

PHILIPS

Manufacturing and Operational Excellence

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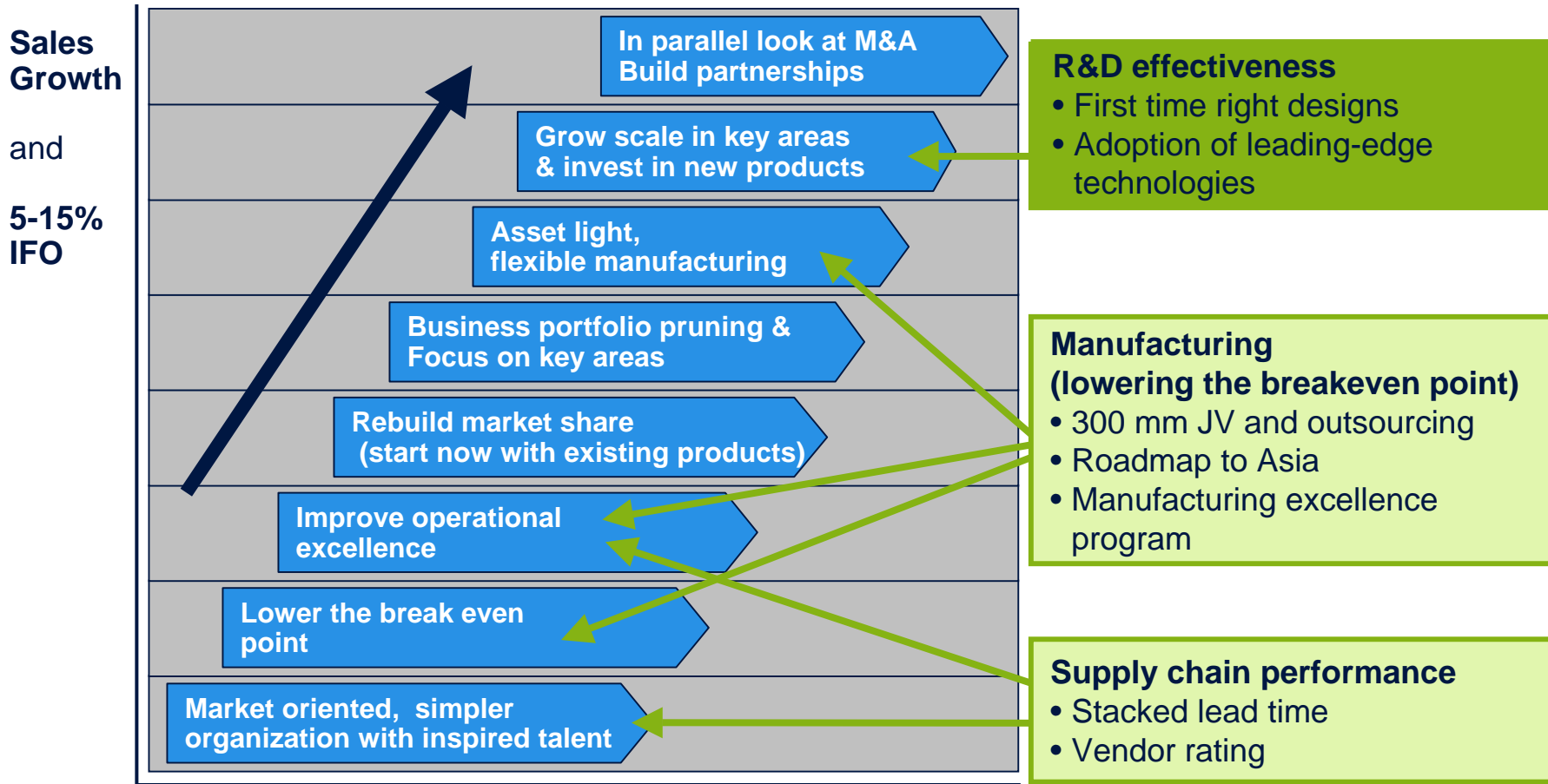
Outline

Operational excellence to improve competitiveness

- R&D Effectiveness
 - Adoption of leading edge technologies
 - First-time-right in design
- Manufacturing Strategy & Cost Down Roadmap
 - Lowering the Breakeven Point
 - Roadmap to Sourcing from Asia
 - Cost of Non-quality and Zero Defect Plan
- Supply Chain Performance Initiatives

