



# ASML

Developing electronics  
with virtually integrated suppliers

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**Bits&Chips Hardware Conference**  
**June 17, 2010**

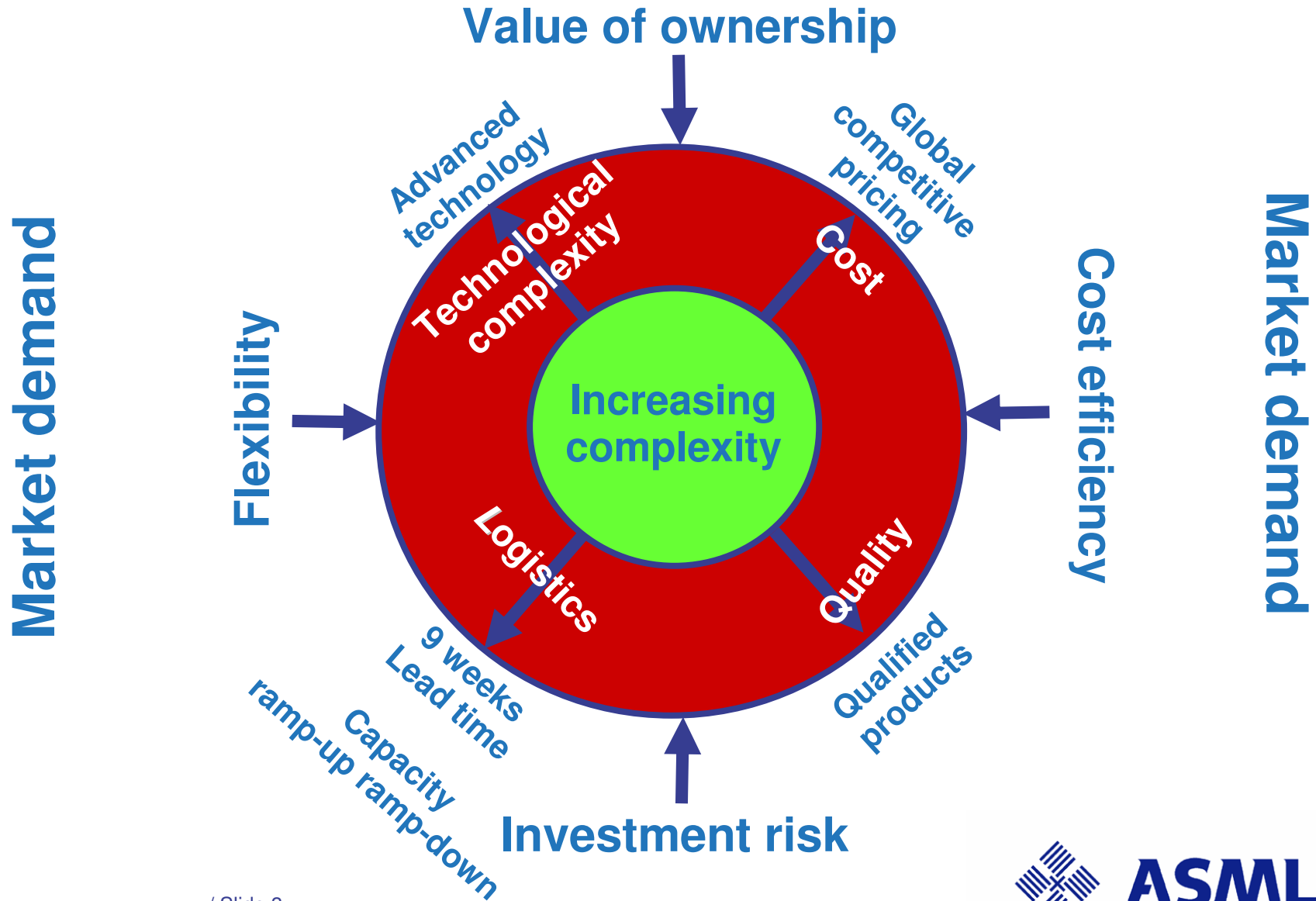
