



ASML

ASML

Every Angle Customer Day 2011

Peter van de Burgt – Material Planning
Ralph de Pagter – Customer Logistics

ASML all over the world

- One of the world's leading providers of lithography systems for the semiconductor industry
- Headquartered in Veldhoven, the Netherlands, we have 55 offices in 16 countries
- All top-ten semiconductor manufacturers use ASML systems
- We have almost 8,000 employees worldwide



**ASML employees
in US:1,516**



**ASML employees
in Europe: 4,670**



**ASML employees
in Asia:1,662**

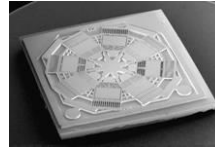
Chips have many forms and functions



Free-floating sensors
(©Holst Centre)



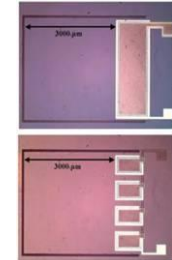
Camera pill with camera, transmitter and computer



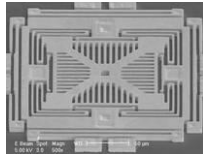
Gyroscope
(© UC Irvine)



Hard disk read/write head
(©Western Digital)



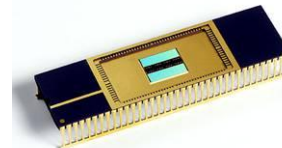
40µWatt Energy Harvester (©IMEC)



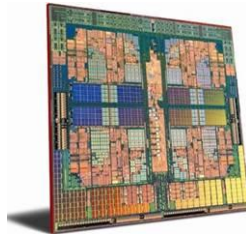
Accelerometer
(© IC Mechanics)



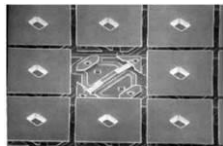
DNA analysis
(©Affymetrix)



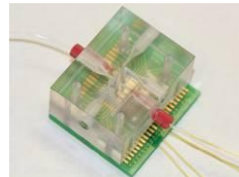
MRAM (Magnetic RAM)



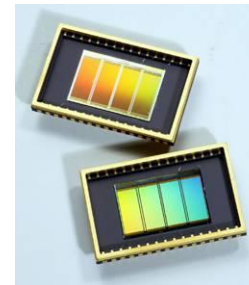
QuadCore Microprocessor
(©AMD)



Micro mirrors for beamers (©TI)