Our focus today

Improving our competitiveness

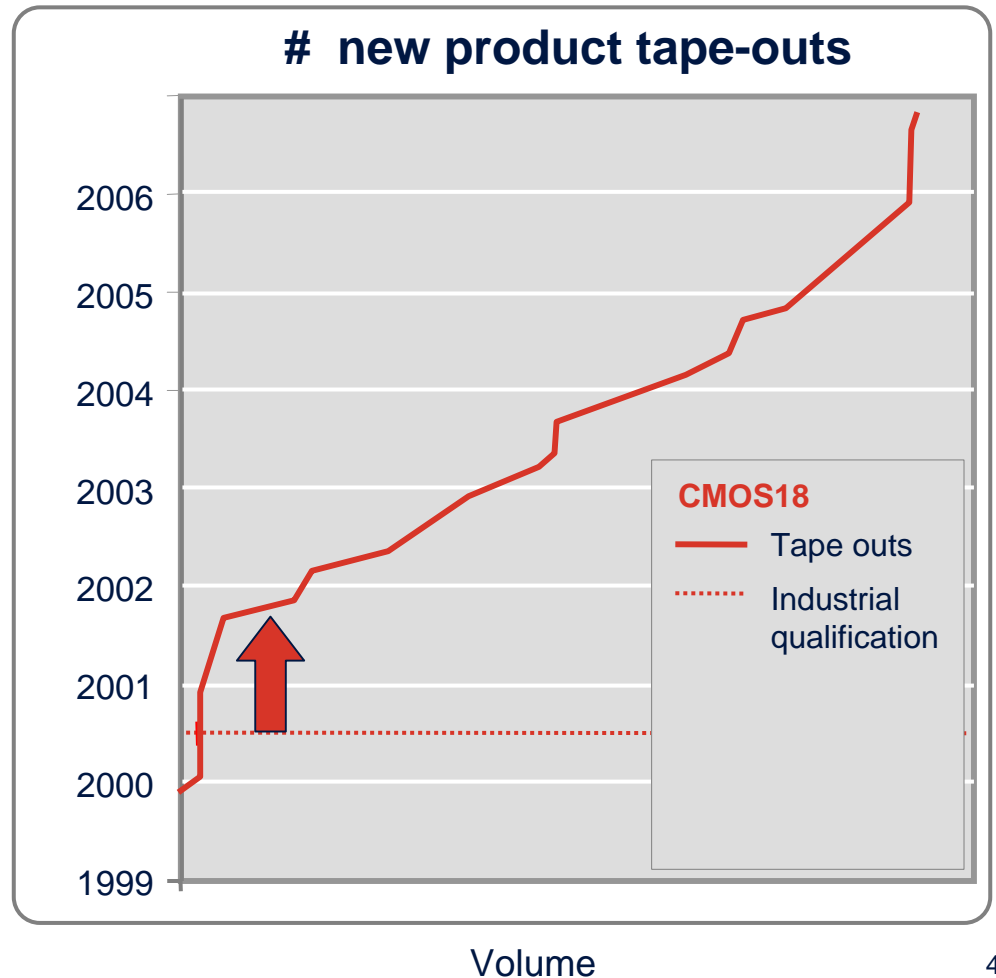


Agenda

R&D effectiveness

Focus on early adoption of leading-edge technologies

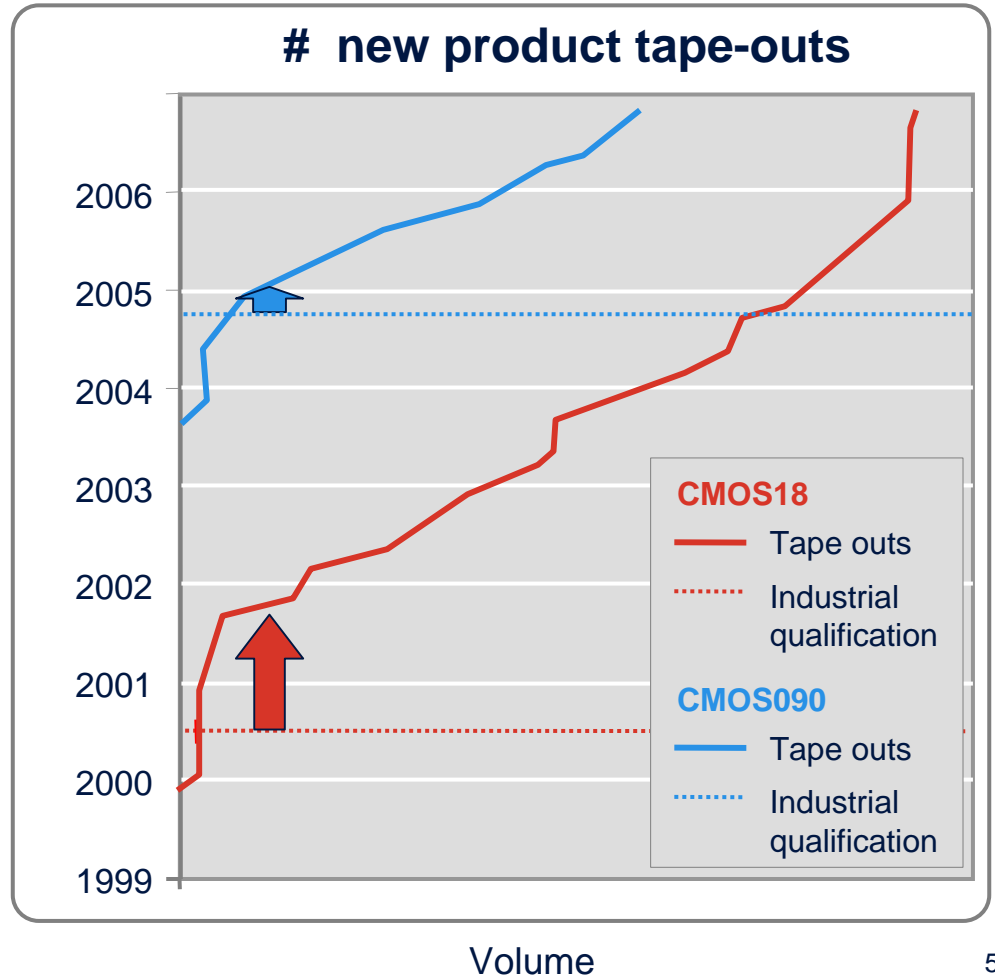
- For the 0.18 μm node it took 3 quarters after industrial qualification before the new products started growing



