

# WLAN market introduction

**Publication**

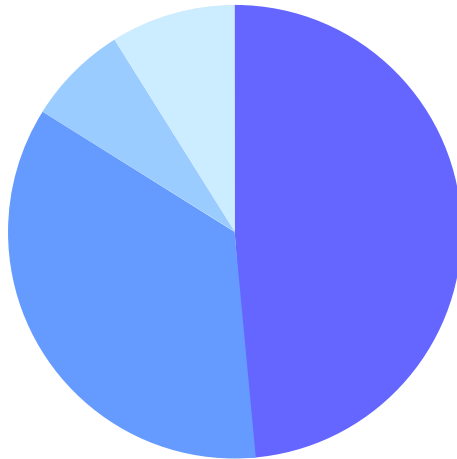
January 2003

- **WLANs have mostly been used privately**
  - ⇒ **about 100,000 companies use WLAN for internal networks**
  - ⇒ **other deployments include public institutions such as universities etc.**
- **trend goes to commercialising public WLANs**
  - ⇒ **10,000 to 20,000 public WLAN users worldwide in 2001 (most of which in the US)**
  - ⇒ **90,000 hotspots in W-Europe are to be equipped with WLAN in the next 5 years**
  - ⇒ **WLANs are expected to conquer  $\leq 10\%$  of the 2.5/ 3G data revenue market share**
  - ⇒ **analysts predict 20+ mn users of public WLAN services in 2006, representing a turnover of € 3 bn for public WLAN operators**
  - ⇒ **today, the gastronomy sector is the leading market for public WLAN deployments, but the focus is increasingly shifting to sites focussing even more on business customers**
- **WLAN is a hot topic with almost every major network operator**
- **several players already follow dedicated strategies: Telia, Sonera, Telenor Mobil, TDC, Swisscom, T-Mobile, ...**
- **the WLAN market in Western Europe is expected to have a volume of € 1.8 bn by 2007, with 7.7 mn active users (Source: Yankee Group)**

**WLANs have the potential to develop from an intern network technology to a mass market application**

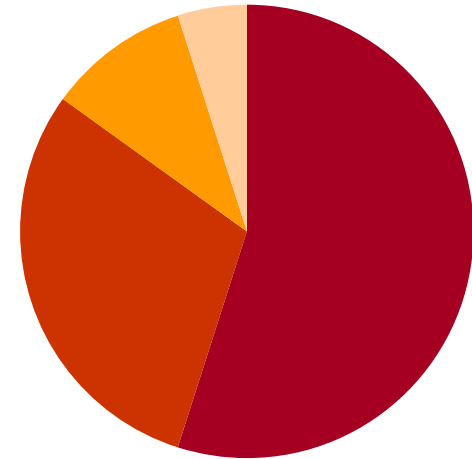
# WLAN segmentation

current segmentation of public WLAN hotspots



- Café/ Restaurant
- Hotel
- Airport
- Others (congress center, shopping malls, ...)

estimated segmentation of WLAN operators in 2007



- fixed-line carriers
- mobile operators
- WISPs
- venues

**public WLAN was mostly started in the gastronomy sector but shifts to hotspots more frequented by business customers, with the operators usually being established telcos**

