

Supply Chain Transformation

... Key for Risk Management

Cisco Supply Chain Risk Leadership Council
San-Jose, Oct 26, 2006

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Connecting People

**29Jan2001 FINLAND: Trial by Fire - A Blaze in Albuquerque Sets Off Major Crisis For Cell-Phone Giants.
(The Wall Street Journal)**

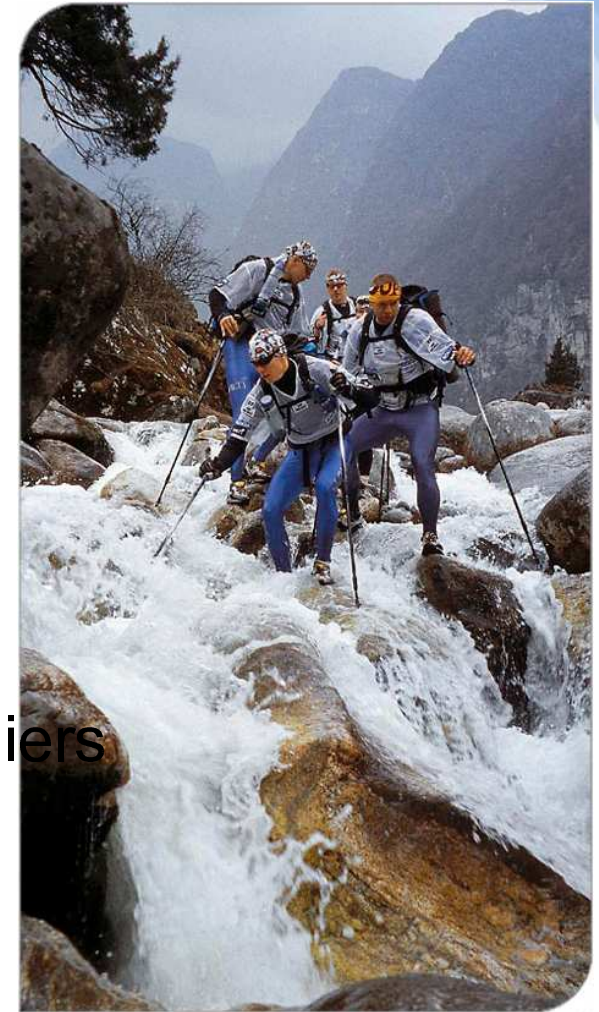
Nokia handles shock with aplomb

as Ericsson of Sweden gets burned. Caused by a lightning bolt, **the blaze in an Albuquerque, N.M., semiconductor plant** burned for just 10 minutes last March. But far away in Scandinavia, the fire touched off a corporate crisis that shifted the balance of power between two of Europe's biggest electronics companies, both major players in the global electronics industry.

Content

➤ Introduction to Nokia

- Mastering supply chain complexity
- Risk Management approach at Nokia
- Risk mapping for supply chain management
- Example #1: Moving from push to pull mode
- Example #2: Working together with best suppliers
- Summary



Nokia today



**800 million people
globally use a Nokia
device daily.**

Supplier to 58 WCDMA networks.
Nokia for Business mobilizes enterprises globally.
10 phones manufactured each second.

- Consumer devices and experiences
- Mobile network equipment, solutions and services
- Solutions for enterprise customers

Sources: Nokia estimates

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Nokia in the industry

6th most valuable brand

Top 10 Brands



Microsoft

IBM



intel.

NOKIA

Disney



TOYOTA



A leading innovation company

- The first Wi-Fi mobile device
- The first commercial mobile TV device
- The first dual-mode, tri-band WCDMA handset