R&D effectiveness

Focus on early adoption of leading-edge technologies

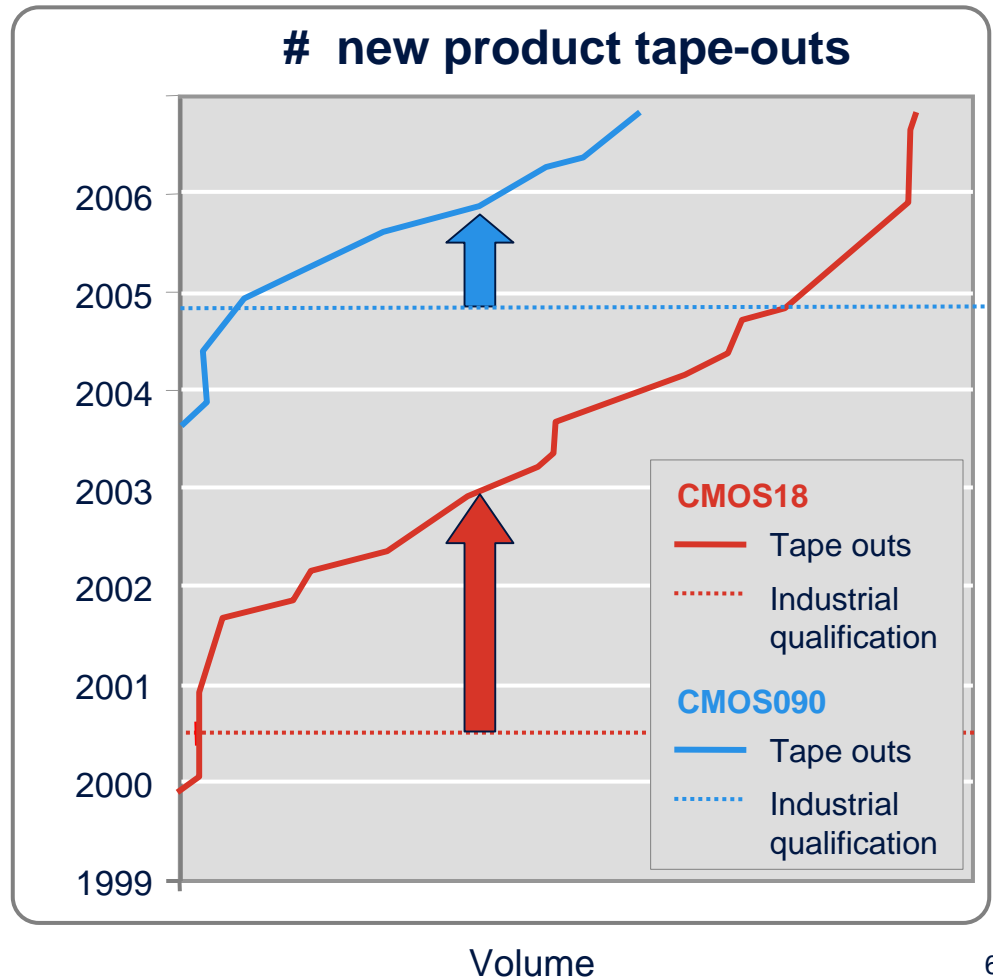
- For the 0.18 μm node it took 3 quarters after industrial qualification before the new products started growing
- For 90nm the increase in new product tape-outs occurs virtually instantaneously after process qualification



R&D effectiveness

Focus on early adoption of leading-edge technologies

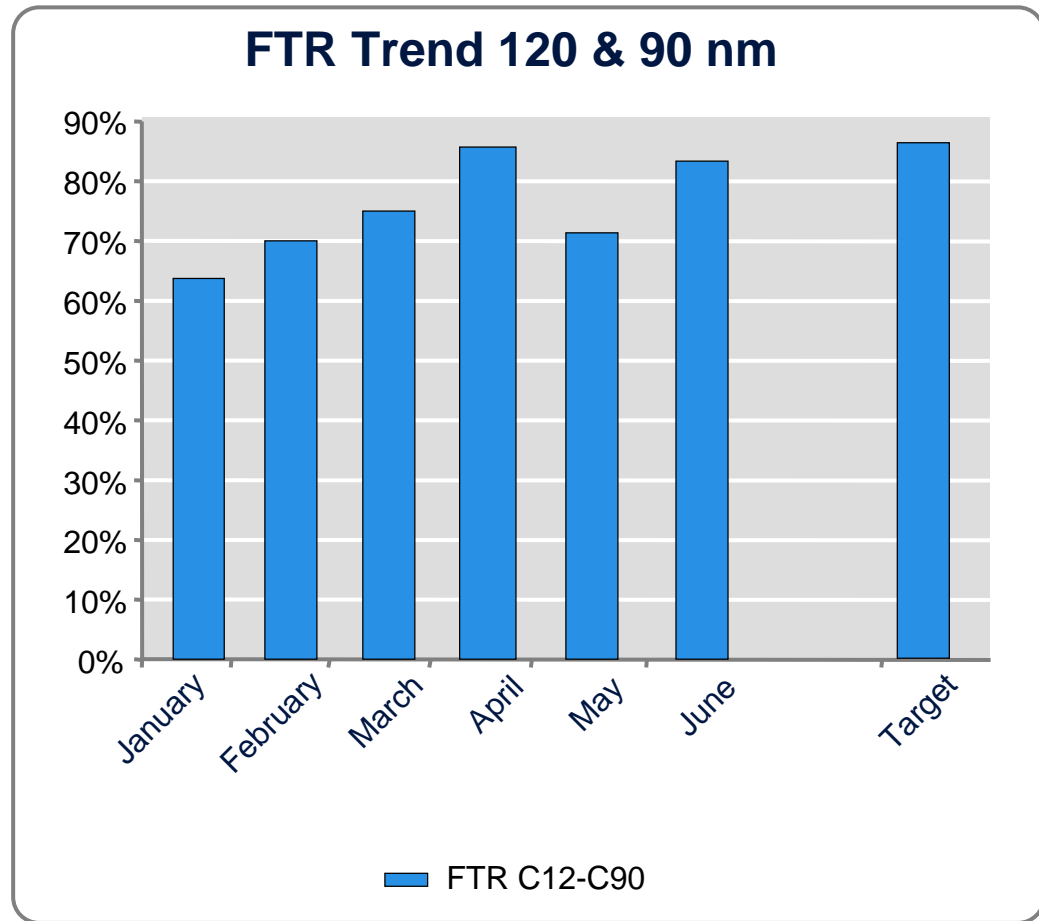
- For the 0.18 μm node it took 3 quarters after industrial qualification before the new products started growing
- For 90nm the increase in new product tape-outs occurs virtually instantaneously after process qualification
- Meanwhile, time to initial volume has come down from approx. 3 years to 3 quarters
- The principles of concurrent engineering and early validation of IP are being actively applied in the launch of 65 nm and beyond