# WLAN target customers

**TRAVEL LODGER**  
(Hotel, Motel, ...)

**FACILITY PROVIDER**  
(Congress Center,  
Meeting Rooms, ...)



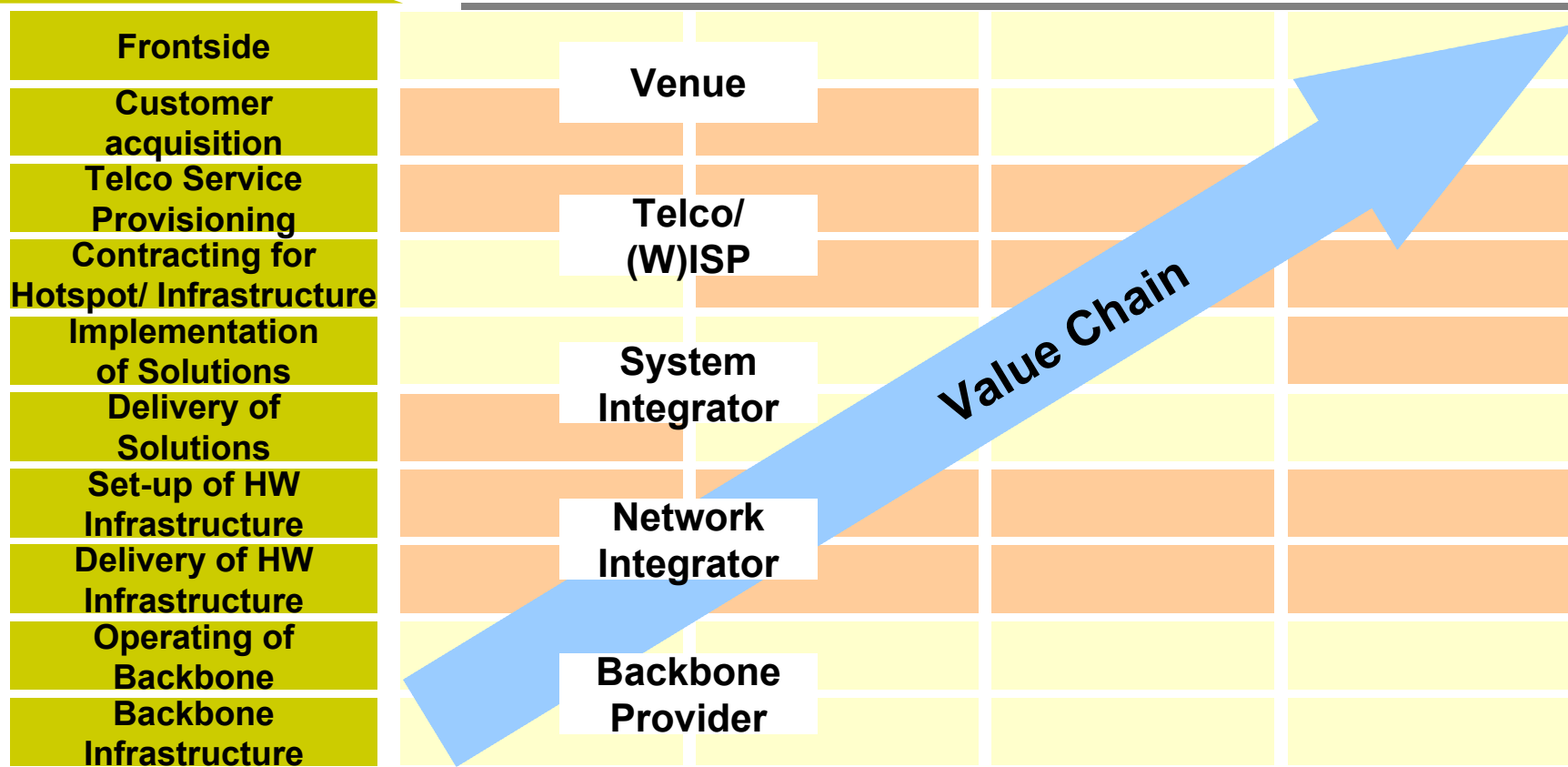
**TRAVEL NODES**  
(Airport, Train Station, ...)