Sources: Nokia, Businessweek Apr'06, Interbrand Jul'05

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Wide product range



170 handset variants



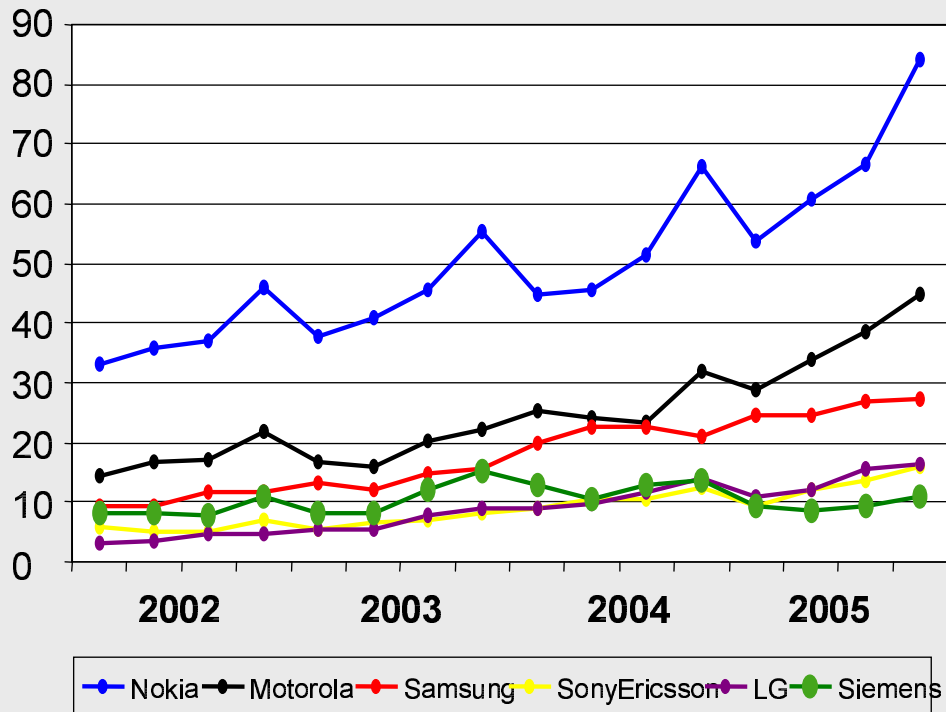
250 sales package variants



Case Nokia 6680

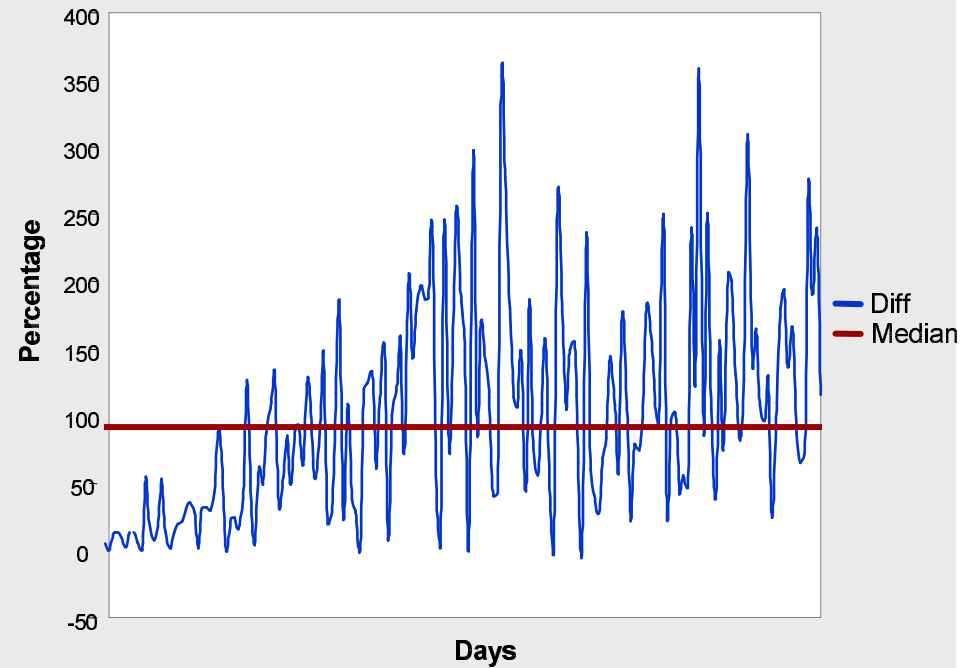
Demand volatility

Terminal Vendor Shipments (m)



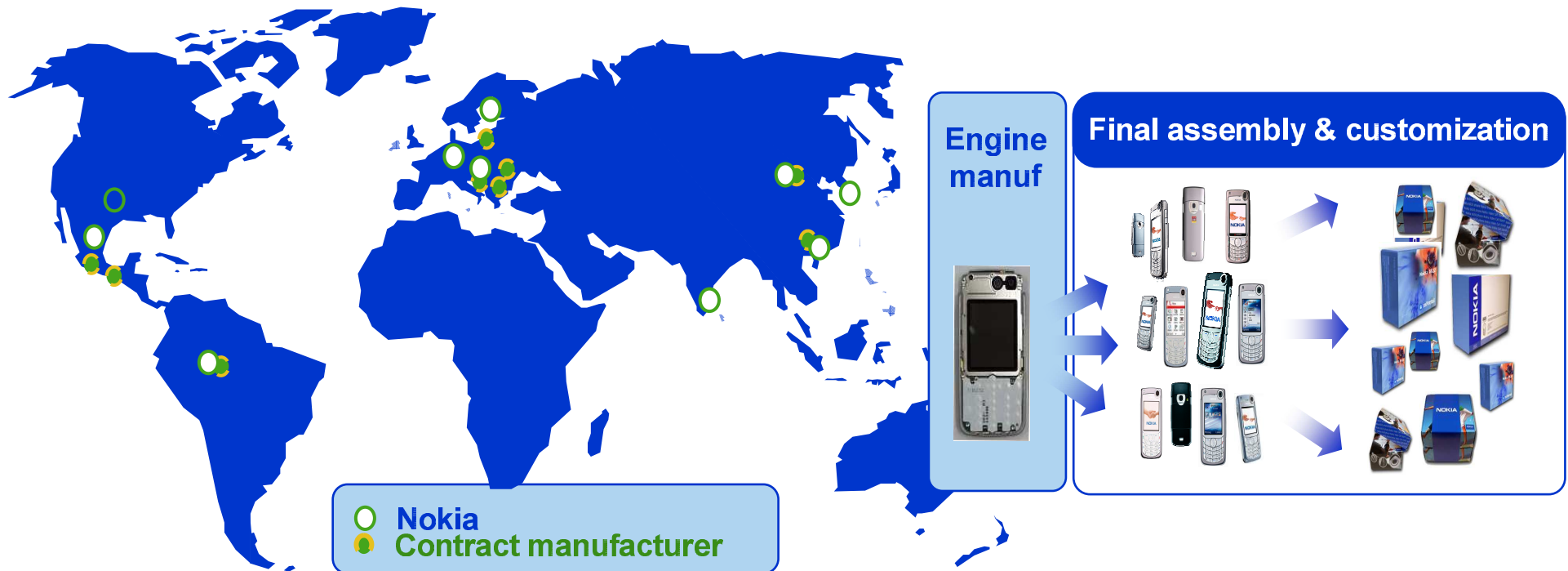
Source: released handset shipment figures