R&D effectiveness

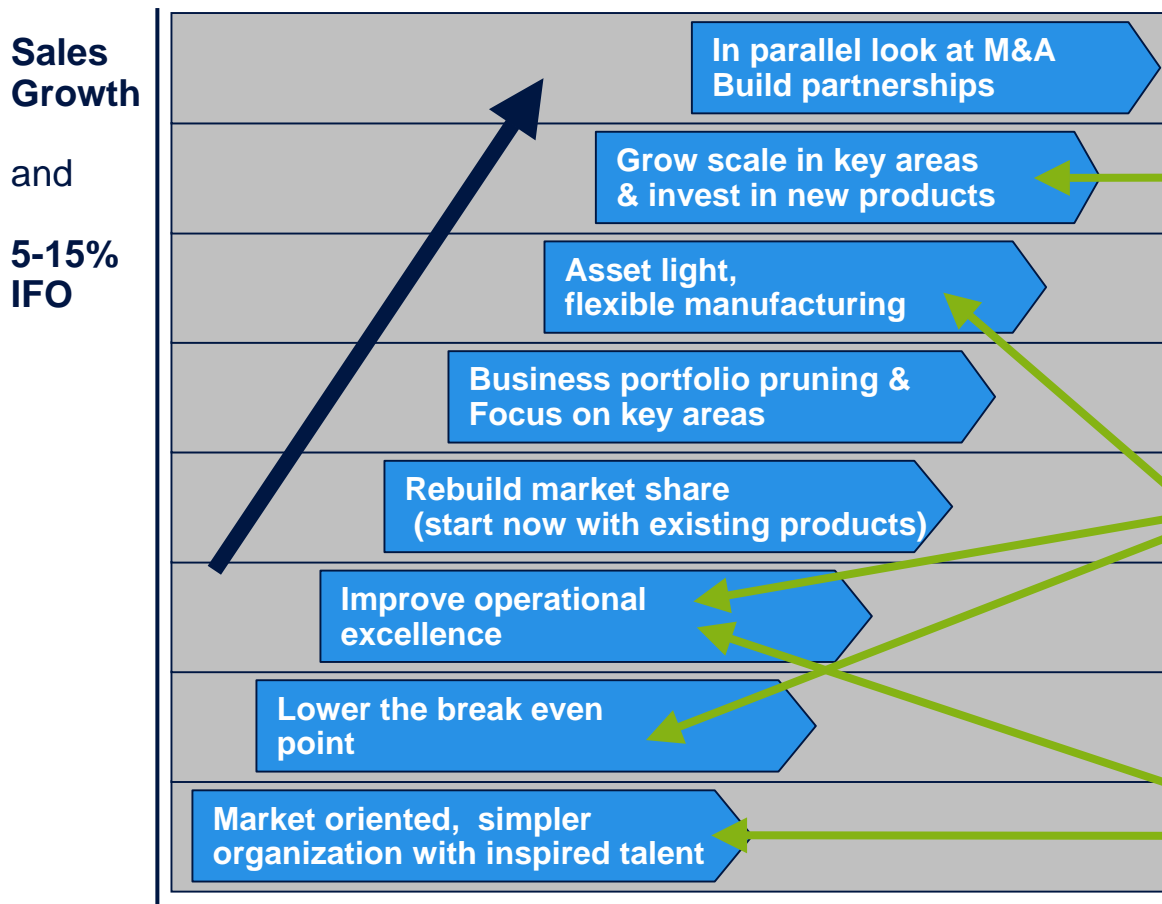
FTR (First Time Right) for 120 and 90 nm

- Improved design methodologies and focus on design for manufacturability to maintain high first time right ratios despite increasing product complexity
- To further strengthen our product creation potential, the Crolles2 alliance cooperation has been extended to include creation of advanced IP as well as assembly technology



Our focus today

Improving our competitiveness



Agenda

R&D effectiveness

- First time right designs
- Adoption of leading-edge technologies

Manufacturing (lowering the breakeven point)