Lab on a Chip (LOC) for counting red blood cells



64 Gbit memory
(©Samsung)



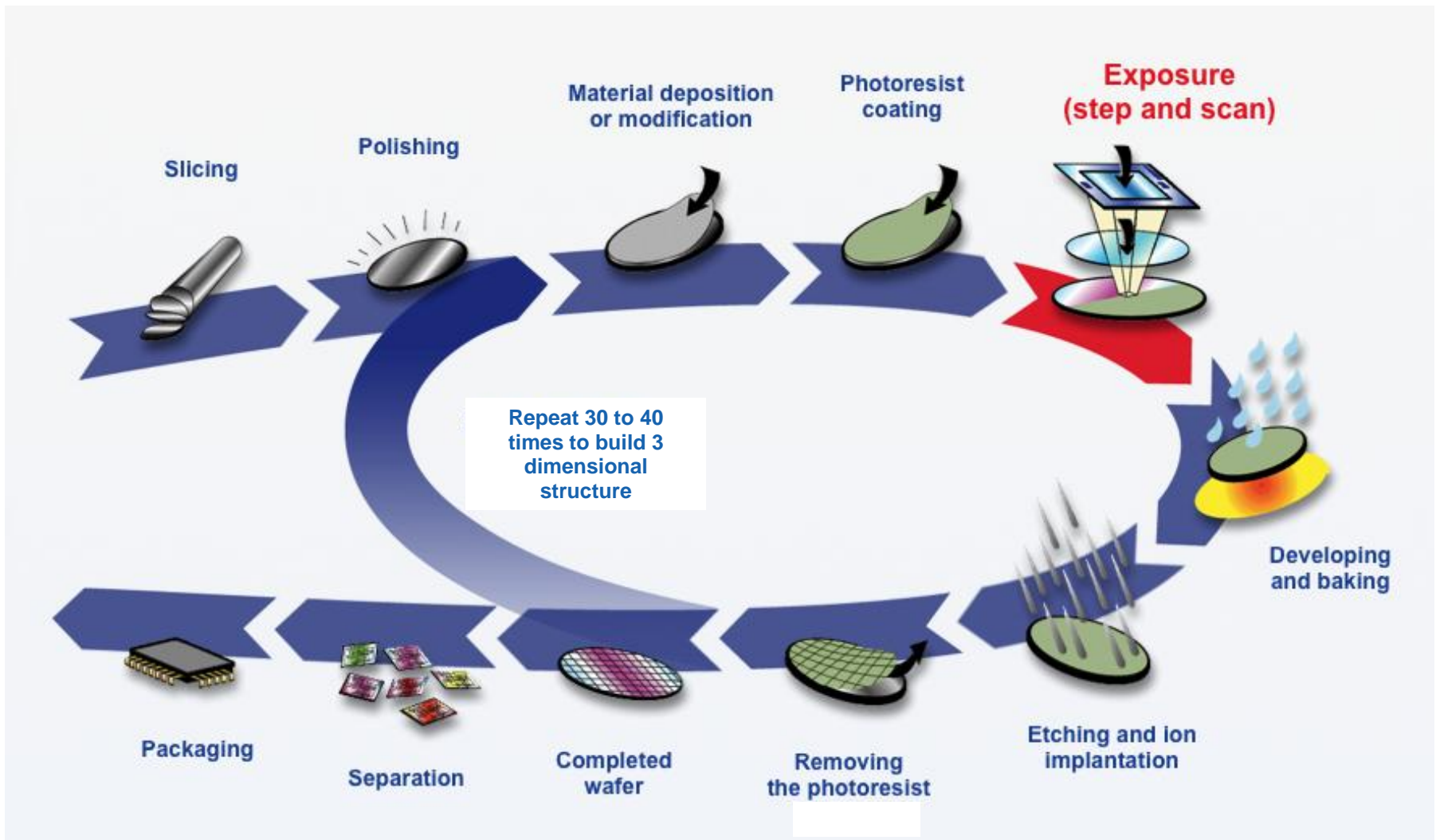
Accelerometer in the iPhone (©Apple)

“I won’t even try to predict what things will be important 25 years from now, but I bet we’ll have enabled some of them”

Martin van den Brink, Executive Vice President of Marketing and Technology



Lithography is at the heart of chip manufacturing



The systems that conquered the market. In 30 years

- From 1,200 nm to less than 20 nm resolution
- From <0.5M€ per system to >60M€



1984:
PAS 2000

Resolution: >1 μ m
overlay: 250 nm



1989:
PAS 5000

Resolution: <500 nm
overlay: 100 nm



1990's:

PAS 5500 steppers/scanners

Resolution: 400 to 90 nm
overlay: 100 to 12 nm



2000's:
Twinscan

Resolution: 100 to 38 nm
overlay: 20 to 4 nm



2010's:
NXE EUV systems

Resolution: 32 to <20 nm
overlay: 2 nm



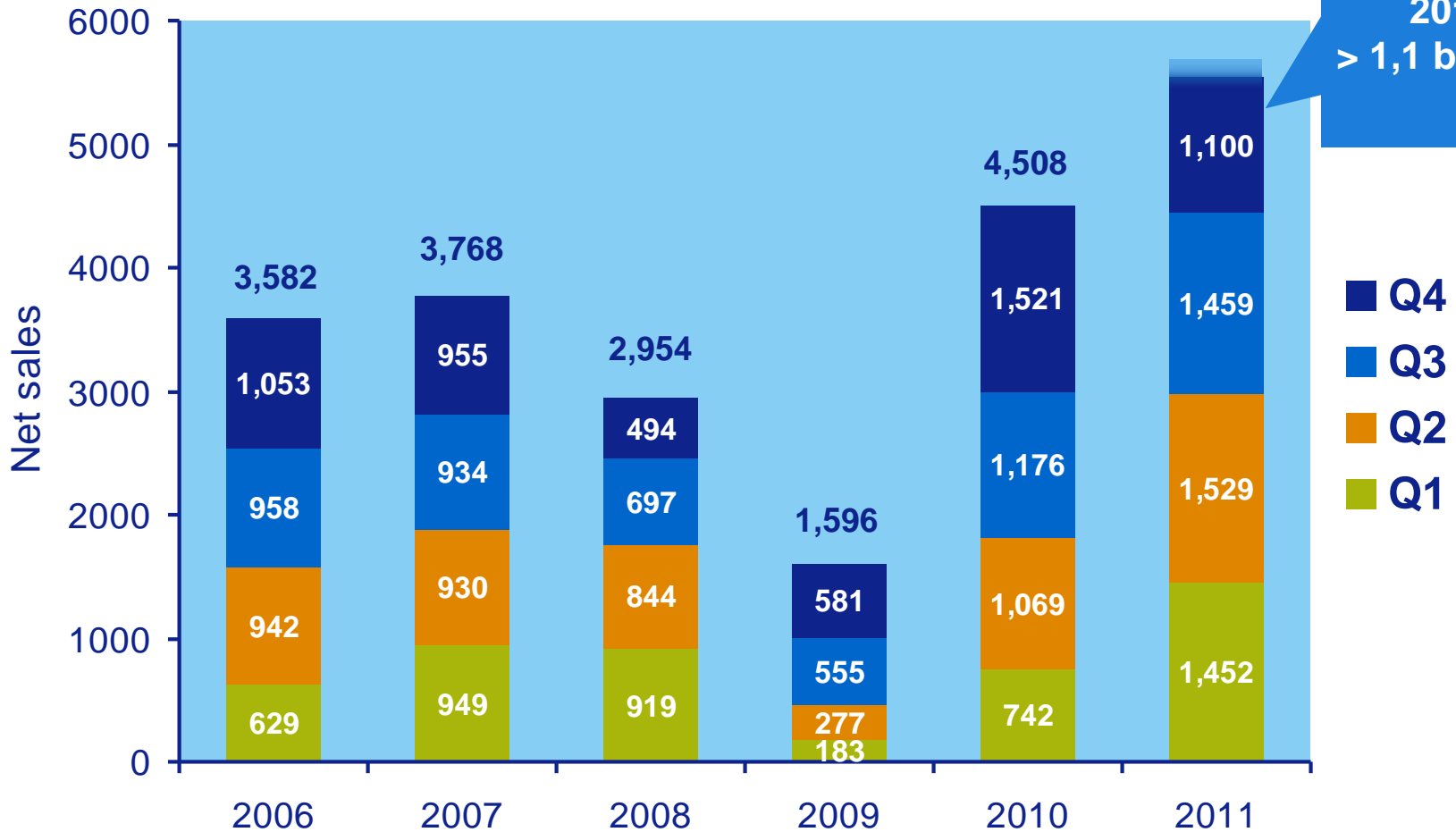
For engineers who think ahead

Innovation in the Brainport: an example

Designing a complex integrated system together with partners



Total net sales M€



Expected turnover Q4 2011: > 1,1 billion €

Numbers have been rounded for readers' convenience.