Nokia 6680 Daily Demand Fluctuation - %



Operations philosophy

- Local presence with a globally managed operations network
- Late variation, products assembled to order
- Planning for flexibility, usage of contract manufacturing



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Nokia supply chain in numbers

In 2005

- we delivered 265 million mobile devices
- from 10 own factories + extensive EMS network
- we consumed over 100 billion components
- from 60 strategic suppliers (200 total)
- 4 full 747 cargo freighters per day

#2 Supply Chain in the World (AMR research, 2005)



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*"Do the right things,
then do the things right"*

**-Genuine Intention, no Politics
-Business is the driver**

NOKIA'S RISK UNIVERSE

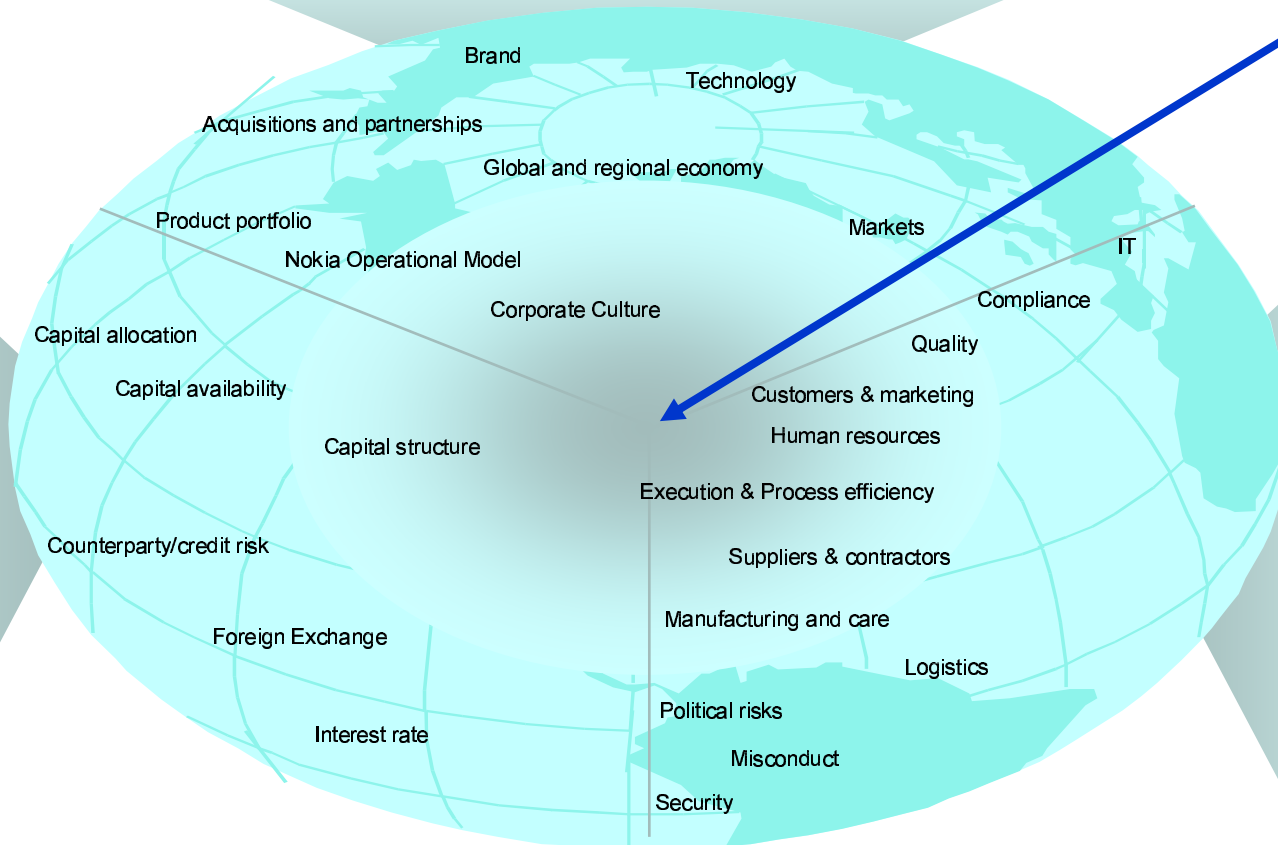
internally and externally driven risks

strategic risks

Supply Chain Mgt Risk

financial risks

operational risks



Nokia Crisis Management Policy

“Must have”

“According to business needs”

Emergency Response

Plans

For protecting Nokia
People and assets

Crisis

Management Teams

For making preparations.
For managing real situations.

Business

Continuity Management

For building continuity into business.
For making plan Bs.

NOKIA CRISIS MANAGEMENT POLICY – MAIN REFERENCE IN NOKIA

“Emergency Response Plan (ERP) is a written plan how to manage emergencies identified in the risk analysis process that might cause danger to Nokia’s people and assets.”