- 300 mm JV and outsourcing
- Roadmap to Asia
- Manufacturing excellence program

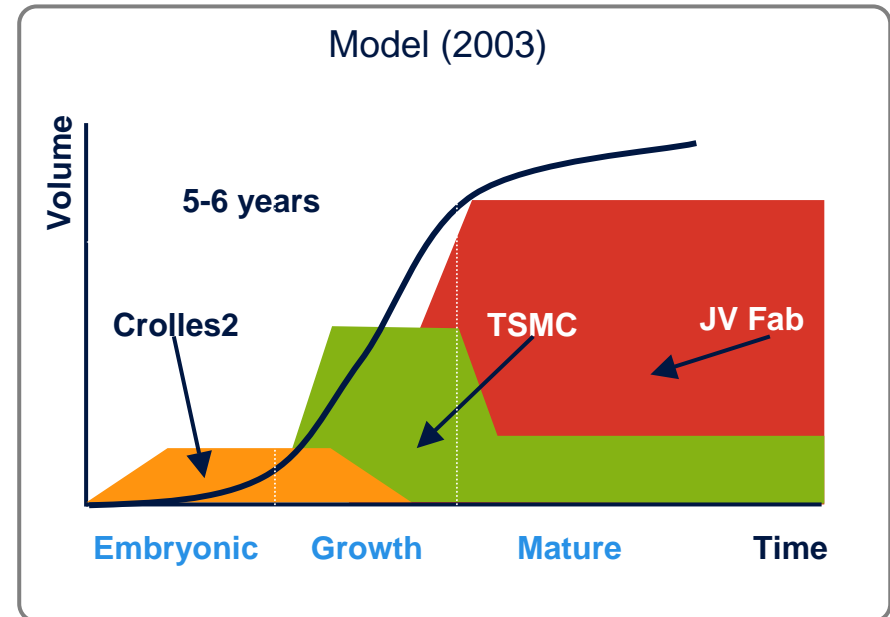
Supply chain performance

- Stacked lead time
- Vendor rating

Asset light strategy

Turning theory into practice

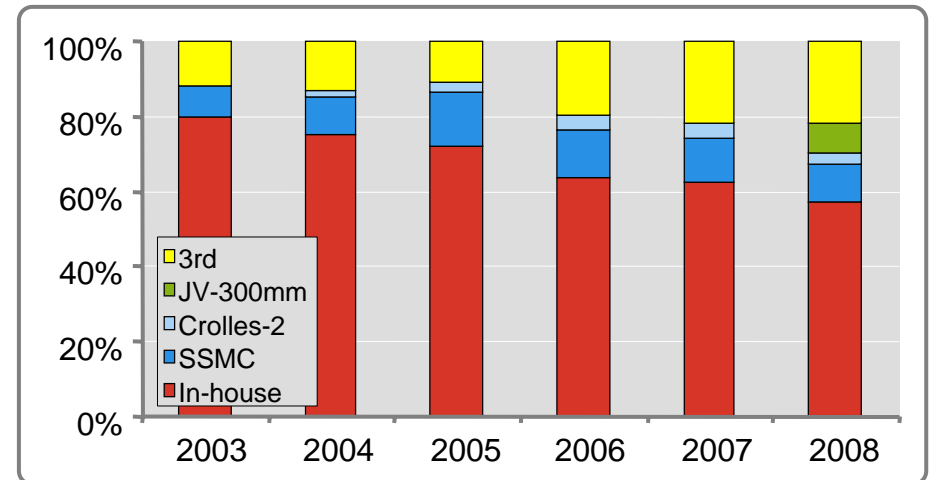
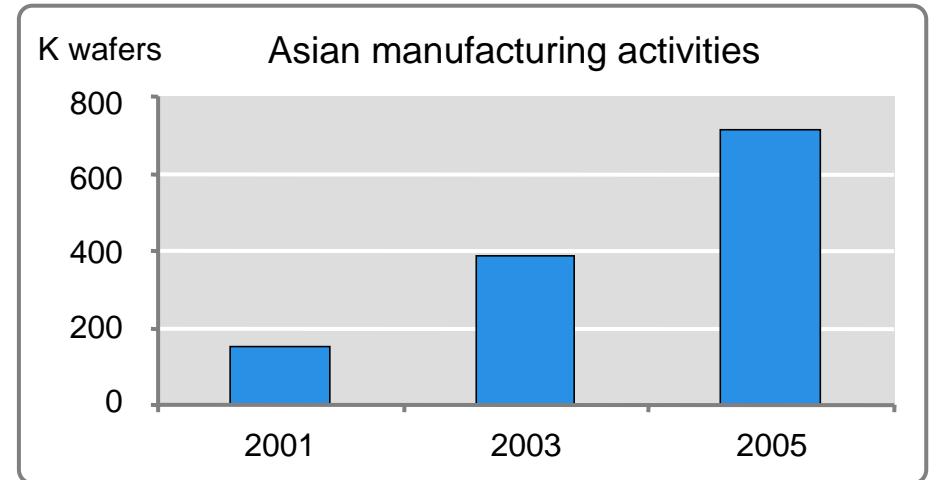
- R&D and pilot fab in Crolles-2 Alliance
- Typical time to start of own (J.V.) is 4-5 years until enough wafer load
- New J.V. for 300 mm will be needed by 2008 (market conditions will dictate exact timing)
- TSMC 2nd sourcing available



Sourcing roadmap 2005-2008

Lowering our breakeven point

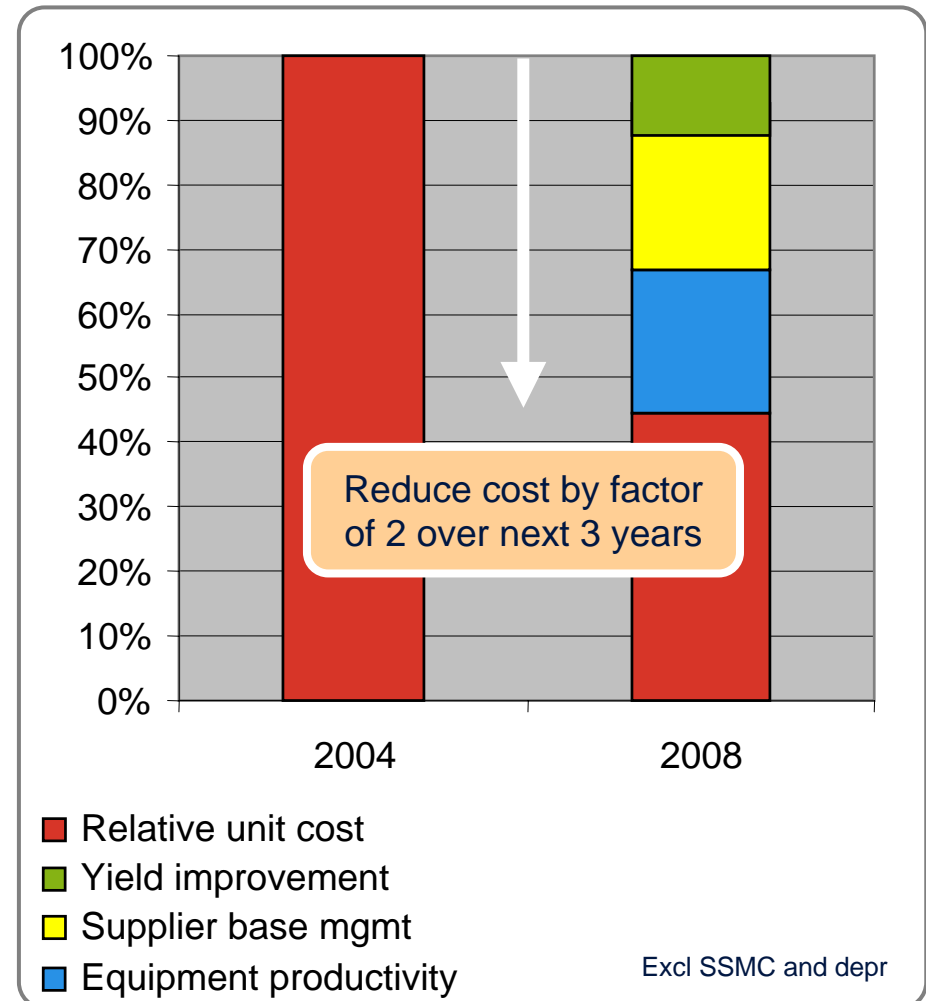
- Manufacturing activities will continue to shift to Asia
 - Advanced processes
 - High volume non-specialty processes for dual sourcing
- Outsourcing will increase to well over 30%
 - In-house production is decreasing continuously
 - Production in Europe/US will be limited to part of proprietary and specialty technologies in the existing manufacturing base