# The Semiconductor business demands



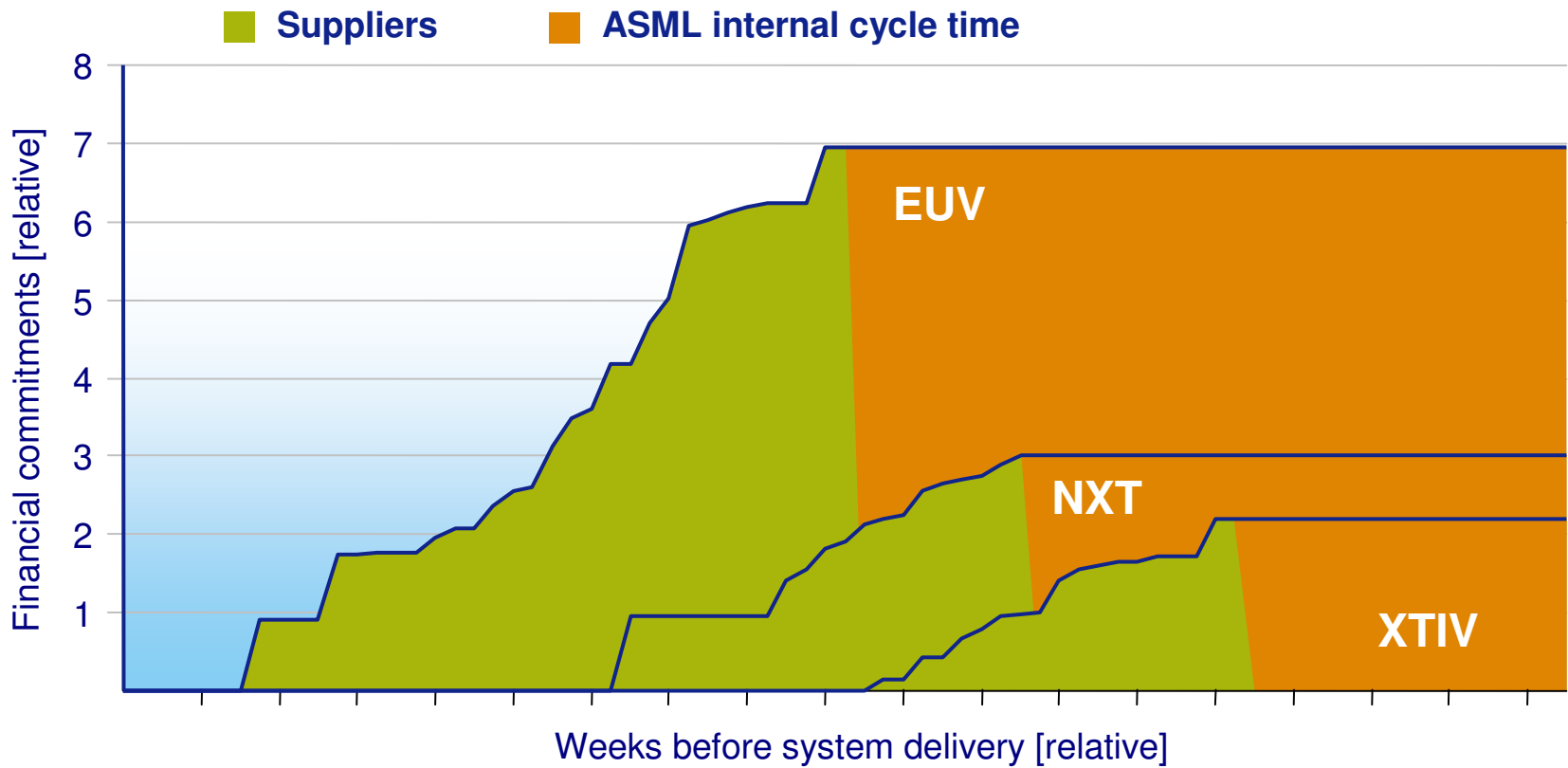
- Increasing complexity
- High flexibility
- High quality
- High development effort
- Short time to market
- Small volumes
- Long product lifetime

