



Nokia Technology Strategy

Tero Ojanperä
Chief Technology Officer

In a world where everyone
can be connected...



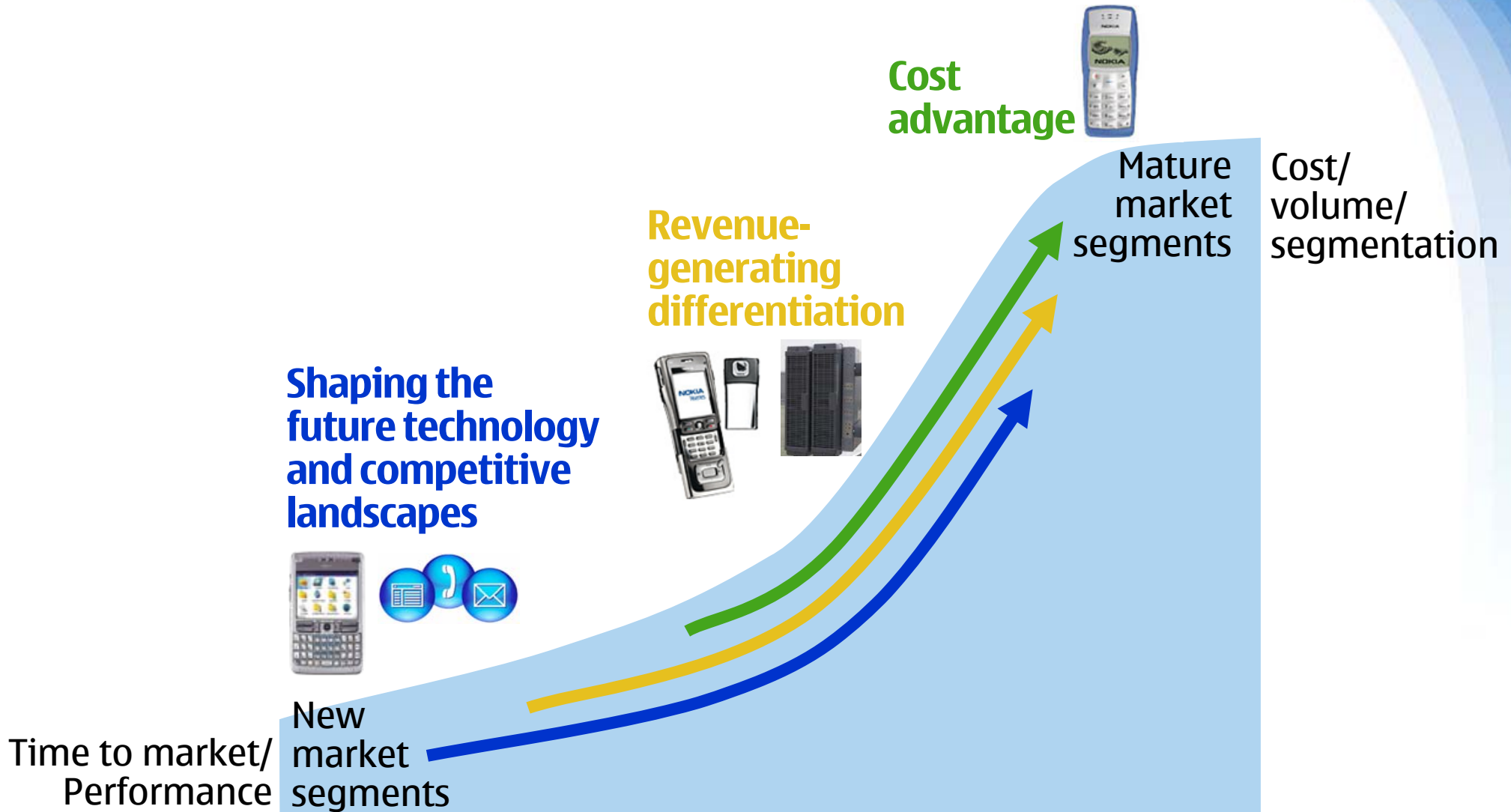
...we take a **very human approach
to technology**