Manufacturing excellence related cost reduction

Lowering our breakeven point

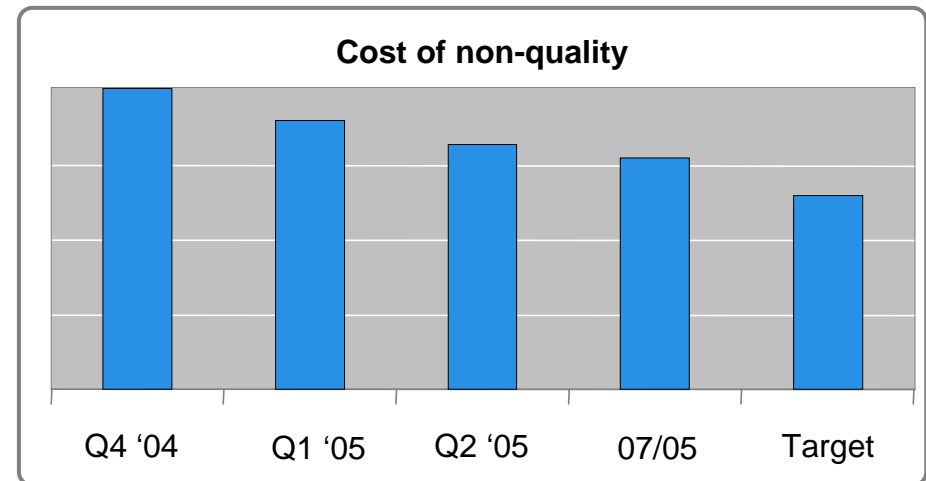
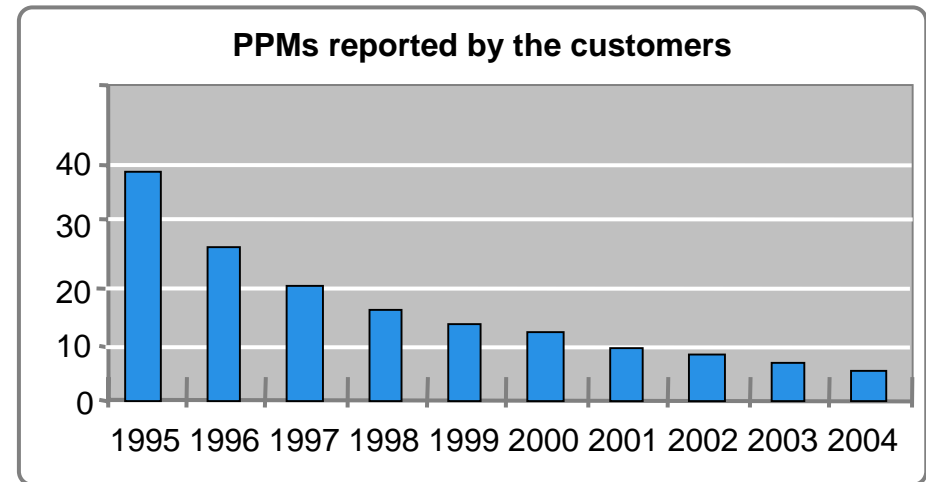
- Yield improvement is approaching best in class limits
 - Traditional improvement program was not delivering fast enough
 - Installed focused manuf. excellence program, resourced with high-level industrial engineers, already paying off
- Equipment productivity improvement by retrofitting best practices from advanced and high-performing units into rest of mature base
- Supplier base: decreasing cost of direct and indirect materials
- These actions will lead to cost reduction of 325M Euros including depreciation by end 2007



Zero defects program

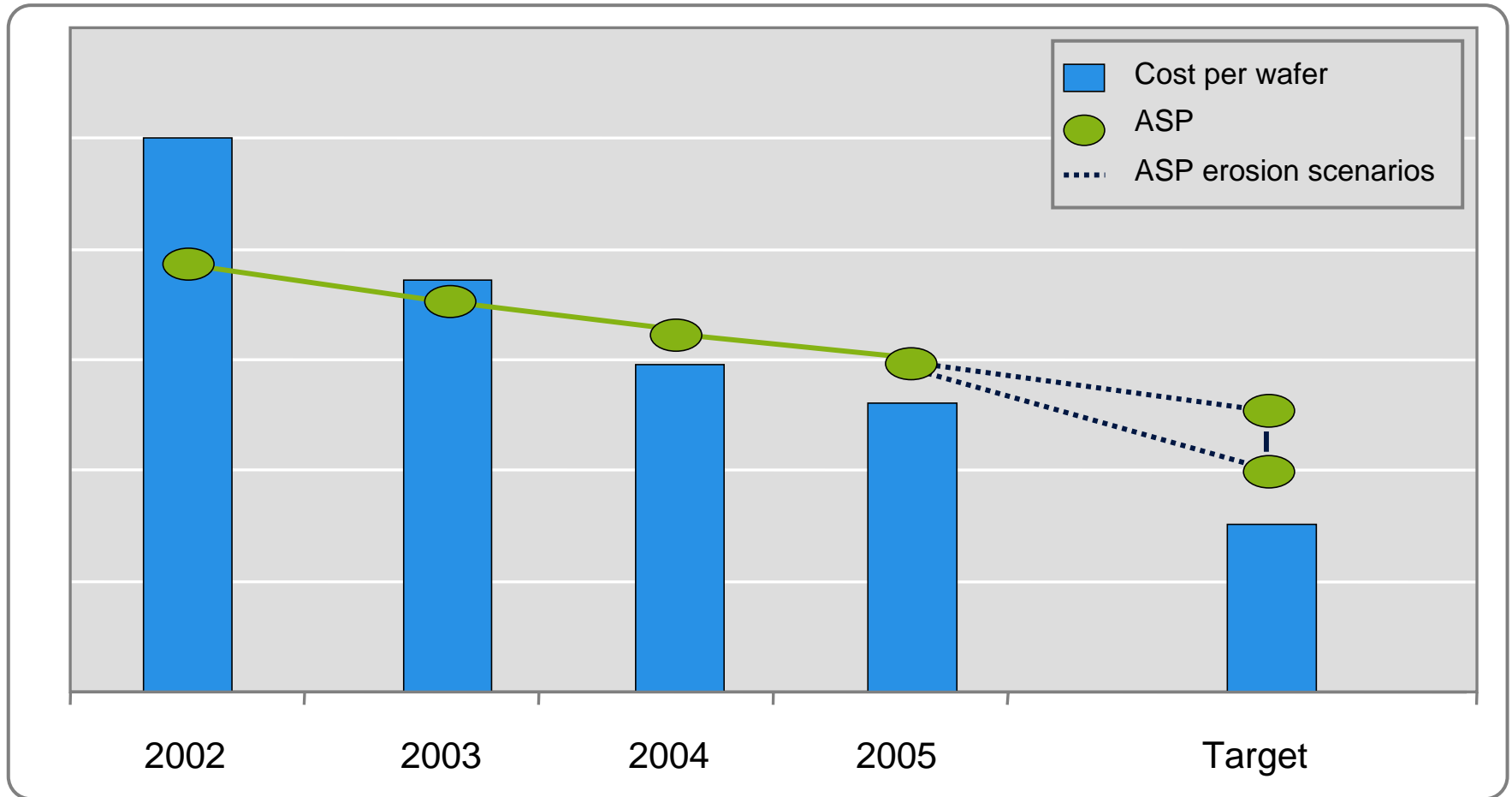
Meeting automotive industry requirements