**requiring supplier involvement in development**

# Challenge of ASML to maintain value offering



# Lead time & cost for XT/NXT/NXE body increasing



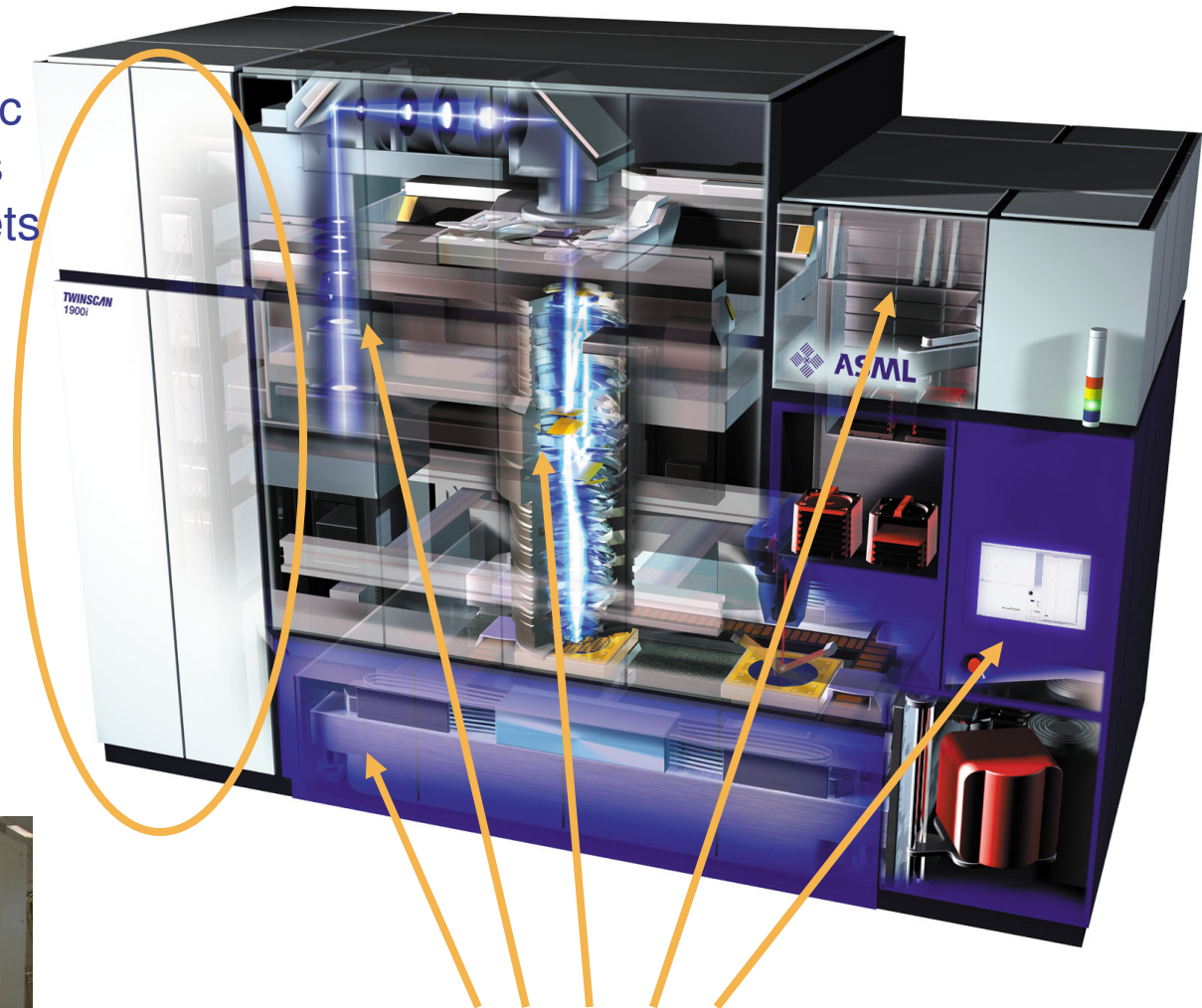
# ASML Supply Chain Strategy



# Locations of active electronics

Electronic functions in cabinets

Remote Electronics Cabinets



Local electronics



# Why would ASML develop electronics at all?

- Technical:
  - Architecture (translating system requirements to specs for electronics)
  - Machine Layout
- Core tech: sensors, high power low emc
- Complex interfaces: cabling
  - New platform requires >30 projects to interface with
- Cutting edge technology (cannot buy) required: mems, asic
- Functional density (electronics per m<sup>3</sup>): power electronics (xAPA)
- Using own know how to safeguard time to market (HV)