“Crisis Management Team (CMT) is the body within the organization that leads all crisis decision-making. CMT can exist on local, functional or corporate level.”

“Business Continuity Management (BCM) is a unifying concept to protect Nokia from major business disruptions (proactive actions to manage risks, recovery/business continuity planning and plans).”

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Building up a Risk Management System

Tools

Tools increase **productivity**
... and can sometimes direct people and processes

Methods

Methods assure that risk management
is **done well**

Process

Process helps ensure their
skills are applied **consistently**

People and
competencies

People, values and competencies form
the **foundation** of risk management

Right Balance

- **Solid foundation through PROCESSES and Mode of Operation**
- **Proactive attitude: “What can go wrong”**
- **Matrix organization**
- **Thumb on the Market Pulse**
- **Multi-sourcing, Geo’s, Currency, Suppliers, Factories.....**



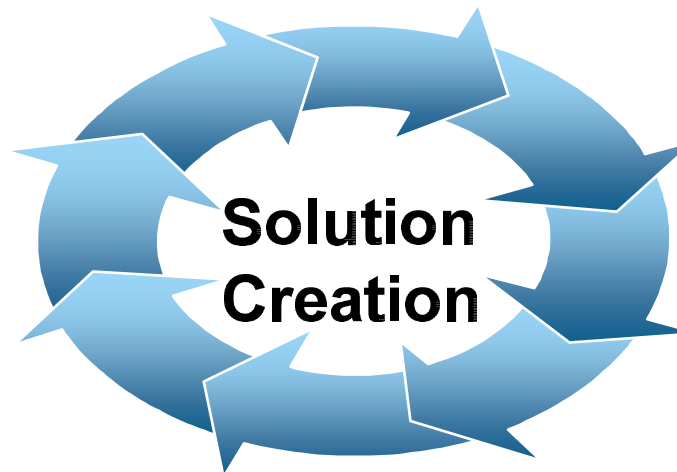
Risk Management benefits from Organizational set-up