**Technology is
a key business enabler
for us connecting people**

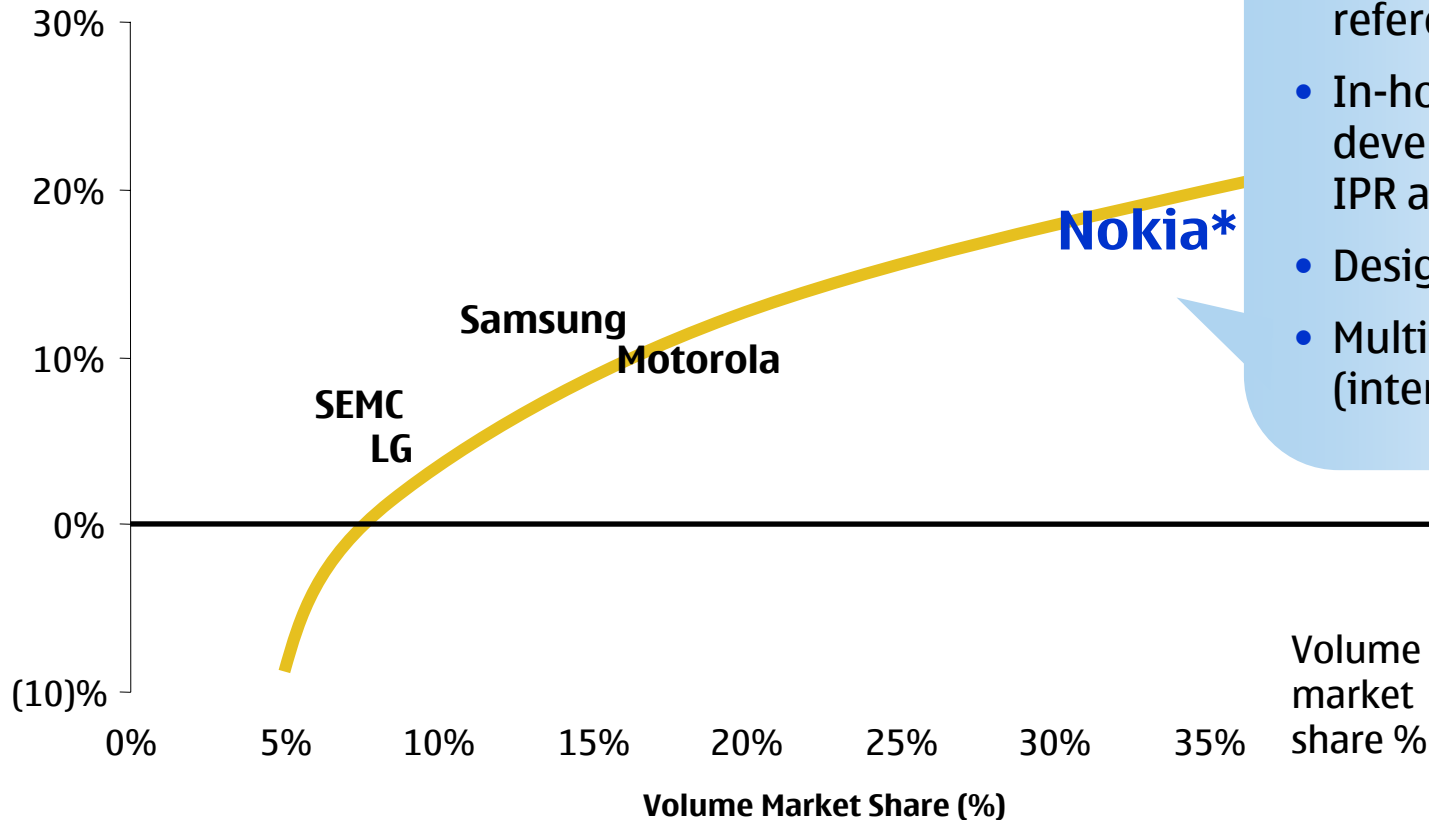


Technology enables our growth



Technology contributes to our cost advantage

Normalized operating margin %



- Platform approach, reference architectures
- In-house chipset development, incl. IPR advantage
- Design for manufacturing
- Multi-sourcing (interfaces)