- Improving technical quality control to reduce customer complaints from the PPM to the PPB level
 - Current complaint level is about 2 per billion pins (assembly)
 - Increased focus on design-for-manufacturing, as complexity of new products increases
 - Applying “firewalls” (refined measurement and test approaches) to screen latent defects
- Embedding the zero defect culture in all our operations to reduce the cost of non-quality



What does it mean?

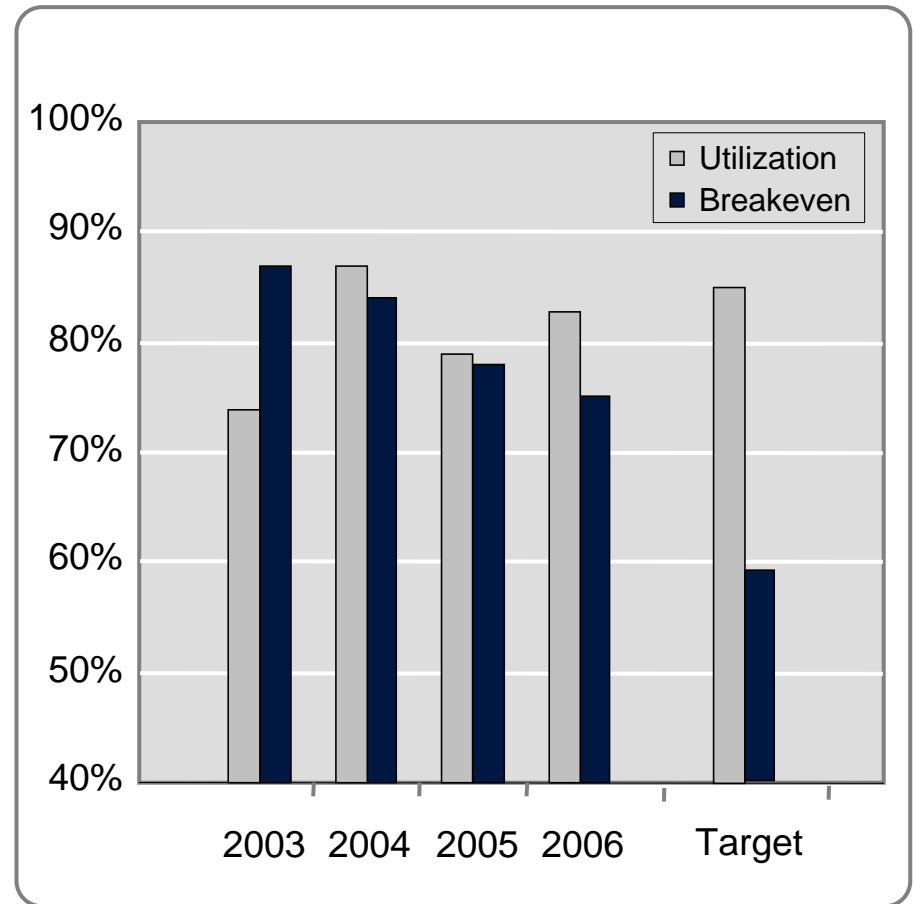
1) Wafer cost per unit reduction faster than ASP erosion



What does it mean?