Business Planning & Product Program Mgt



Business Groups

Supplier Management & Development



Sourcing and R&D

Materials Management

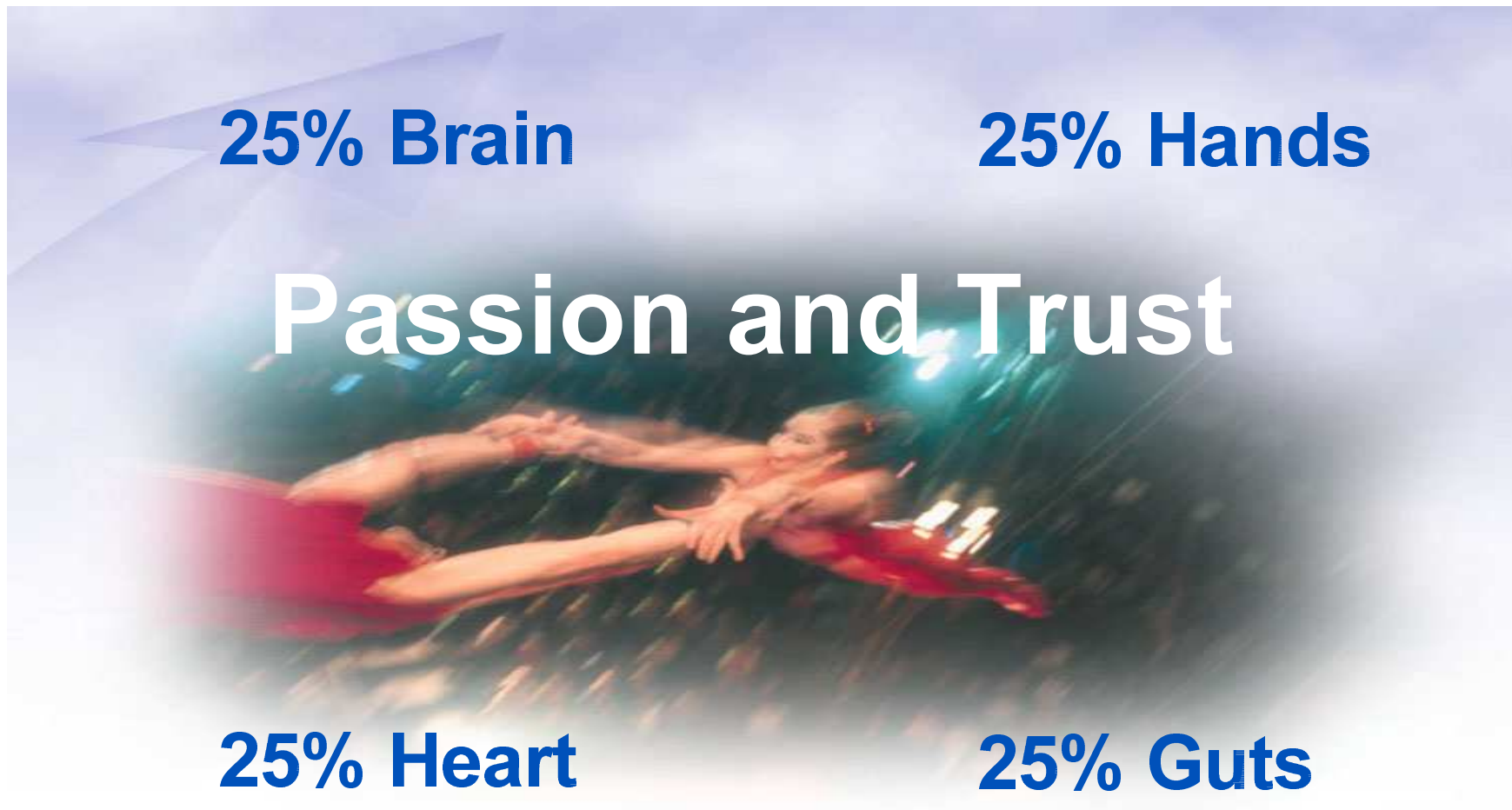


Logistics



*Soft Skills are as important
as Hard Skills*

Coherence and interaction of the four elements bring leadership



Content

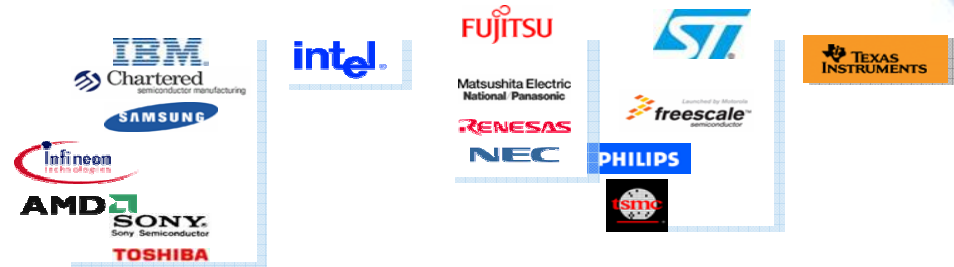
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Supplier industry landscape trends

2007

Semiconductor
Consolidation



Geographical
Restructuring

Capacity
Utilization

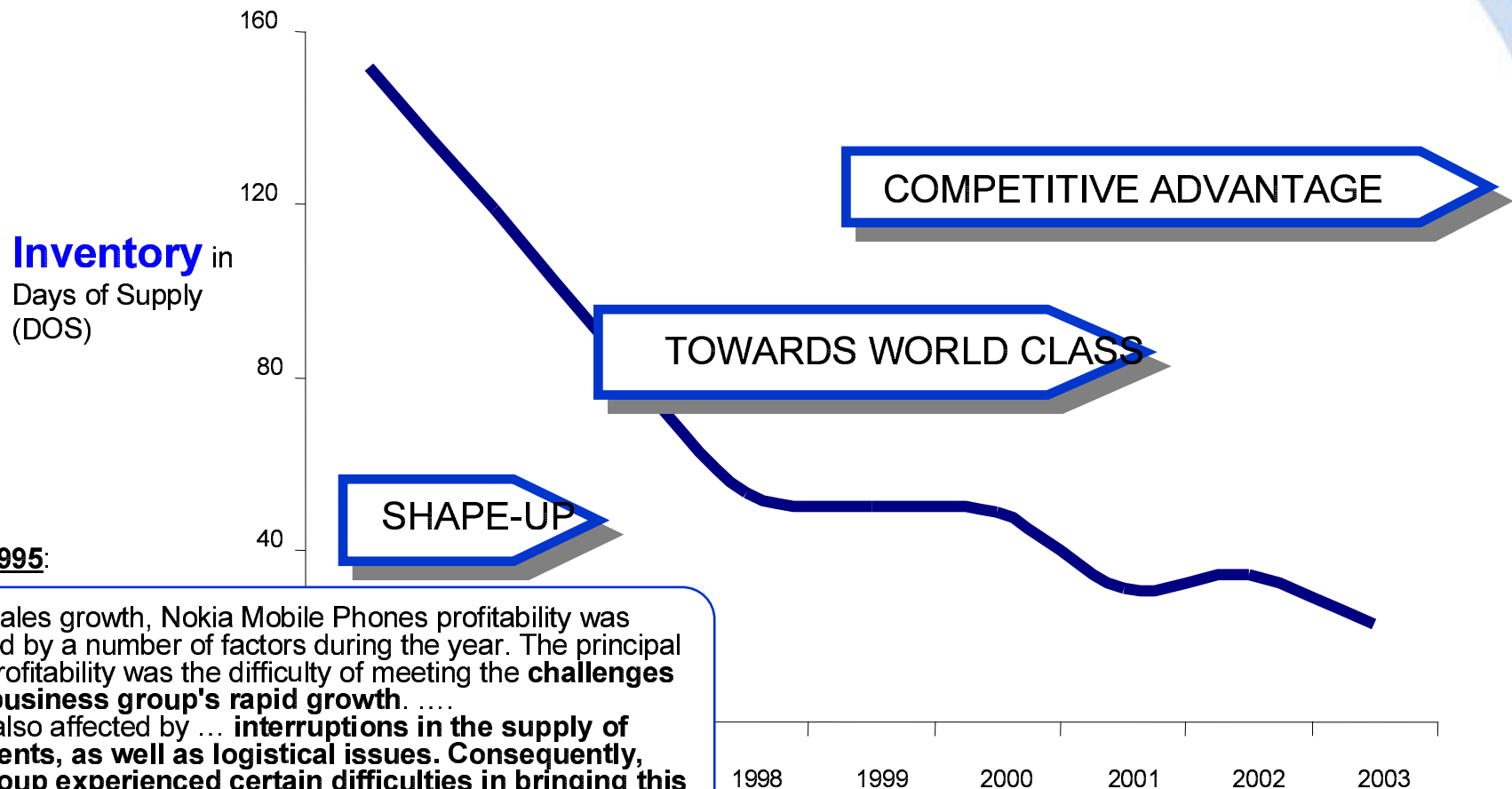
Economy /
Financials

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The start of the turnaround story