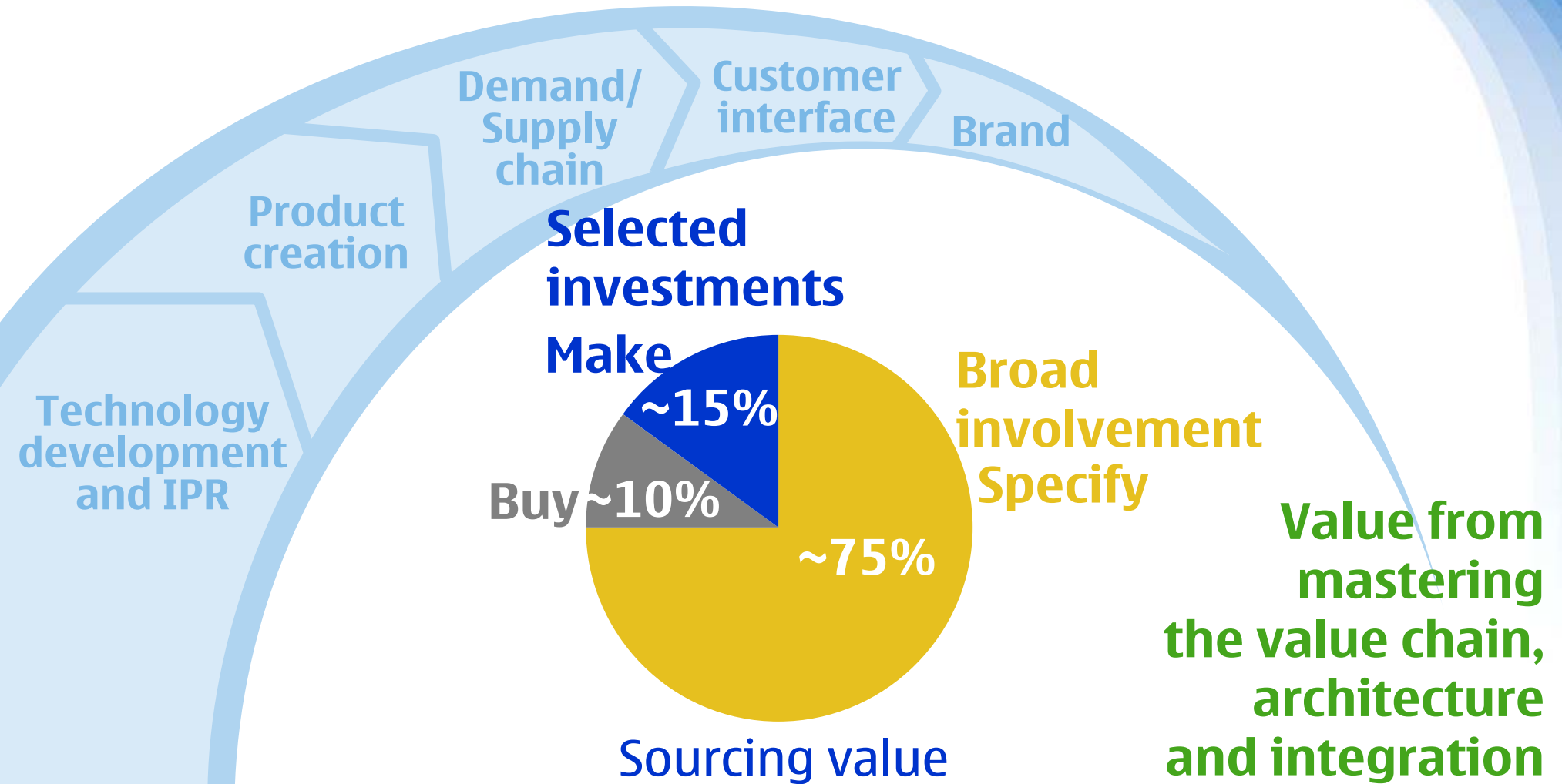


Industry cost curve - benefits of scale (market share %) to operating margin (%), 2005

Note: Industry cost curve derived from 2004-2005 reported quarterly results of top 6 manufacturers and Nokia estimates

* A large part of Nokia's cost advantage stems from non-technical sources such as manufacturing, logistics, sales & marketing