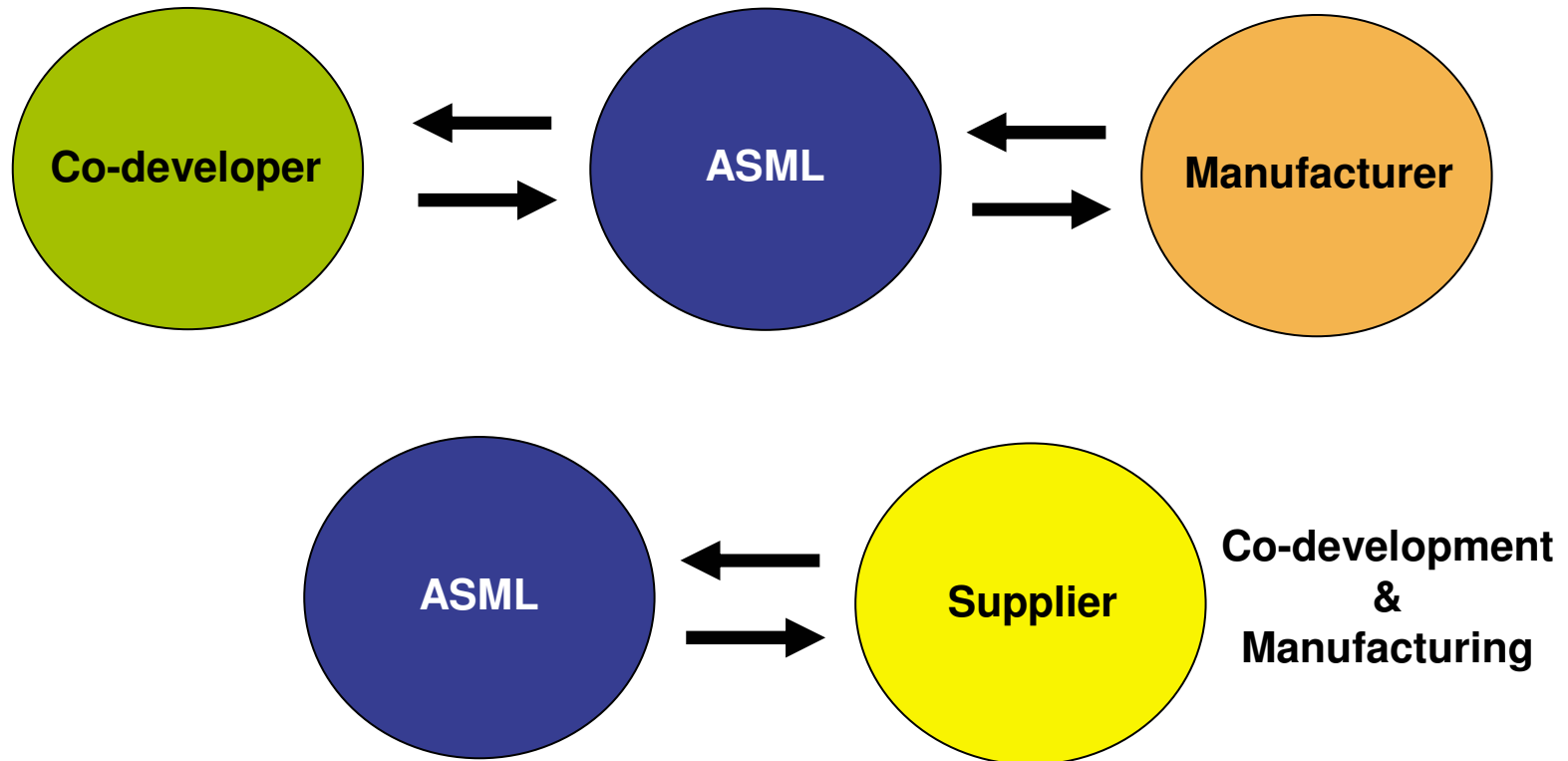
# Electronic development and the importance of suppliers