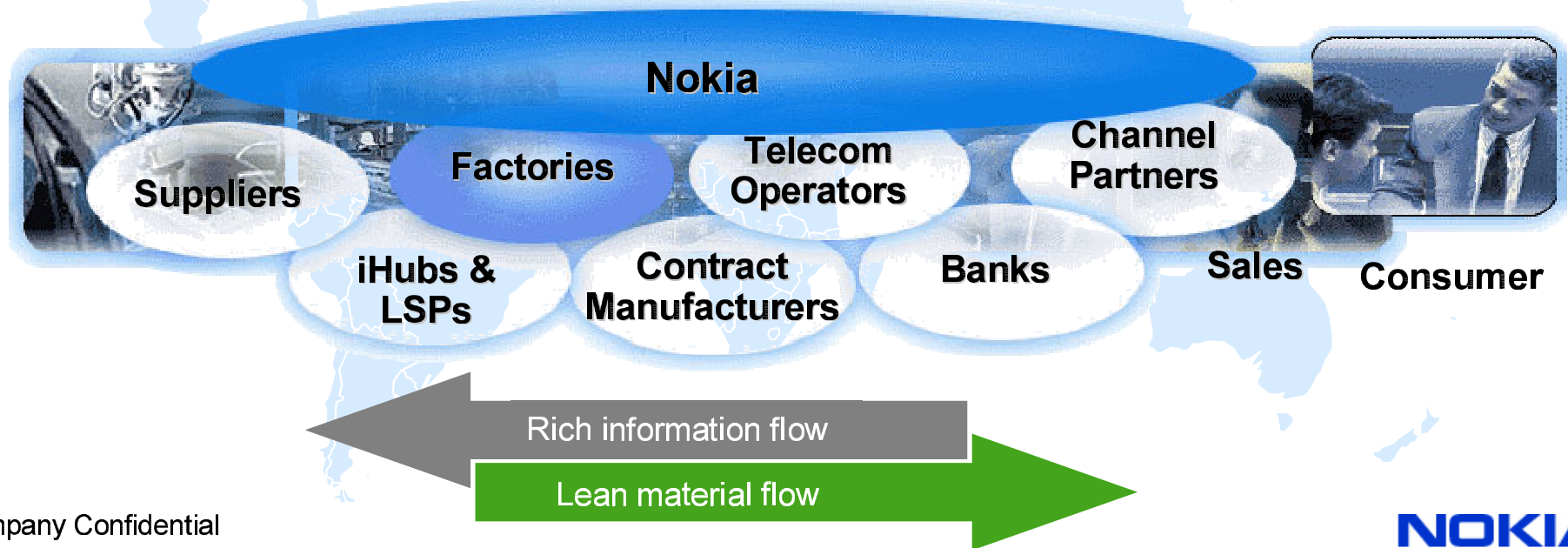
Annual report 1995:

“Despite strong sales growth, Nokia Mobile Phones profitability was adversely affected by a number of factors during the year. The principal factor affecting profitability was the difficulty of meeting the **challenges created by the business group's rapid growth**. Profitability was also affected by ... **interruptions in the supply of certain components, as well as logistical issues. Consequently, the business group experienced certain difficulties in bringing this production capacity and logistics associated therewith up to optimal levels.**”

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Extended enterprise *"Replacing inventory with information"*

- End-to-end integration of Demand Supply Network
- End-to-end efficiency, speed and visibility
- Backbone
 - **Process integration**
 - **Web based process integration (Extranet portals)**
 - **System-to-system integration (ROSETANET)**



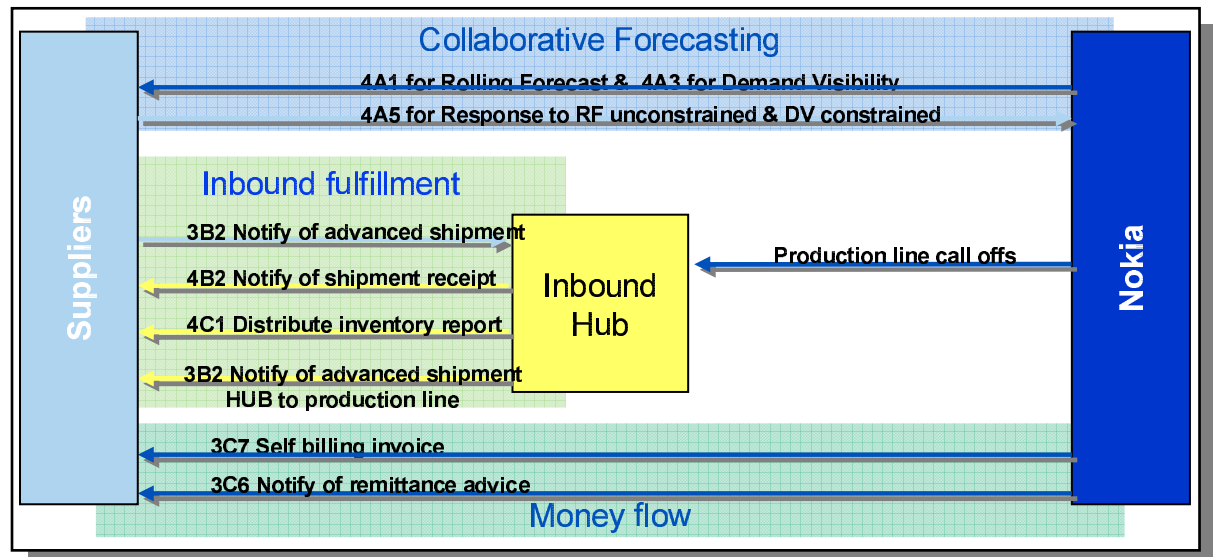
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Do we need ROI ?!?

