MANUFACTURING SERVICES IN SPECIALTY PROCESSES IN MORE THAN MOORE – SENSORS, PIEZO-MEMS, PHOTONICS, POWER, ETC.

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SUMMA SEMICONDUCTOR: Manufacturing services in microelectronics

Founded November 2015
- Manufacturing services in microelectronics and photonics
- Operations in Micronova open-access cleanrooms, Finland.
- Owned by founders and management (100%).
- 8 persons (PhDs) with total 150+ years of experience.
- Experienced advisory board of industry veterans.

GOAL: Fast, flexible and cost-efficient microelectronics manufacturing available to all!
CHALLENGE: Developing and scaling manufacturing

Foundries / customer’s own high-volume manufacturing

Volume gap

Technology gap

Technology / product maturity

Mature technology

New / emerging

Start-ups and university R&D

Volumes

Medium

Large

It can be a challenge to build a path for MEMS, sensors, photonics and other microtechnologies innovations to volume production.
Micronova in Brief

Micronova is Finland's National Research Infrastructure for micro- and nanotechnology, jointly run by VTT Technical Research Centre of Finland and Aalto University.
MICRONOVA OPEN-ACCESS CLEANROOMS IN FINLAND

- Micronova is a joint technology hub of
  - VTT Technical Research Centre of Finland
  - Aalto University
  - Industry
- 300+ Staff
- 2600 m² of cleanroom
- 150 mm silicon wafer pilot line
- 200 mm upgrade on-going
- 80 M€ total investment
- Extensive collection of processing and characterization tools
- Equipment list:

Summa has equipment use agreement with VTT and Aalto
SUMMA SEMICONDUCTOR
COLLABORATION PROJECTS 2019

• Business Finland Tempo funding
  – MOTTI – 2017, Summa Semiconductor

• EU Horizon 2020 SME Instrument Phase 1
  – FLEMANIE – Flexible Microchip Manufacturing for New Industries in Europe
    – 2018, Summa Semiconductor

• Business Finland Co-innovation Ecosystem Project
  – Beyond SOI - Silicon microfabrication platform development for next generation products
    – 2019-2021, 9 partners

• EU Erasmus+
  – METIS – MicroElectronics Training Industry and Skills
    – 2019-2023, 20 partners
ONEFAB FINLAND – FROM INNOVATION TO GLOBAL MARKETS

Joint-venture company with a goal to build and develop new foundry services with new business and operational models for manufacturing special microelectronics and photonics components.
SUMMA SEMICONDUCTOR & ONEFAB FINLAND
open to all collaboration possibilities in specialty wafer manufacturing!

ECSEL, H2020, Eureka clusters, Eurostars, Pilot Line, IPCEI, etc.

Technology development, new market access, building European ecosystem and value chains, talents, etc.

Piezo-MEMS (ScAlN, PZT), Power management (Si, GaN-on-Si, SiC), CMOS wafer post-processing, detectors, sensors, etc.

Industrial/strategic partners, technology partners, start-ups, SMEs, big companies

https://blog.semi.org/business-markets/more-than-moore-devices-the-wind-of-change