Integrated approach continues to add value



We use a business driven, technology agnostic, end-to-end approach

MOBILE TV
EXAMPLE



Cellular solutions –
on-demand TV via
streaming, download,
Media Charger, MBMS



Broadcast solutions –
Live TV on DVB-H

**End-to-end solutions
on many technologies
– decisions based on
business case**



Internet TV –
Streaming, video clips,
VoD, video podcasts
over e.g., WLAN



Devices –
optimized for mobile
TV, enabling video synch
from PC to mobile



**Professional
services** –
Nokia integrated
end-to-end
Mobile TV solutions

Nokia technology priorities

Embrace the Internet

Excel with software platforms
and applications

Win developers with consistent
architectures

Lead multi-radio productization
and evolution

Nokia technology priorities

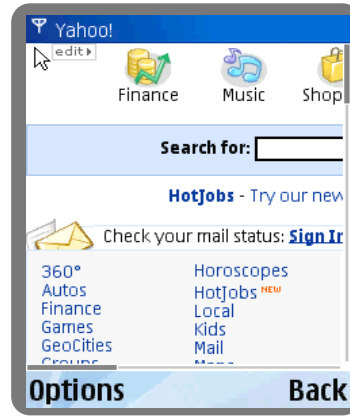
Embrace the Internet

Excel with software platforms
and applications

Win developers with consistent
architectures

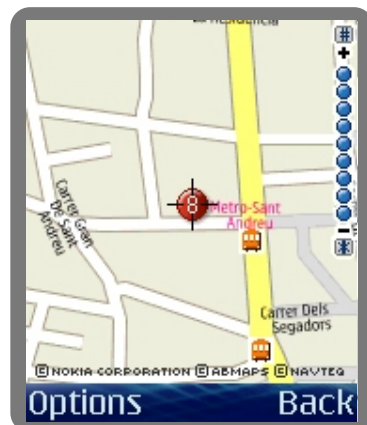
Lead multi-radio productization
and evolution

Embrace the Internet



Do everything on the mobile that you can do on the PC – and more

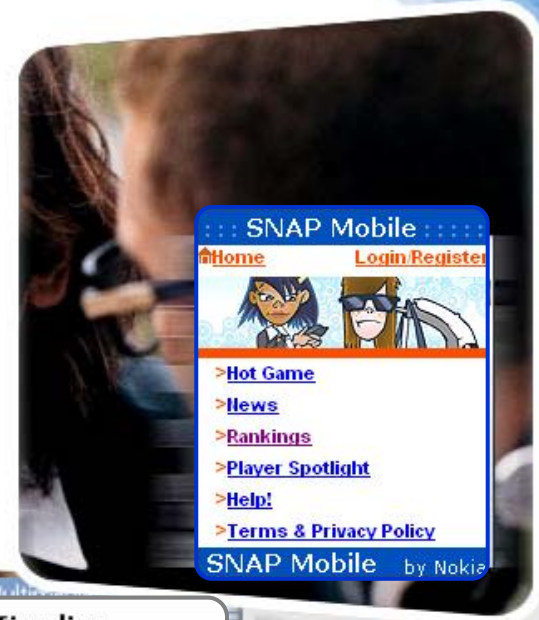
- Enablers for a truly mobile Internet
- Unique Nokia Internet experiences



... with the best user experience



File sharing,
Peer2peer,
Web Server



Nokia technology priorities

Embrace the Internet

Excel with software platforms
and applications

Win developers with consistent
architectures

Lead multi-radio productization
and evolution

Excel with software platforms



Series 30

The lowest cost voice & messaging platform



Series 40

The best feature phones with preferred UI



S60

Extensibility, #1 in rich mobile devices



Series 80

Enterprise-grade solutions



Maemo

Open source platform for web tablets

S60

- 44 devices launched*
- 51% market share among converged devices**
- Nokia alone cumulatively shipped 70 million S60 devices***
- Smartphone market expected to exceed 250 M units 2008***

NOKIA

SAMSUNG

LG

lenovo 联想

Open Source makes sense

- Nokia 770 Internet Tablet based on desktop computer Linux technologies. Developer tools at www.maemo.org
 - For use at home or WLAN hotspots
 - Key applications browsing, email, VOIP*
- Nokia is actively using open source component technologies and applications
 - New S60 browser based on components from KDE community
 - Nokia further develops the S60 browser and contributes changes back to KDE open source community
 - Nokia partners with the open source community as it partners with others