ROSETTANET

The Rosetta Stone

A slab of basalt
Made 196 b.c. Discovered July 1799
by Pierre Francois Xavier Bouchard
on the stone:
Hieroglyphs, Demotic and Greek



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Foundation of Nokia's leadership

CUSTOMER SATISFACTION



OPERATIONAL EXCELLENCE



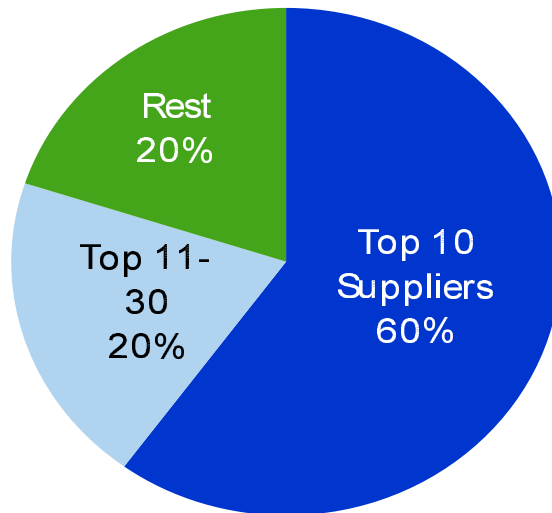
GREAT PRODUCTS



Supplier Network

Transforming supplier portfolio

% of Purchases



- Far less suppliers than competitors
- Long-term relationships

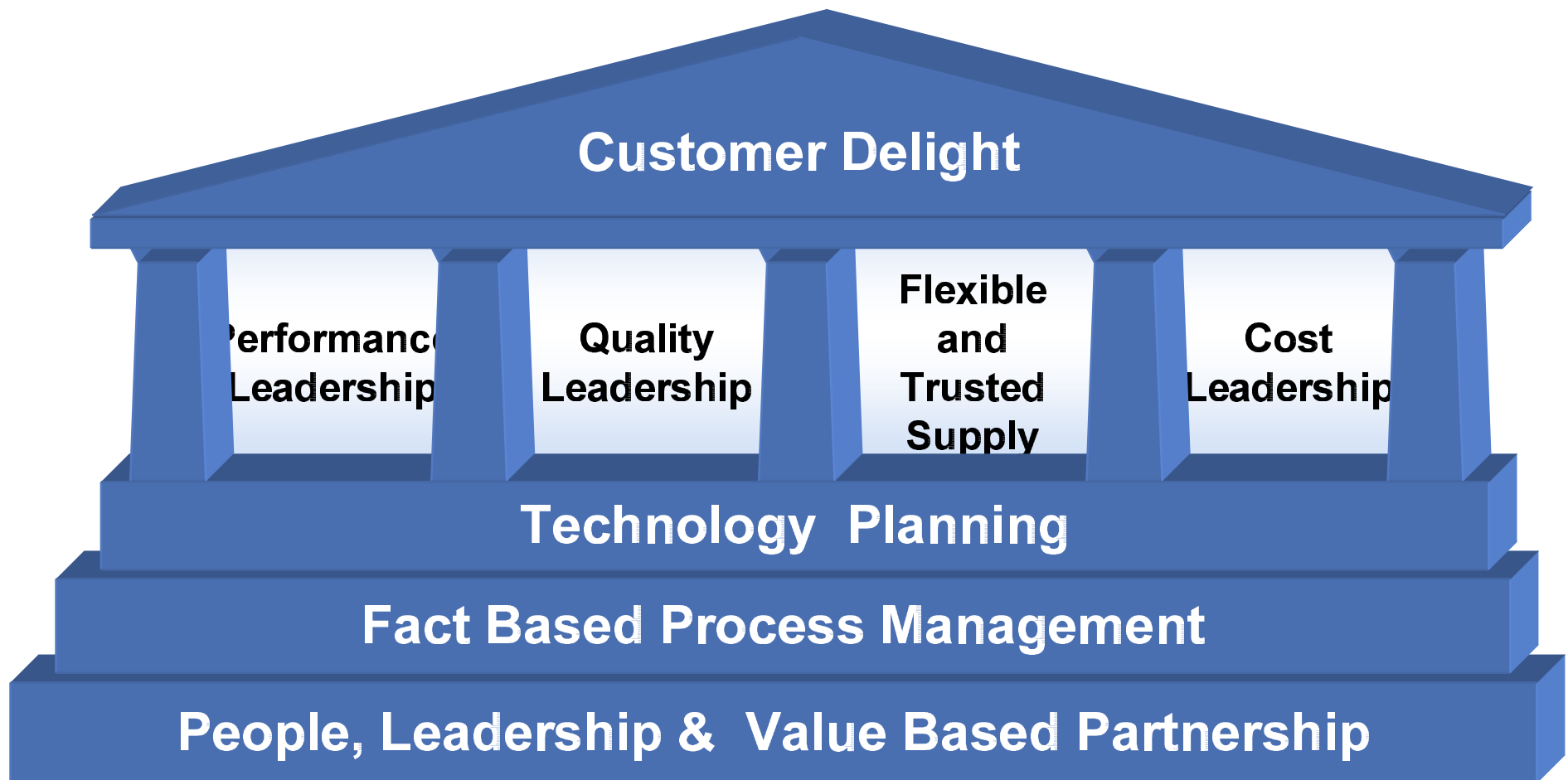
Economy of scale

Competition

Deep Co-operation

#1 customer

Nokia supply chain fundamentals



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No Compromise on CSR

Labour conditions, raw materials (e.g. coltan), hazardous substances

NGO's & Media

GREENPEACE

OPEN BBC News in video and audio

Last Updated: Friday, 18 August 2006, 09:37 GMT 10:37 UK

