

A photograph of two people playing table tennis on an outdoor table. The person on the left is wearing a grey long-sleeved shirt and dark pants, holding a red paddle. The person on the right is wearing a red and blue plaid shirt, also holding a paddle. A white ball is in the air near the center of the table. The background is a paved area.

# Value-driven technology management

**NOKIA**

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**Technology Platforms & Nokia Design**

# Outline

1  
Thinness done  
right

2  
Shift towards  
commercial  
technology

3  
Increased  
investments in  
software

4  
Touch UI for  
mass volumes

**1**  
**Thinness  
done right**

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# Thinness done **right**



## Essentials for creating slim products

- Market understanding & portfolio planning
- Technology
- Implementation capability

## Developments & Future Goals

- Battery-next-to-engine architecture – implemented
- ~20% reduction in size of next generation chipsets in 2008
- Introducing double-sided 3G engine in 2008
- Continuous size reduction of technology modules

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# Chipset strategy: Investing in **modem technology** and focusing on broader **leverage** of external **innovation**

## STRATEGY DRIVERS

- Market requirements diversifying
- Horizontalization of chipset supply increasing, capital intensity increasing
- World class multimode modem assets remaining in the hands of few, and carrying a lot of value

**1. Invest in modem technology leadership**

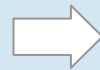
**2. Move from in-house chipset design to commercial supply**

## Expected financial impact

In-house  
chipset R&D



Variable costs



Licensing  
revenues



# Adaptation layer brings **scale advantages**

S30

S40

S60

Linux

## Hardware-software adaptation layer and specified interfaces

### Scale advantages

- Multiple suppliers ensuring supply, flexibility, quality and cost
- Component re-use across device portfolio
- Cumulative investment for adding new components reduced

### External Innovation

- Flexible utilization of market specific solutions
- Key innovations fast to wide product range
- Long term relationship and growth strategy with leading suppliers

Chipset

Camera

Display

Audio

GPS

Other

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# Software strategy

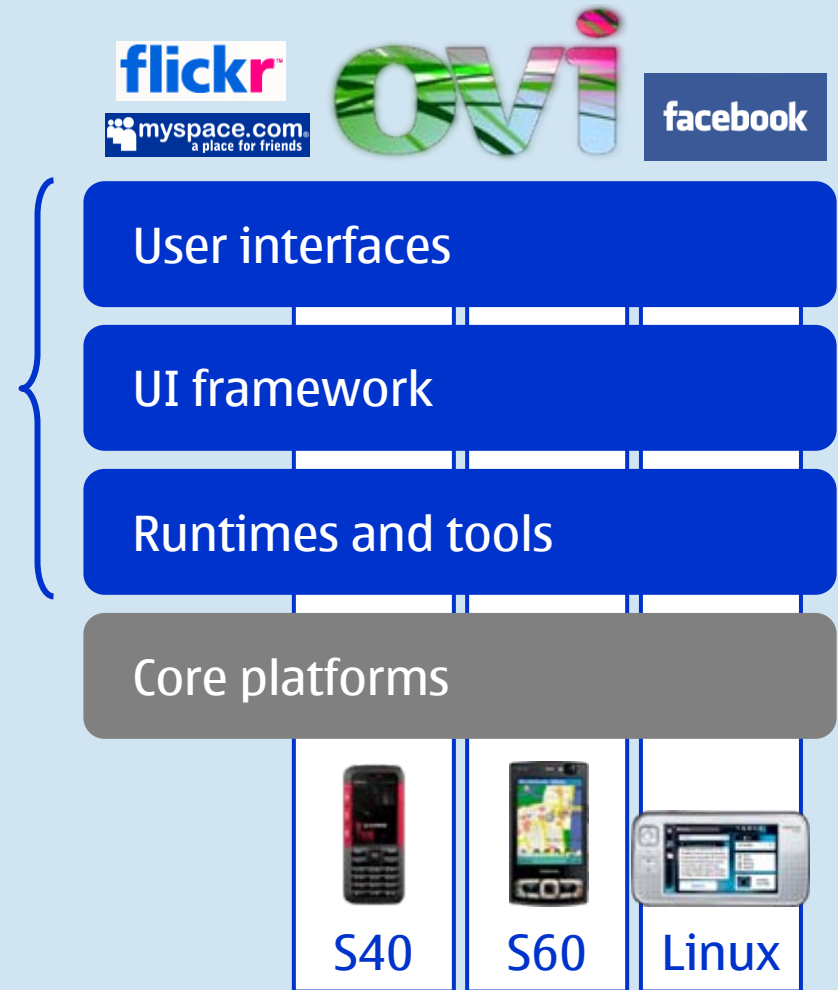
– leverage **higher abstraction level** in software development

## 1. Simplified development environment for Nokia and 3rd parties

- Rapid Web 2.0 development
- High development productivity
- Volume platform for services

