Technology for business benefit

Niklas Savander
Executive Vice President
Technology Platforms & Nokia Design

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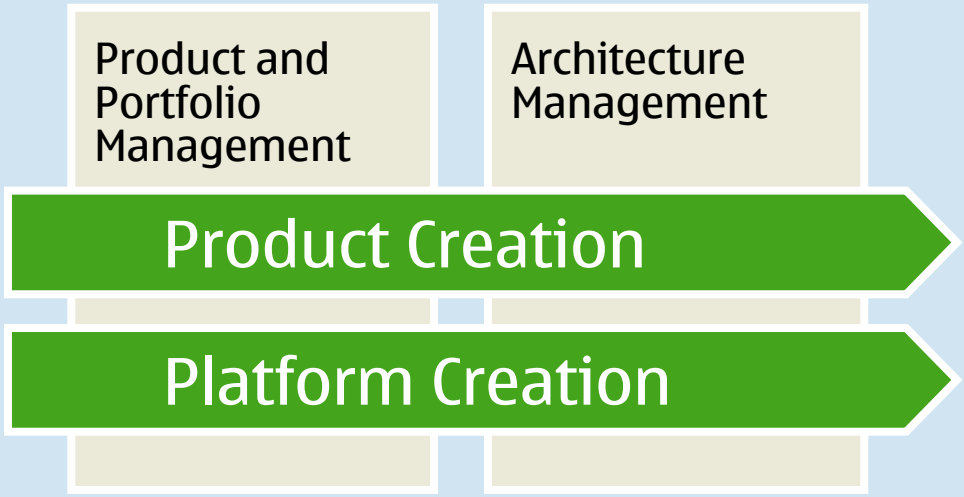
Multiple product creation modes for optimal business return



Key metrics include:

- Gross Margin/R&D Cost
- New Product Revenue
- Cycle Time
- Output
- On Time Delivery
- Requirement Management

MAKE	SPECIFY	BUY	USE & CONTRIBUTE
Maximum gross margin contribution and opportunity capture	Innovations fitted for consumers, trade customers, and Nokia	Cost leadership through scale	Focus on cost efficiency and differentiation

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Chipset cost advantage and technology leadership

- IPR
- IN-HOUSE DESIGN
- OWN PROTOCOL SW DEVELOPMENT
- SOURCING WITH SCALE BENEFIT

Technology Leadership

- Best fit for Nokia phones
- Faster migration to leading silicon processes across the portfolio

WCDMA chipset cost advantage 20%+

Meaningful IPR cost advantage

Market leadership: estimated 36% device market share in Q3 2006

Source: Nokia estimates

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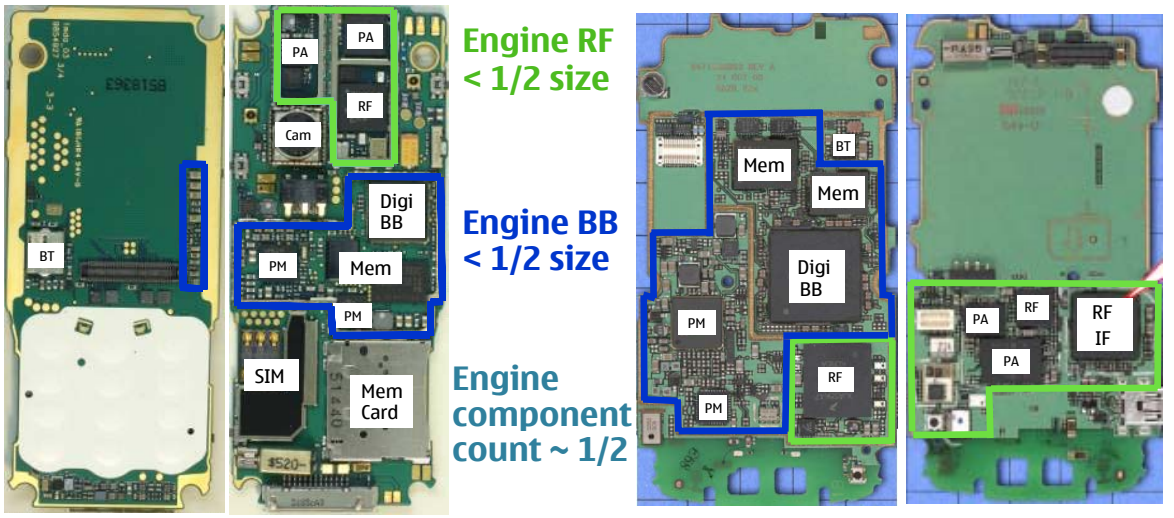
Chipset cost and size leadership throughout the portfolio