**TRAVEL ENABLER**  
(Plane, Train, Hired Car, ...)

With the service/ deployment being restricted to selected areas WLAN will become profitable only with business customers being approached

- Corporates (sales force)
- travelling business individuals

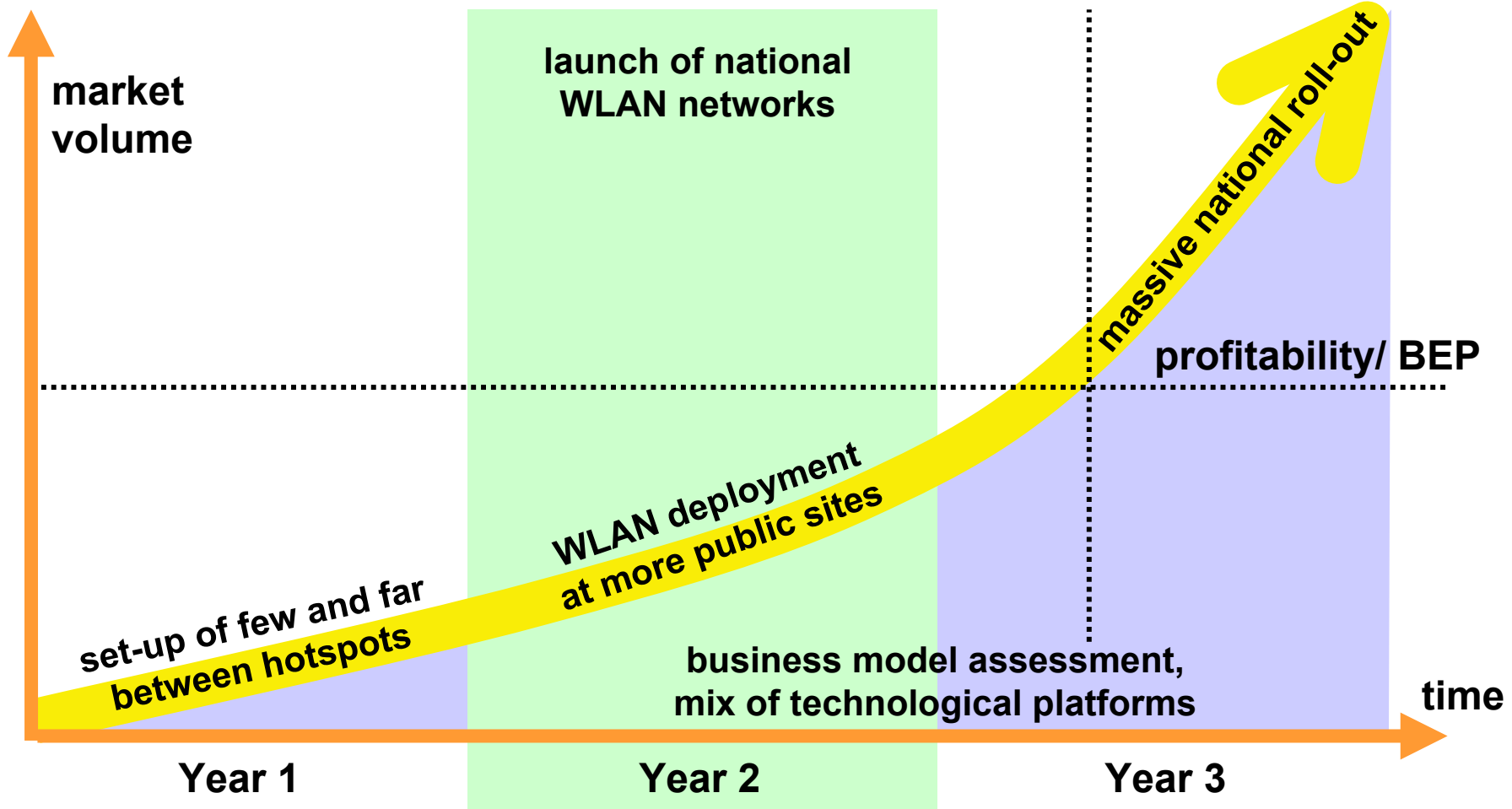
# Modules of a WLAN business model



Even major players usually cannot and do not want to cover the whole WLAN value chain, but set up syndicates with selected partners to