ASML Supply Chain



± 600 suppliers
± 30.000 parts

1. Assembly: 1-4 wks



± 50 modules

2. Final Assembly + Test: 10-26 wks



Disassembly

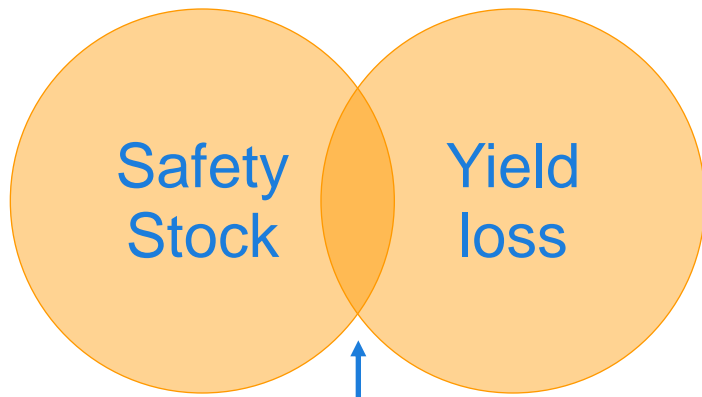
3. Packing + Shipping: 1-5 FTL



± 200 systems
per year

4. Install: 1-4 wks

Managing Safety Stocks with Every Angle



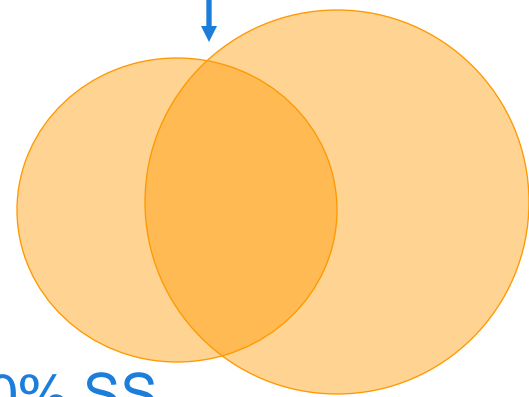
- Yield < 100%
- Unpredictable yield loss
- Expensive parts

Defect Coverage

Processes/Custom SAP



+30% Defect Coverage



ea.asmt.com (PBURGT) - Every Angle Client

MACP - Defect Coverage (986 items)

Material	Description	MRP Controller	Order number	Document Date	Movement	Store
4022-439.76741	QC COUPLING FEM	NL01B00 (PAUL SJBERS)	3008487887/2011/2	17/01/2011	261 (GI for order)	NL0114*
4022-439.76791	SLEEVE STIP SST 12x9	NL01B01 (VM)	3008487862/2011/7	17/01/2011	261 (GI for order)	NL0114*
4022-439.91013	SCREW HSS CAP SST M6x10	NL01B01 (VM)	3008487862/2011/0	17/01/2011	261 (GI for order)	NL0114*
4022-439.96911	WASHER SST S.3X10	NL01B01 (VM)	3008487862/2011/0	17/01/2011	261 (GI for order)	NL0114*
4022-454.36551	BELLOWS	NL01B63 (Karin Nijssen)	3009532795/2011/1	05/10/2011	261 (GI for order)	NL01113*
4022-455.09864	AL LSR GREEN ADJ. MOUNT ASSY	NL01B03 (Nicolas Verbruggen)	3009326825/2011/1	11/08/2011	261 (GI for order)	NL0115*
4022-455.09864	AL LSR GREEN ADJ. MOUNT ASSY	NL01B03 (Nicolas Verbruggen)	3009417106/2011/1	03/09/2011	261 (GI for order)	NL0115*
4022-470.53142	SMB BF II LEFT	NL01B03 (Lothe Janssen)	3009280316/2011/1	04/08/2011	261 (GI for order)	NL0112*
4022-470.70482	PHASE MEASUREMENT BOARD PHA...	NL01B02 (Simon van den Boom)	3009378574/2011/1	24/08/2011	261 (GI for order)	NL0114*
4022-471.84295	PSDC250/2S PREMIUM 24VSAFE	NL01B01 (Ronald vd Weide)	3009299951/2011/1	04/08/2011	261 (GI for order)	NL0115*
4022-471.87382	PIEZO POWER AMPLIFIER MK2 PPCA	NL01B01 (Ronald vd Weide)	3009293781/2011/1	05/08/2011	261 (GI for order)	NL0115*
4022-471.87382	PIEZO POWER AMPLIFIER MK2 PPCA	NL01B01 (Carin van der Aa)	300945645/2011/1	14/09/2011	261 (GI for order)	NL0115*
4022-471.87382	PIEZO POWER AMPLIFIER MK2 PPCA	NL01B01 (Carin van der Aa)	3009570405/2011/1	14/10/2011	261 (GI for order)	NL0115*
4022-471.87583	STAGES I/O BOARD (SIOB) PPCA	NL01B01 (Ronald vd Weide)	3009249962/2011/1	22/07/2011	261 (GI for order)	NL0114*
4022-471.87583	STAGES I/O BOARD (SIOB) PPCA	NL01B01 (Ronald vd Weide)	3009291300/2011/1	02/08/2011	261 (GI for order)	NL0114*
4022-471.87583	STAGES I/O BOARD (SIOB) PPCA	NL01B01 (Ronald vd Weide)	3009538370/2011/1	06/10/2011	261 (GI for order)	NL0114*
4022-471.87583	STAGES I/O BOARD (SIOB) PPCA	NL01B01 (Ronald vd Weide)	3009556402/2011/1	11/10/2011	261 (GI for order)	NL0114*
4022-471.87583	STAGES I/O BOARD (SIOB) PPCA	NL01B01 (Ronald vd Weide)	3009578457/2011/1	17/10/2011	261 (GI for order)	NL0114*