- The facts: 1/3 payroll, 1/3 flex, 1/3 farmout
- Domains
  - Architecture and integration (application knowledge)
  - Board design (analogue, digital, power, components)
  - Silicon based devices (sensors, mems, asic)
  - Hardware Software Interface (HW-VHDL-SW)
  - Infrastructure (connectivity, 3D-layout, construction)
- Constraints (why):
  - Time to market (customer commitment)
  - Flexibility (economics, project dynamics)
  - Sound business model (win-win, innovation, growth)
  - Know-How (mobilizing competent people as required)

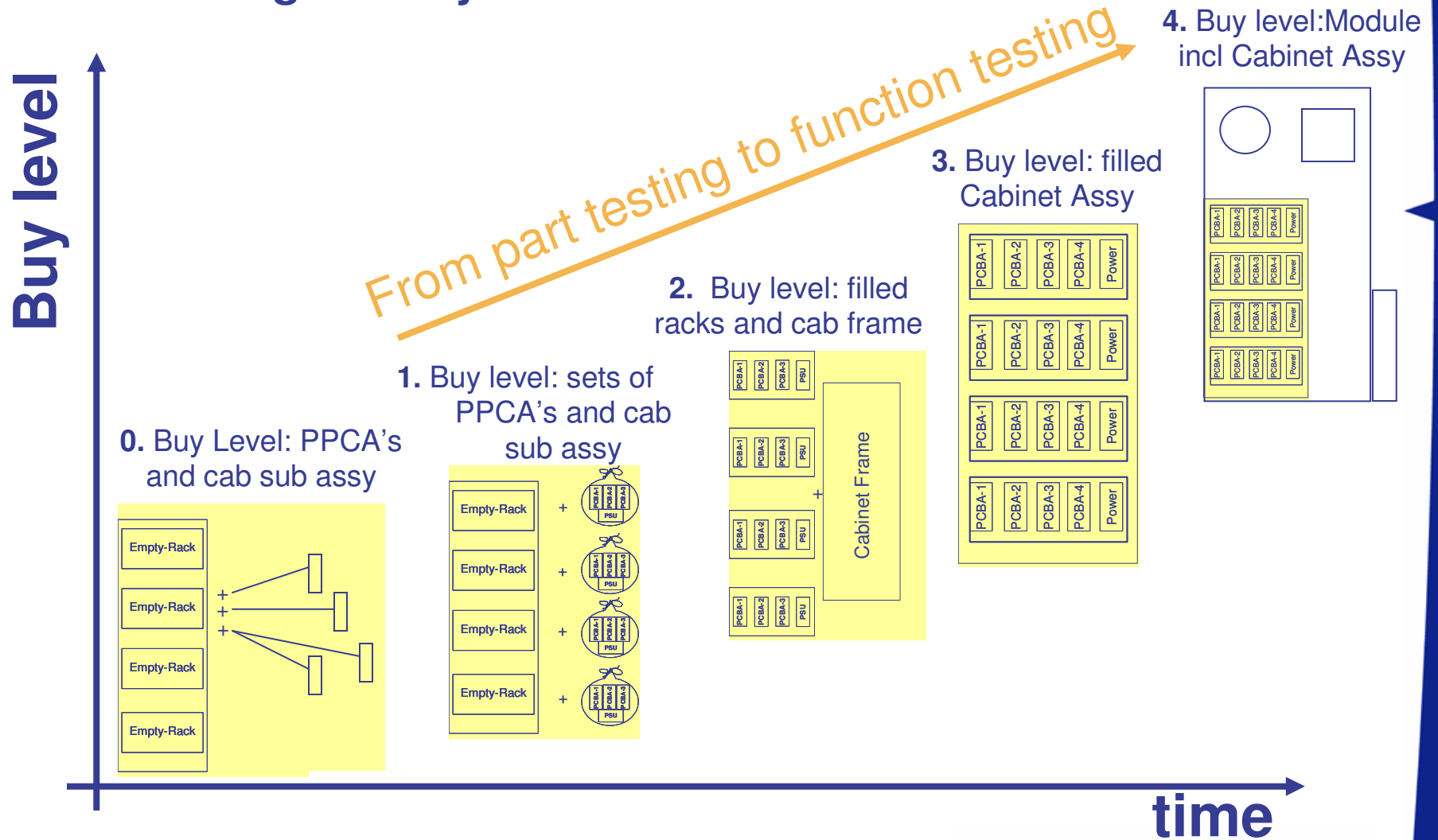
## 5 Ways towards intensive supplier involvement