Nokia technology priorities

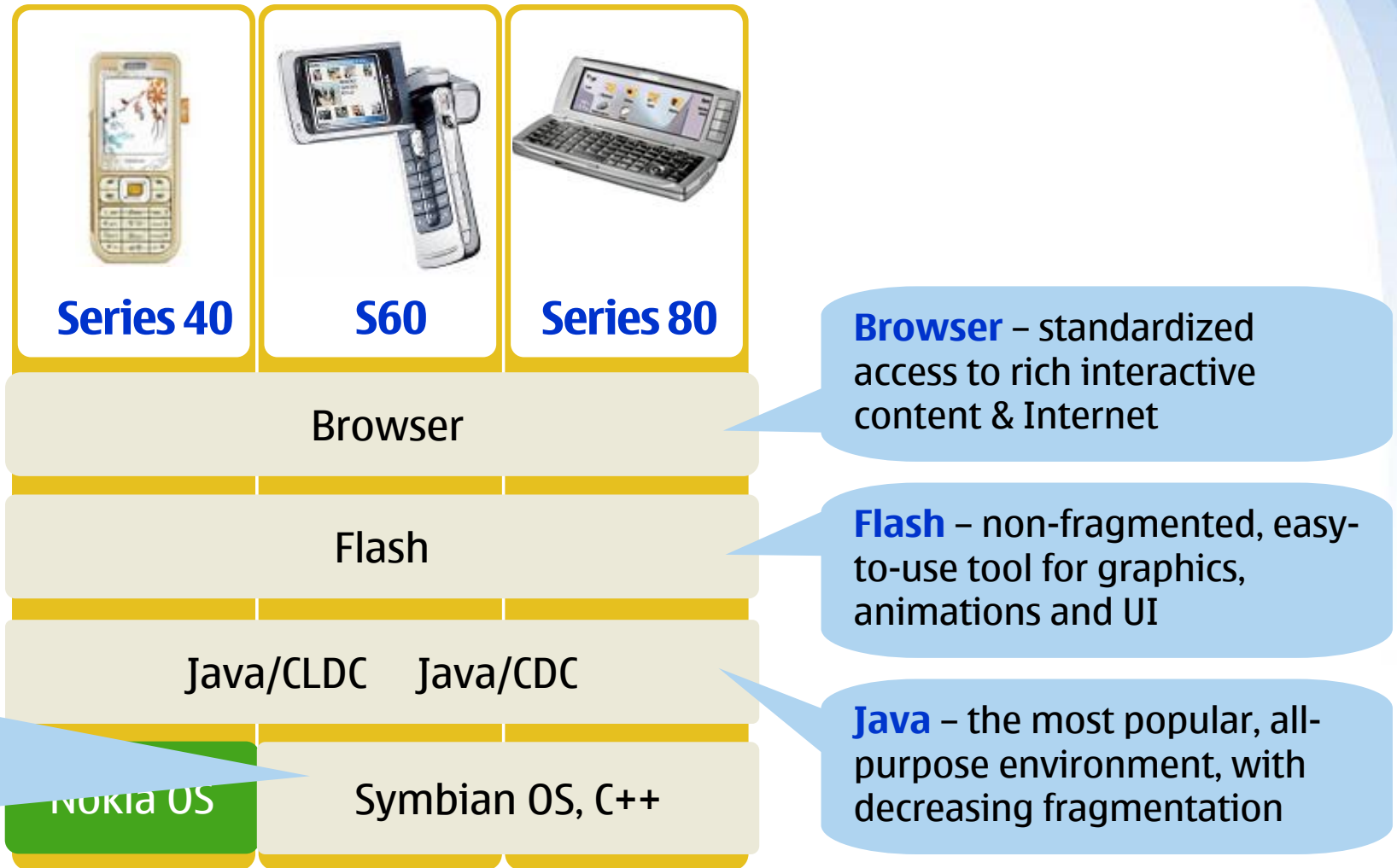
Embrace the Internet

Excel with software platforms
and applications

Win developers with consistent
architectures

Lead multi-radio productization
and evolution

Win developers with consistent architectures



... and best support and business opportunities



- Tools & SDKs
- Documentation & online support
- Access to prototypes & experts
- Training
- Technical support & consultancy
- Application testing
- Go-to-market programs
- Co-marketing