- Smallest and most efficient 3G engines via superior chipset design
  - Lowest component count
  - Smallest die size
  - Lowest total cost
- Optimized business model for perfect-fit in low end



Engine in Nokia 6280 (WCDMA/EDGE)

Engine in Motorola RAZR V3x (WCDMA/GPRS)

Board photos: Nokia & Portelligent, Inc; Estimates: Nokia

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SW platforms leadership with long-term unit cost advantage

S60 SW Platform on top of Symbian

- R&D on fixed cost basis with in-house design
- IPR creation
- Platform licensing

Competitive platform
- Superior user experience and feature set
- Unique differentiators and extensibility
- Capability to drive end-to-end experiences with right timing

Cost efficiency
- SW cost per device minimized
- Predictability of the future SW costs

Viable industry structure
- Enabling differentiation for device vendors, trade customers and partners, developers, ...

Market leadership with ~50% converged device market share

Source: Gartner Sept.06

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Ensure competitiveness in differentiating technologies – work with leading suppliers

- **Master product architecture, interfaces and system design** to enable efficient integration of leading technologies
  - Optimized HW module portfolios for superior **functionality and cost**
  - **Multi-sourcing**

- Utilizing **external innovation**
  - Open S60 SW platform
  - All major e-mail solutions in Eseries
  - Operator variants and regional customization **cost efficiently**

S60 DESIGNED FOR S60 DEVICES

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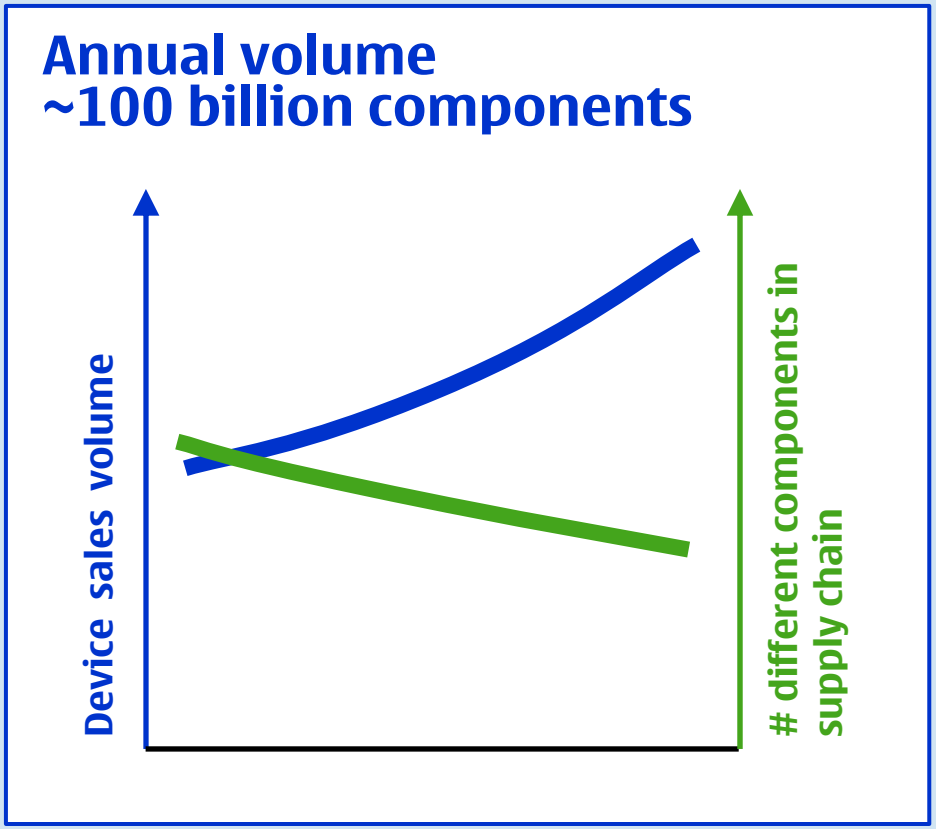
When differentiation potential is low, capitalize on economies of scale with standard components