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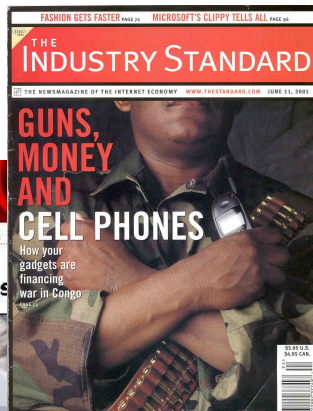
Apple admits excessive iPod hours

Apple Computer has said a report of labour conditions at its iPod plant in China found workers did more than 60 hours a week a third of the time.

Staff making the world's most popular MP3 player also worked more than six consecutive days 25% of the time.



The iPod is the world's most popular MP3 player



Brand & Reputation

NOKIA
Connecting People

Legislation



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Working Together



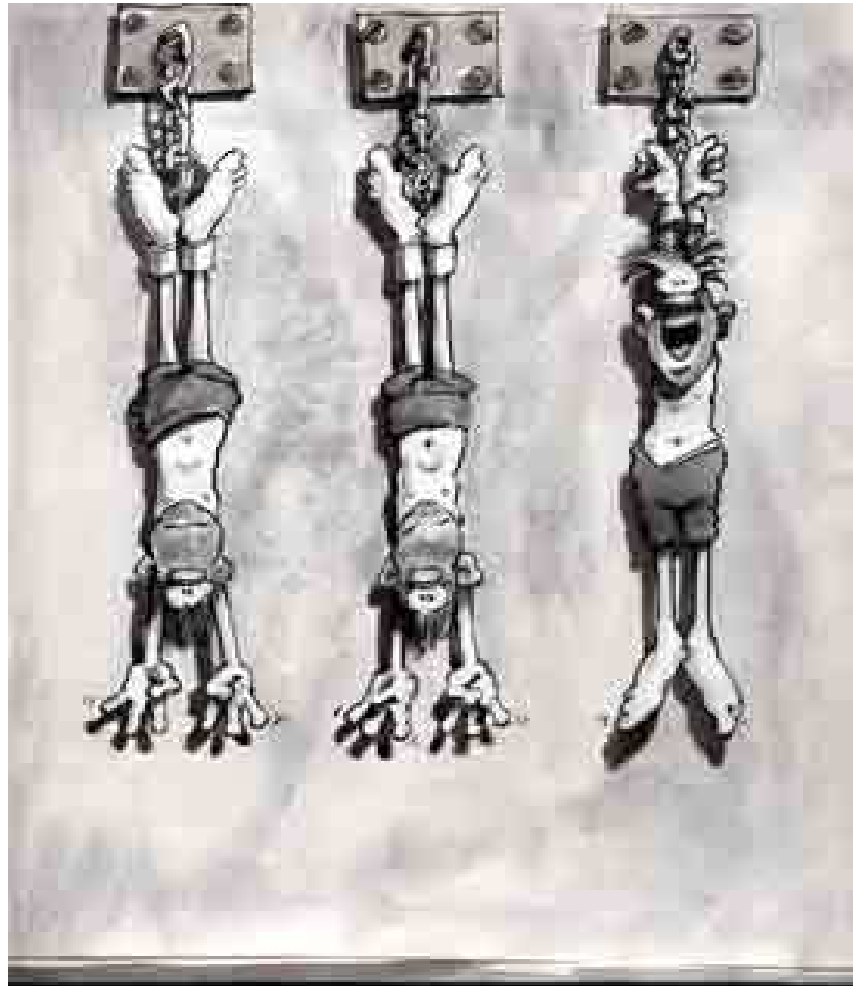
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Can you put everything in numbers?



*Passion for Execution,
Obsession for Strategic Planning*

It doesn't hurt to be lucky....but don't count too much on it.



**"Sometimes I ask myself:
'Why am I the lucky one?'"**



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