Nokia technology priorities

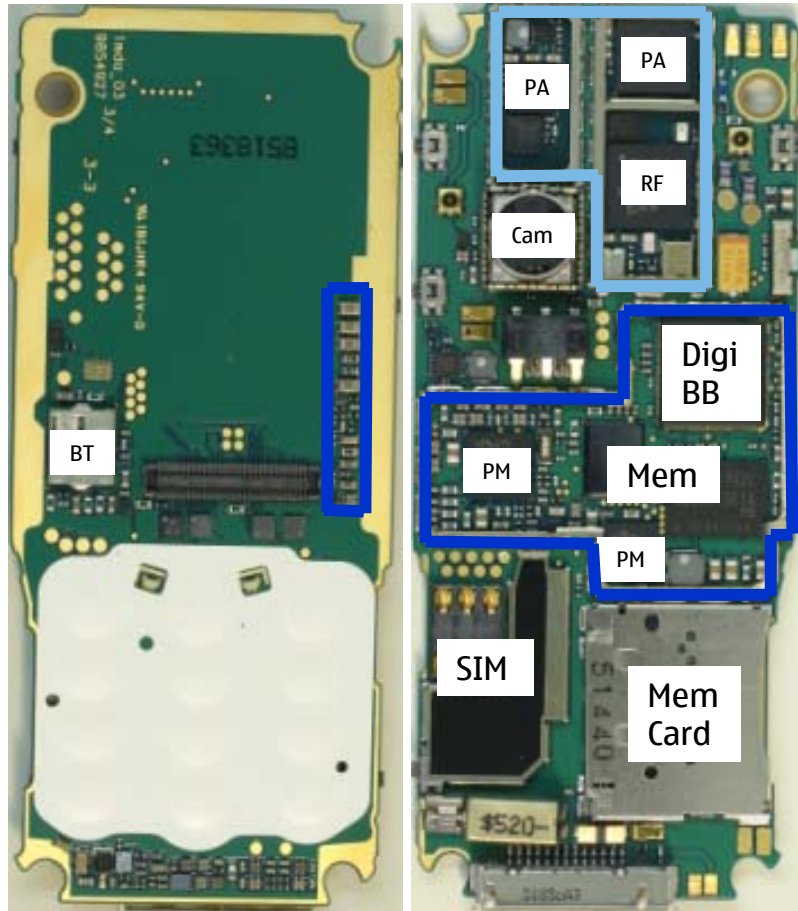
Embrace the Internet

Excel with software platforms
and applications

Win developers with consistent
architectures

**Lead multi-radio productization
and evolution**

Lead multi-radio productization

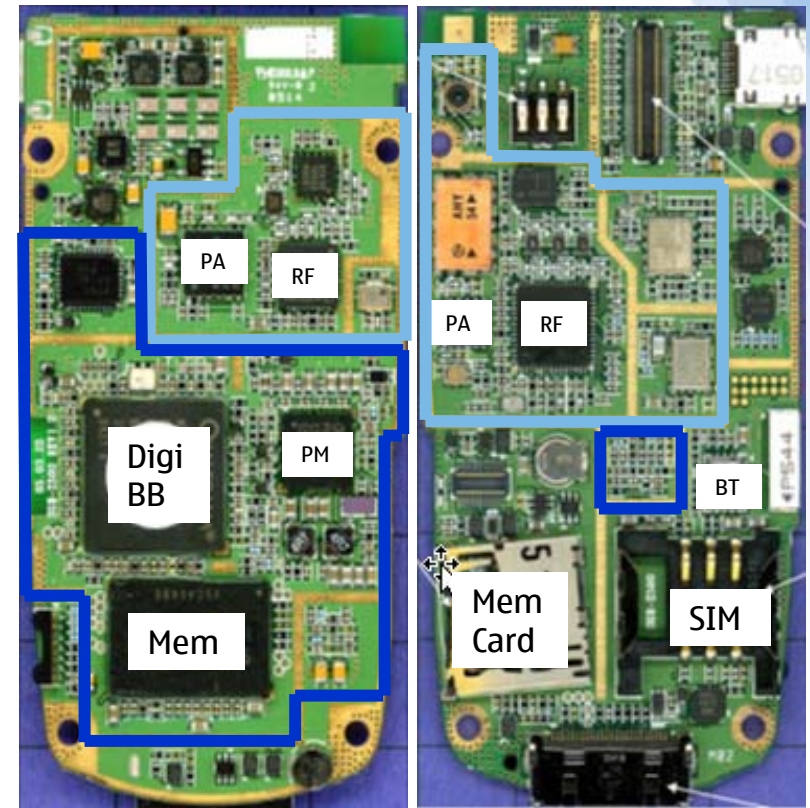


Nokia 3G (WCDMA/EDGE)
Slide Phone Engine

Engine RF
< 1/2 size

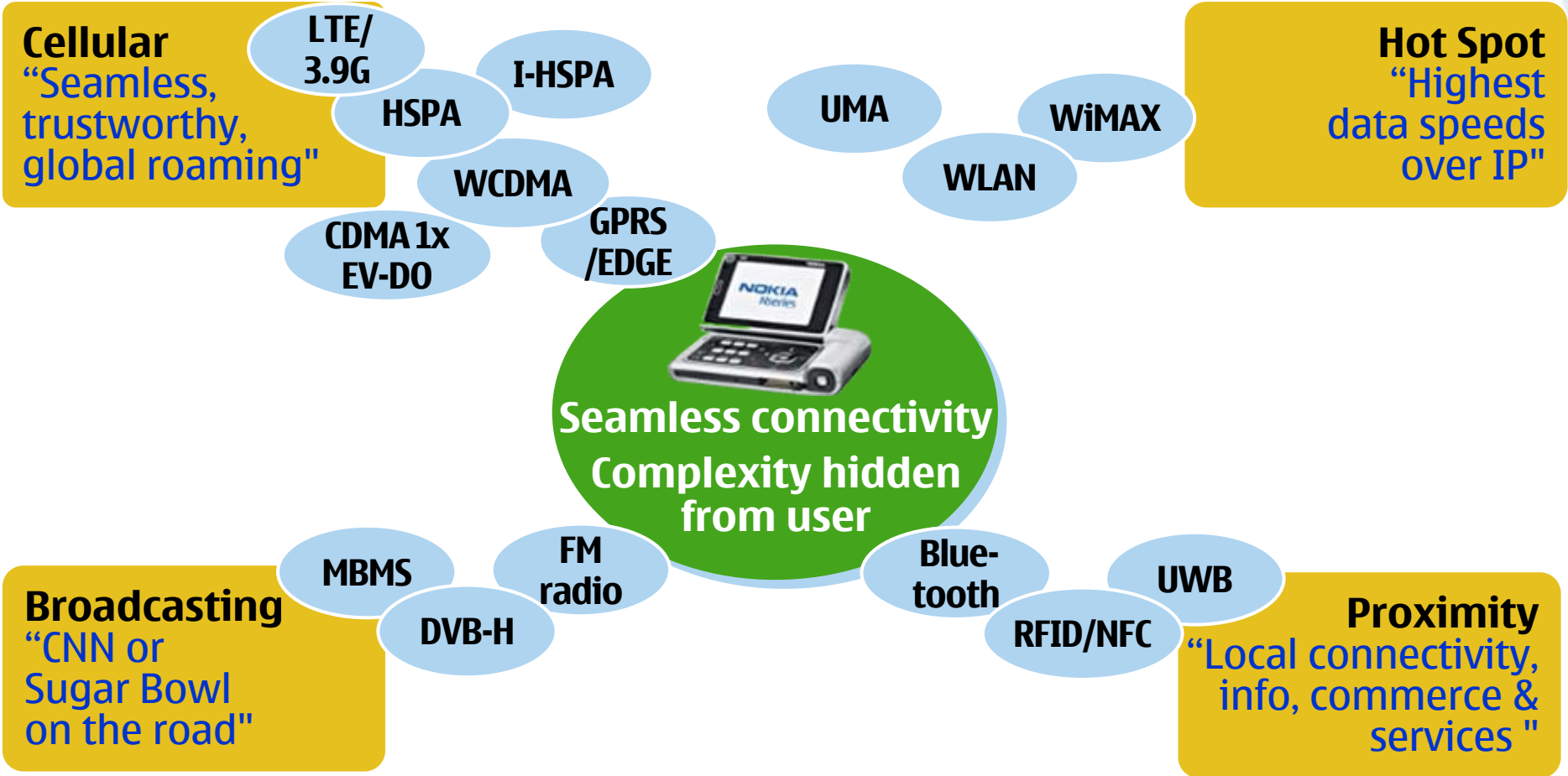
Engine BB
< 2/3 size

Engine
component
count < 1/2



Competitor 3G (WCDMA/GPRS)
Flip Phone Engine

Lead multi-radio evolution while simplifying convergence for the user