## 2. Leverage open source innovation

## 3. Enable broad portfolio of products



# Software strategy

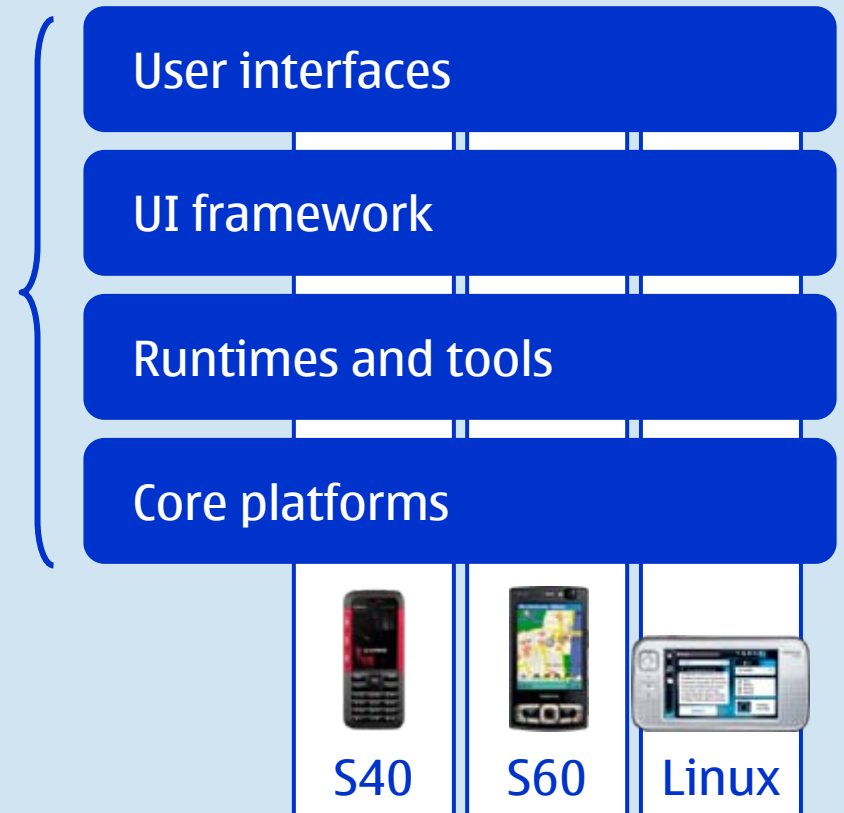
## – leverage **open innovation**

1. Simplified development environment for Nokia and 3rd parties

## 2. Leverage open source innovation

- Innovation accelerators
  - Web application environment
  - Application development tools
- Scale benefits
  - Common multimedia platform
  - Common SW code libraries

3. Enable broad portfolio of products



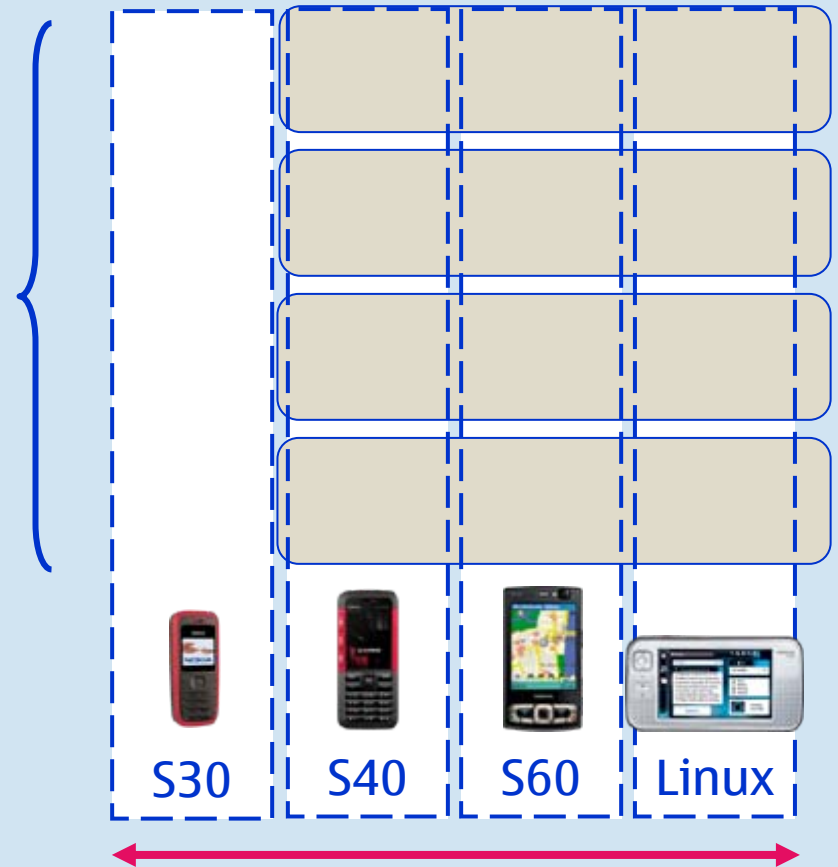
# Software strategy

– optimize for **consumer needs** through multiple core platforms

1. Simplified development environment for Nokia and 3rd parties
2. Leverage open source innovation both in layers becoming commodity and innovation layers

## 3. Enable broad portfolio of products

- Support multiple core platforms for diverging needs of different consumers
- Balance product features with product cost



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# Aligned technology selections for wide portfolio of touch-enabled devices

## Touch UI

### Application enablers

- Touch-enabled applications
- Running non-touch applications
- Developer APIs, documentation and services

### User Interface Design

- Personalization
- Design and usability
- Functionality scaling
- Performance
- Input methods

### Hardware modules

- Display technology
- Audio & tactile feedback
- Sensors

## Software and hardware architecture

# Complete touch-based user experience to mass volumes

**Flexible** - with or without keyboards

**Intuitive** - finger and/or stylus

**Familiar** - fast adoption

**Multilingual** - including Asian languages

**Responsive** - tactile feedback

**Compatible** - backward compatibility



# Value-driven technology management

- Thinness is platformized
- Best feature/size fit
- Further improvements planned

1

2

- Continued modem technology leadership
- Multivendor commercial chipset supply
- Neutral financial impact estimate

3

4

- Web 2.0 cross-platform SW layer in progress
- Increasing utilization of open source
- Several core SW platforms to serve segmented consumer needs

- Touch UI being platformized
- Wide and diverse portfolio of touch-enabled devices planned



# Thank you.

**NOKIA**  
Connecting People