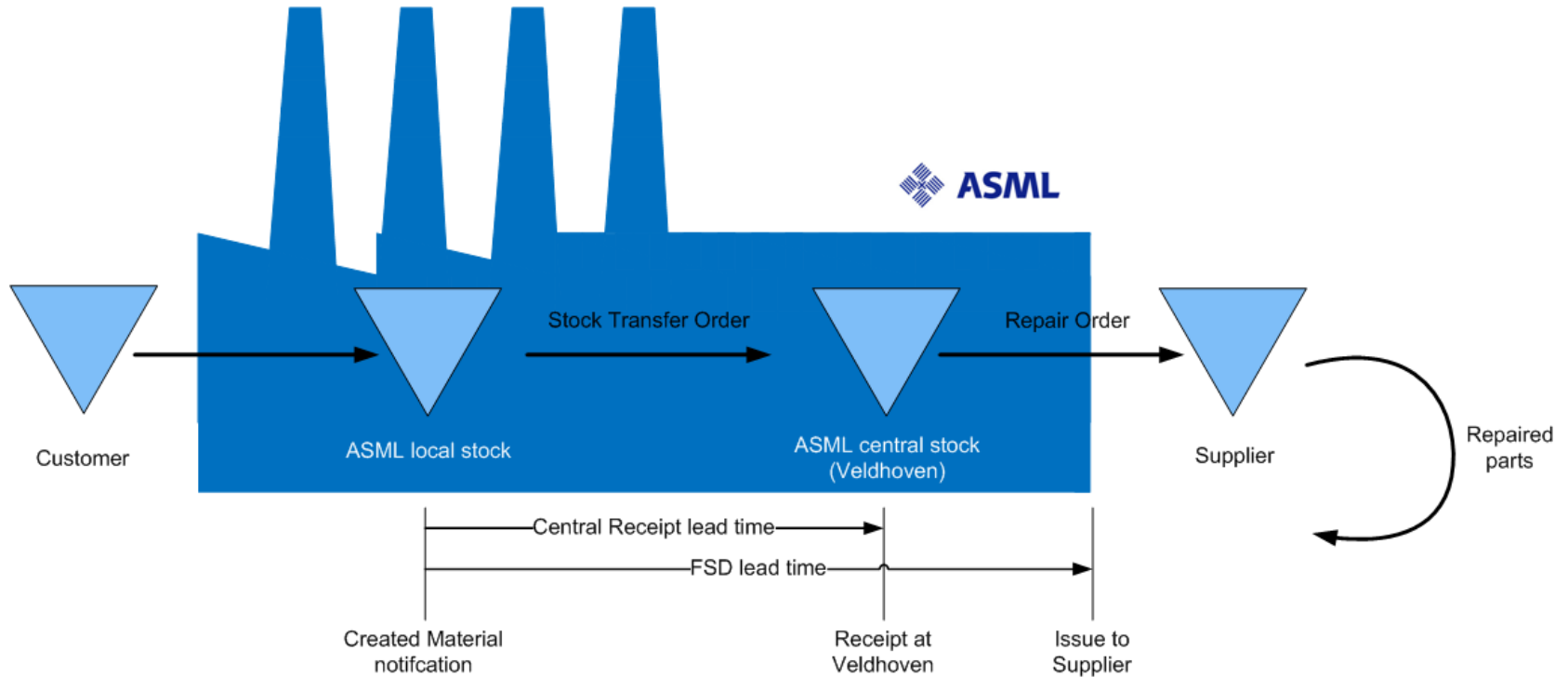
MACP - Defect Coverage
Result Summary



EA Monitoring Performance Tool Reversed Logistics ASML

- EA tool will help to understand specific logistic characteristics in the reversed logistics process
- Target 1: Efficiency in the complete process from customer to supplier
- Target 2: Cost reduction
- Target 3: Quality sustaining

Measuring lead times in the Reverse Logistics process



Questions?