Radio choices are defined by the operators' current network, spectrum assets and voice strategy

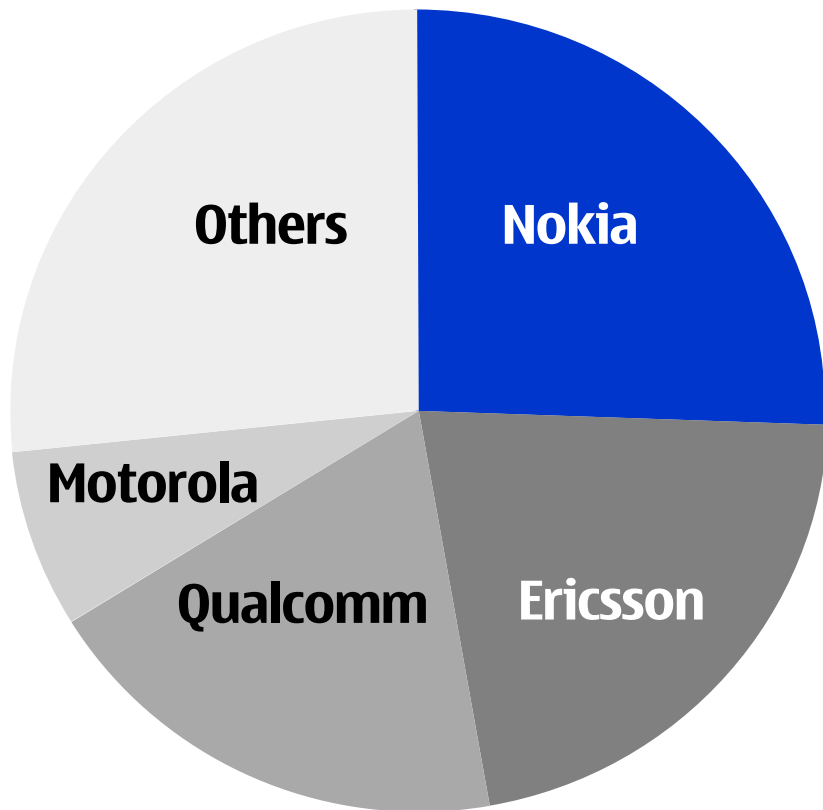
- HSPA available today to bring high-speed data to 3G networks, with a clear evolution
- Long Term Evolution (LTE) is the optimal evolution path from GSM and WCDMA/HSPA to future networks and services
- WiMAX offers broadband wireless opportunities for operators with no WCDMA 3G license or spectrum

Nokia is committed to and sees potential in both LTE and WiMAX



Nokia holds a strong IPR portfolio

WCDMA IPR portfolio*



Our IPR results in:

- A significant cost advantage
- Favorable licensing agreements

Nokia supports the evolution of open standards (e.g., 3GPP)

Nokia is actively developing LTE, currently under feasibility study in 3GPP

- Nokia believes that its leading contribution will turn into the industry's best IPR portfolio also in LTE

* WCDMA IPR judged essential (Goodman-Myers study, 2005)

Nokia strategic technology priorities

- Embrace the Internet
- Excel with software platforms & applications
- Win developers with consistent architectures
- Lead multi-radio productization & evolution





NOKIA
Connecting People