- Multiple leading suppliers to **ensure quality and cost competitiveness**
- **Optimized reuse** – benefits from material, logistics and operations costs with **largest scale**
- Lump sum based **pricing model** for most 3rd party SW components



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Leading mobile browsing experience with S60 Open Source Browser

Through Open Source Software model:

- Two-way talent sharing: Nokia contributing to the community, and being able to use external innovation
- Areas critical for differentiation and architectural freedom kept in-house and protected via own IPR
- Cost per device decreased and time to market improved
- Faster introduction of future disruptive technologies

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Achievements in Product Creation Renewal

12% to 8%

-20% (-30%)

-30%

+20%

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Achievements in Product Creation Renewal

From product centric to portfolio and platform centric operational mode

- Device R&D from 12% to **8%** of device net sales by end of 2006
- Product creation cycle times **–20%** Nokia (**–30%** in ES and M)
- Product development cost/selling product **–30%**
- **20%** increase in launched products with flat R&D investment

Source: Nokia estimates

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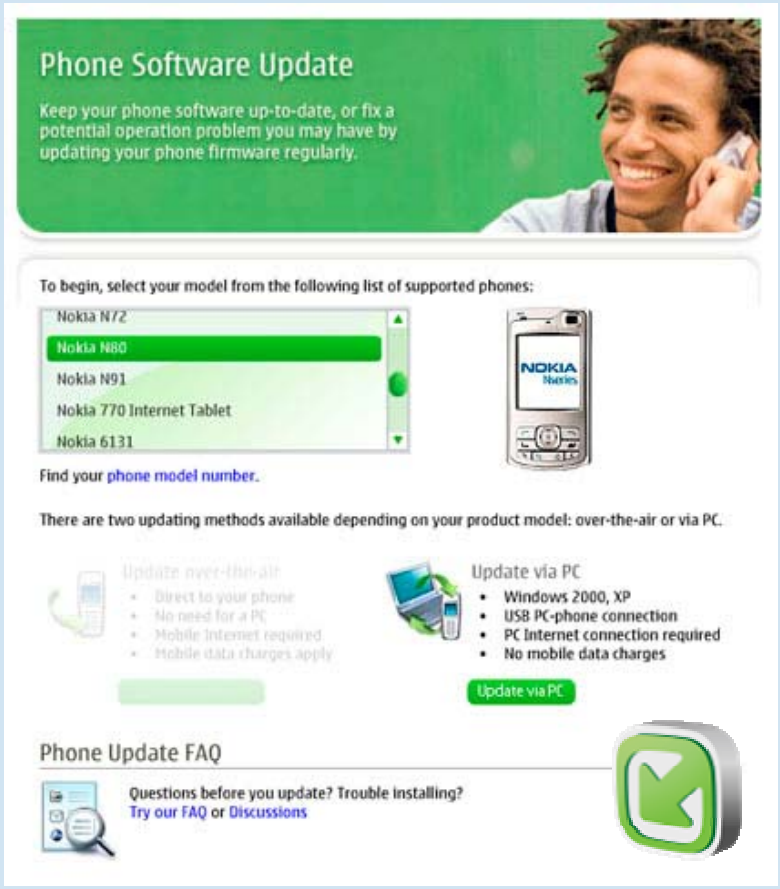
Nokia Software Updater – decreased warranty costs and happier customers

- Enables software updates by consumers
- Take-off speed exceeded Nokia's expectations – very positive feedback
- Platform mode allows rapid introduction of new supported models
- Savings in warranty costs estimated to be significant



www.nokia.com/softwareupdate

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The ABC of creating thin products

A — Market understanding & portfolio planning

- Using own and external **insight in specifying the products** containing the truly **relevant feature set** and desirable design for the **consumer**
- Allowing more **innovative products with higher risk** in the product portfolio. Ability to make compromises per product, decisions what not to include in the phone.

B — Technology

- **Power consumption reduction** together with increases in battery energy density have the biggest size reduction impact
- **Thinness optimized product architecture** to avoid component stacking and other 'thickness creators'

C — Implementation capability

- Capability to implement **one-off products** and to **platformize the capability to a broad product family**

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Thinness – without compromises

Nokia is committed to have compelling thin and small products
but without compromises on performance, usability and quality.