1. Holding supplier responsible for test coverage
2. Joint design and production process reviews
3. Co-developer responsible from spec to TPD
4. Suppliers integrating design and manufacturing
5. Outsourcing modules

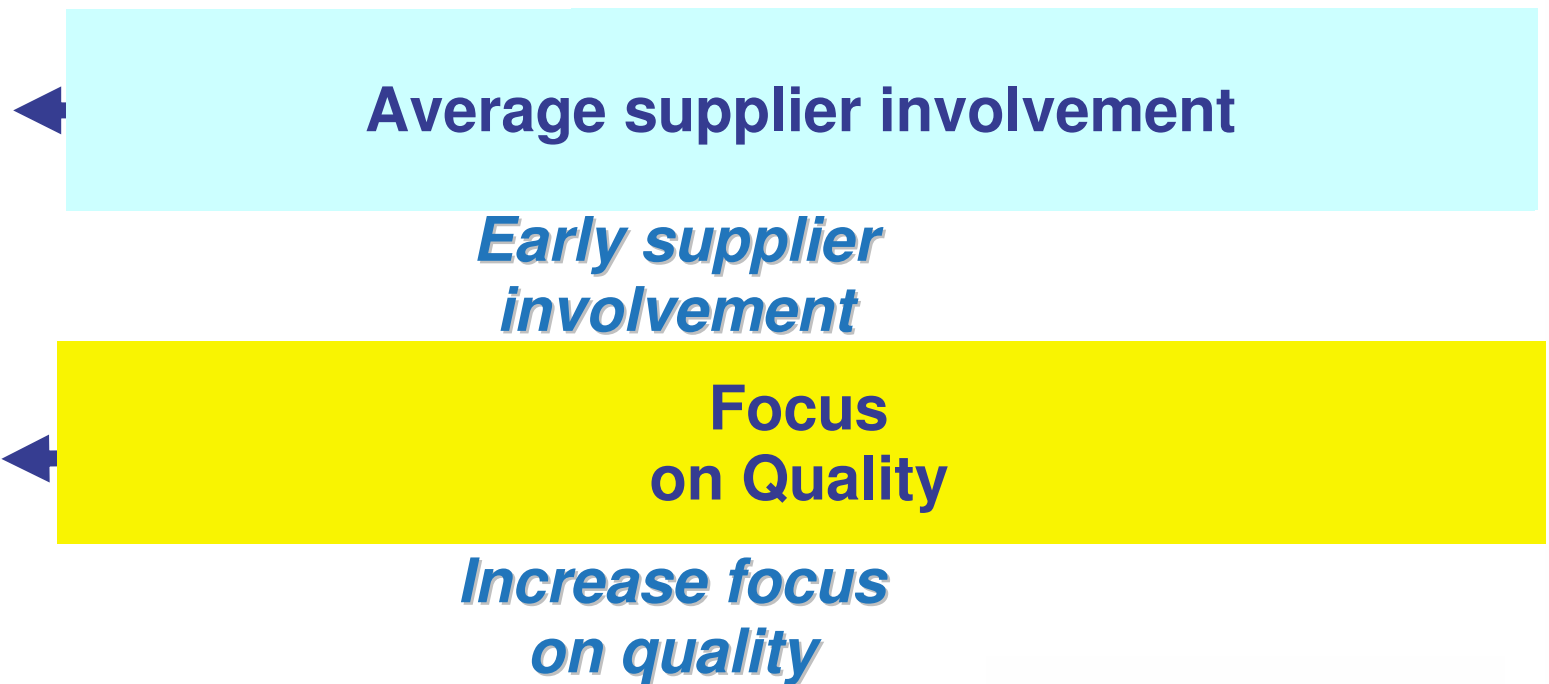
# Preferred Supply Chain



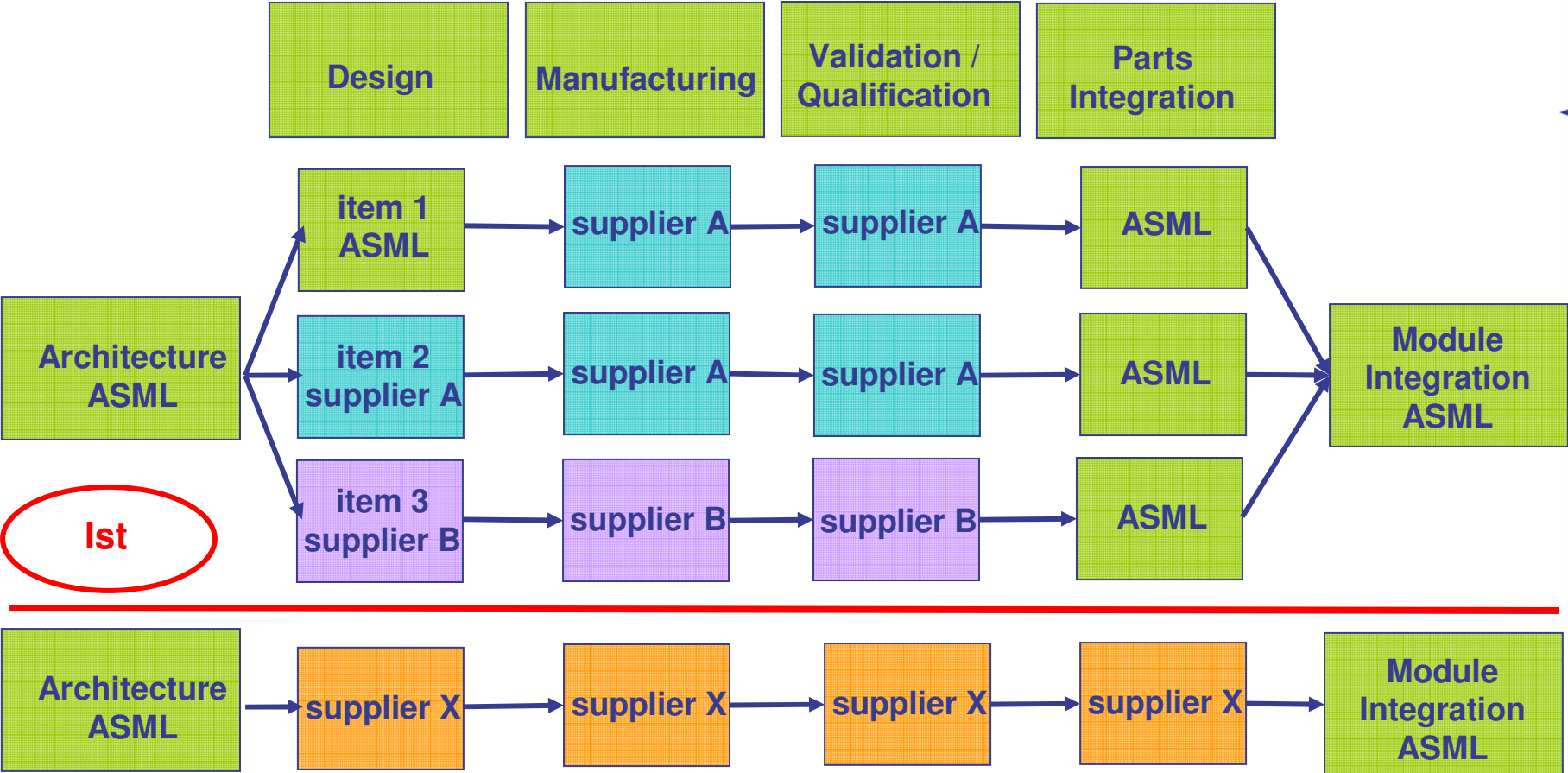
# Roadmap for outsourcing electronics modules increasing the buy level



# ASML solution in relation to supplier involvement



# Preferred supplier competences for functional Racks and Cabinets



Ist

Soll



# Preferred supplier competences for functional Racks and Cabinets

- We need suppliers that are capable of Manufacturing and Design