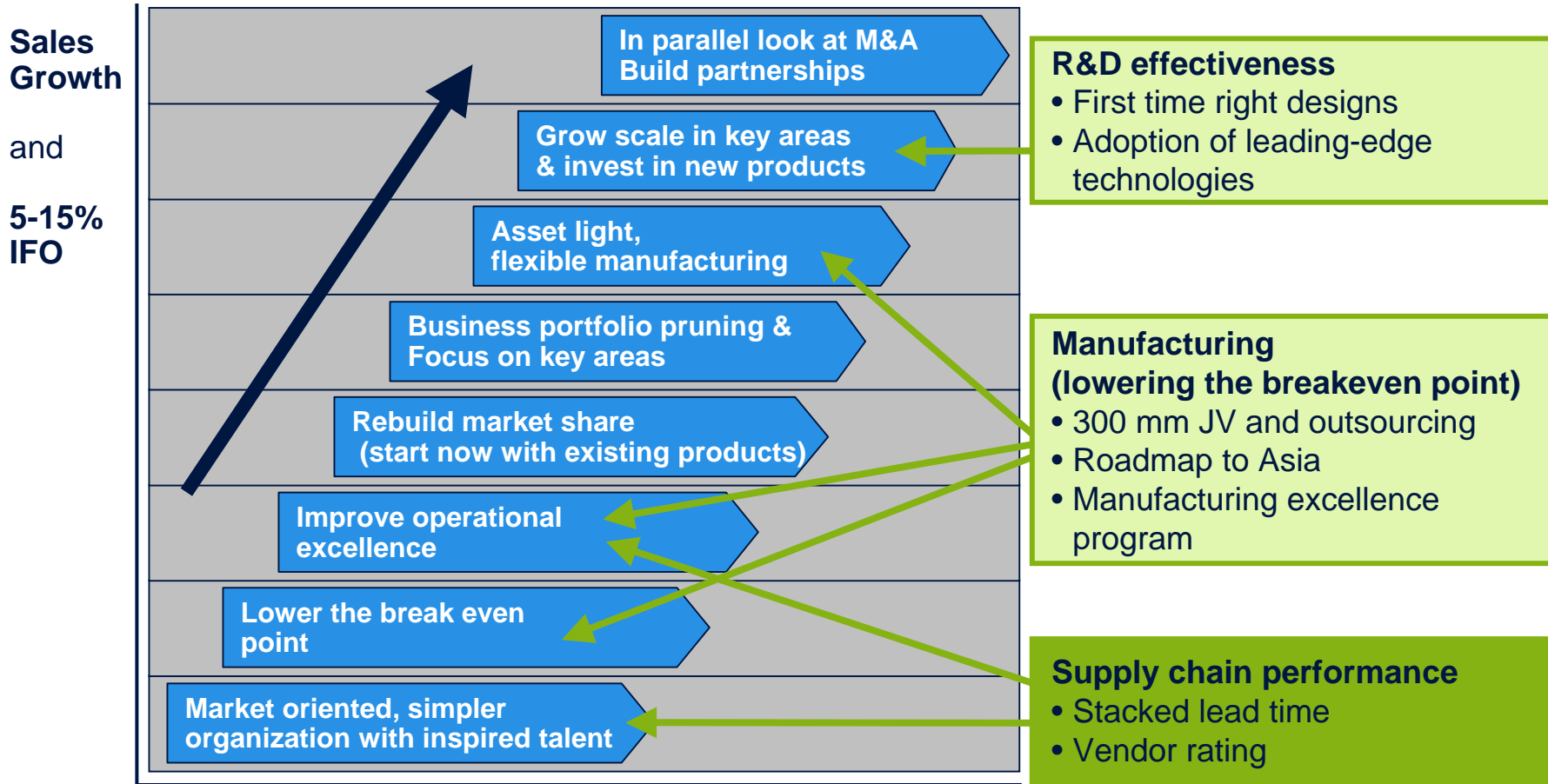
2) Continuous reduction of breakeven point

- Restructuring and regrouping of production activities (e.g. Nijmegen) in 2004 has made substantial reduction of breakeven point
- Going forward, we will continue to regroup and maintain utilizations above the breakeven point



Our focus today

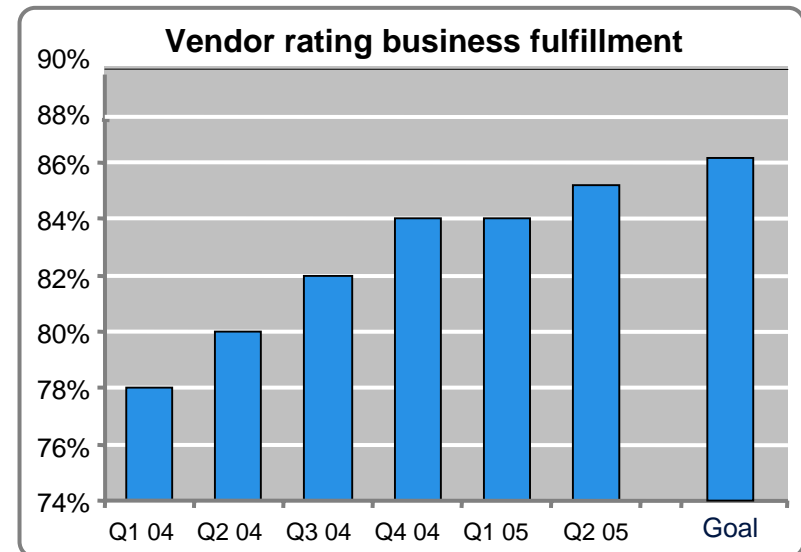
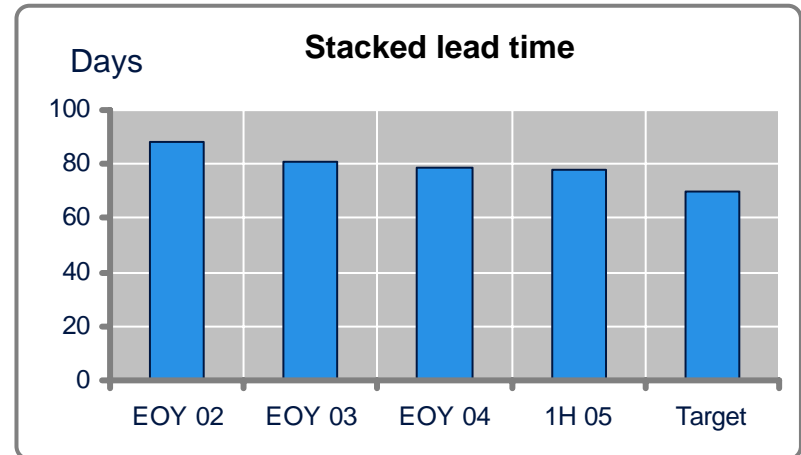
Improving our competitiveness



Optimizing supply chain management

Supporting the highway to the customer

- Despite increased complexity of flows, which adds roughly 3 days, ongoing progress in stacked lead time improvements
- Positive trend in vendor rating for business fulfillment: from 78% to 85% in 6 quarters
 - SCM organization being optimized in line with the highway to the customer
 - Breakthrough actions to improve requested line item performance (RLIP) from 75 to 90%
 - Reduce customer order confirmation from 2 days to 24 hours



In Summary:

We have made significant progress over the past year

- Increased focus on R&D effectiveness, building on the first time right experiences in 90 nm as we tackle 65 nm challenges
- Asset light strategy, ongoing cost reductions and manufacturing excellence provide a significant contribution to economic viability
- Bringing company-wide quality to automotive requirements
- Focus on supply chain management leading towards improved stacked lead time and delivery performance to become recognized for customer-service

Our journey is underway, we are on the right track, and we are committed to achieving our objectives!