Nokia focus on thinness:

- Drive technological enablers of thinness aggressively – they are needed in all cases
- Platformize thinness – it's hygiene, not a feature
- Start with user needs – not with one dimension of physical size
- Sharpen consumer research to focus on the most important product capabilities

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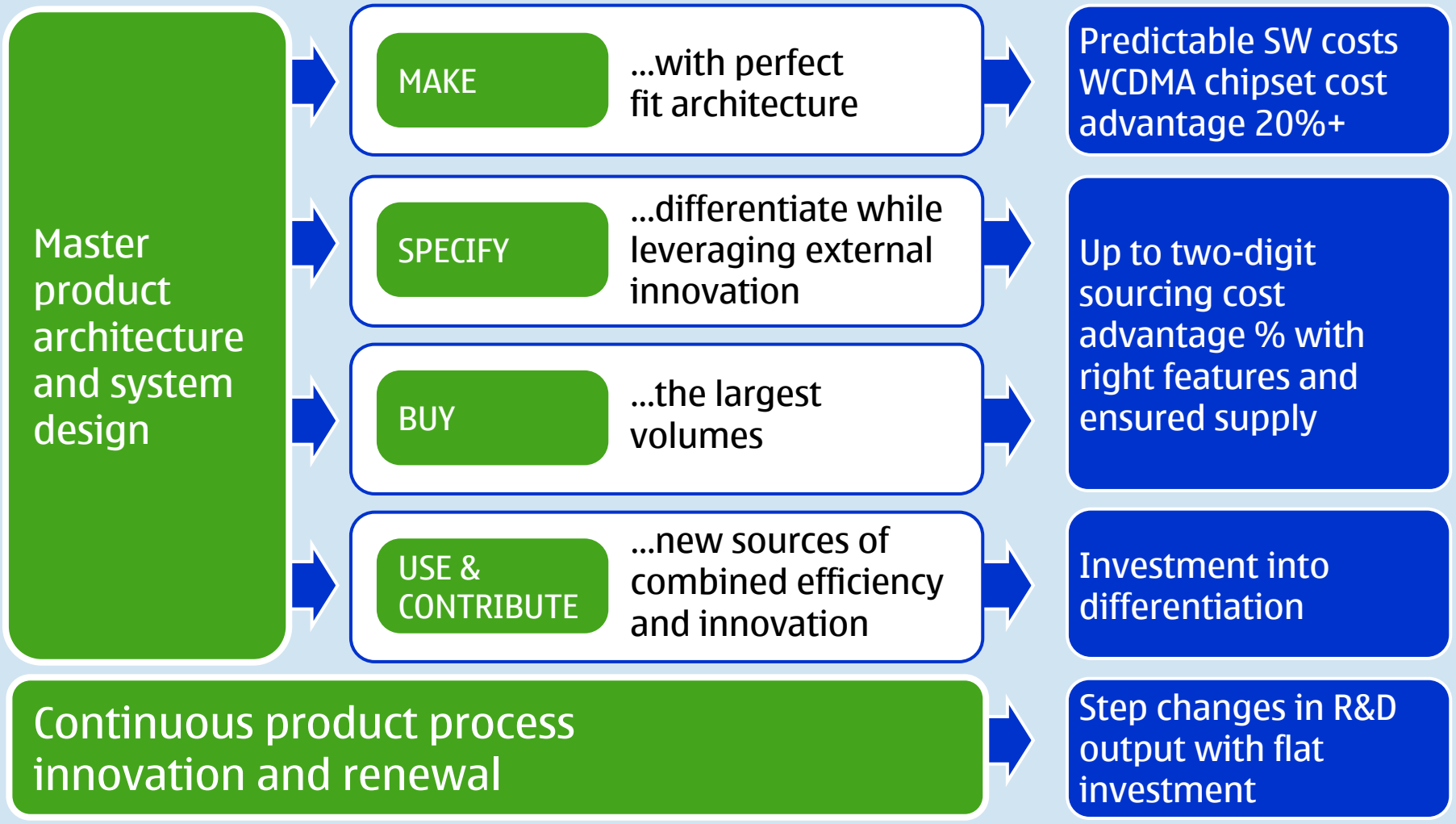
Business benefit through World Leading R&D



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