characterization, qualification
- SEE & TID radiation testing
- Flight models delivery

#### PRODUCTION

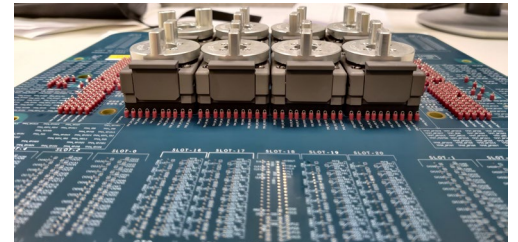
- Product engineering
- High volume in East Asia
- Yield improvement, test time reduction
- Failure analysis

## Our mission

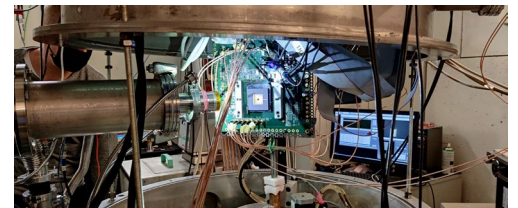
Imec.IC-link fills the gap between ASIC design and production. Our expertise in industrialization helps you to take decisions that **reduce your time-to-market and optimize the cost-efficiency of your production**. With the latest advanced process node technologies, ASICs have grown exponentially more complex. At the same time, their selling price decreases. That combination demands a more advanced testing strategy at lower costs. It's why imec.IC-link continuously explores the latest evolutions within ASIC test approaches. And we do this in close collaboration with our selected suppliers.

## Services & deliverables

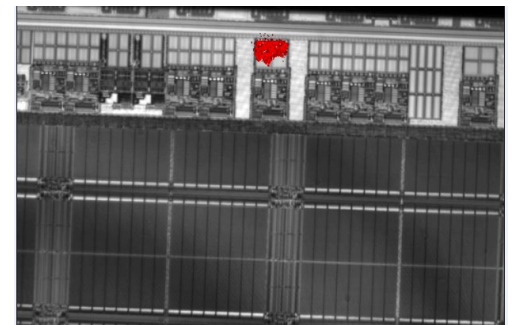
- Design for testability & for manufacturability support
- Testability feasibility study
  - Testing coverage estimation
  - Parallelism & ATE choice
  - Test specification creation
  - Qualification strategy definition
- Test solution hardware & software for electrical wafer sorting (EWS) and final test (FT)
  - In-house pattern control and conversion through automatic test pattern generation (ATPG)
  - EWS testing
  - Process, voltage, temperature (P,V,T) characterization report
  - ESCC-9000 Qualification, ESCC-2269000 evaluation
  - Burn-in & high-temperature operating life (HTOL)
  - ESD, HBM, CDM & latch-up tests
  - AEC-Q100, JESD22, JESD47, MIL-STD-883 qualification
  - Advanced product quality planning (APQP), production part approval process (PPAP) according to IATF-16949
  - Total ionizing dose & single-event radiation tests with heavy ions, protons and neutrons
- Product engineering
  - Safe launch program
  - Test hardware monitoring and maintenance
  - AEC-Q001 part average testing, geographical part average testing (GPAT)
  - Automotive ISO26262 ASIL DFT and production Test compliance
  - Yield improvement, process issues analysis
  - Testing time reduction, parallelism increase
  - Transfer to East Asia
- ASIC failure analysis service
  - Decapsulation, Microsectioning, Focused ion beam (FIB)
  - Scanning electron microscope (SEM), scanning acoustic microscope (SAM), X-Ray inspection
  - Hot spot analysis through emission microscopy (EMMI), optical beam induced resistance change (OBIRCH), Lock-In Thermography (LIT)



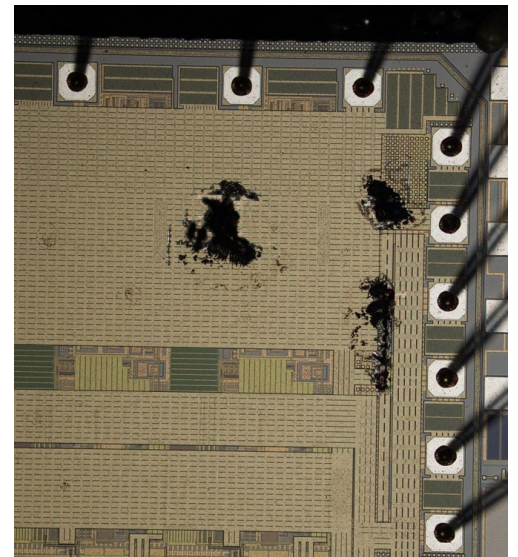
Octal sites final test loadboard



SEE radiation campaign at Radef-Finland



Obirch failure analysis



Opening of a packaged device and inspection

## Our partners

- Alter Technology
- Amkor Technology
- ASE Group
- Eurofins EAG Laboratories
- MASER Engineering
- Microtest
- RoodMicrotec
- Salland Engineering
- Synergie-CAD
- Unisem
- University of Jyväskylä
- Université catholique de Louvain
- Winstek



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