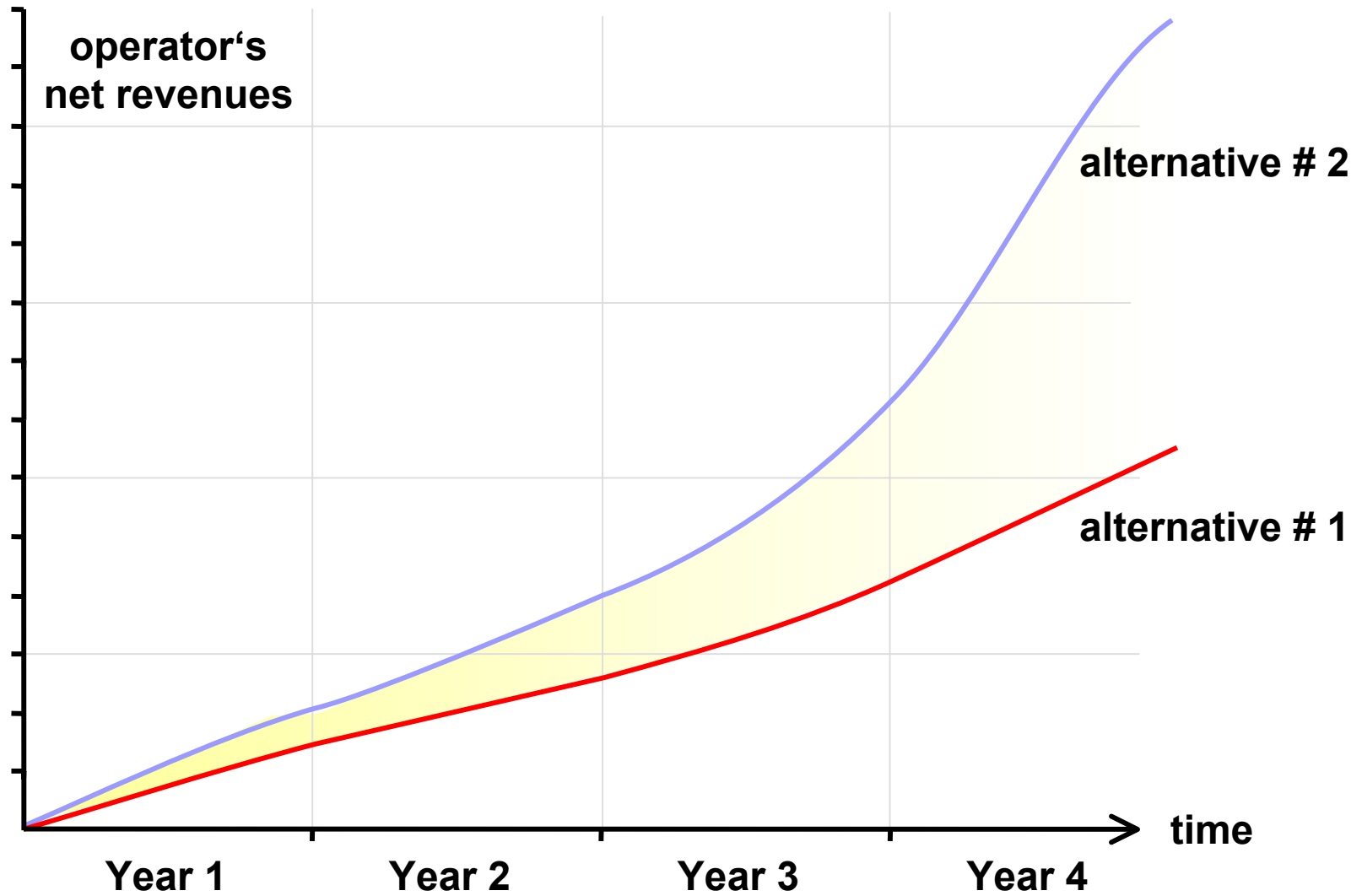
- share core competencies
- minimise costs and risk
- make use of leverage effects

# Market entry strategy



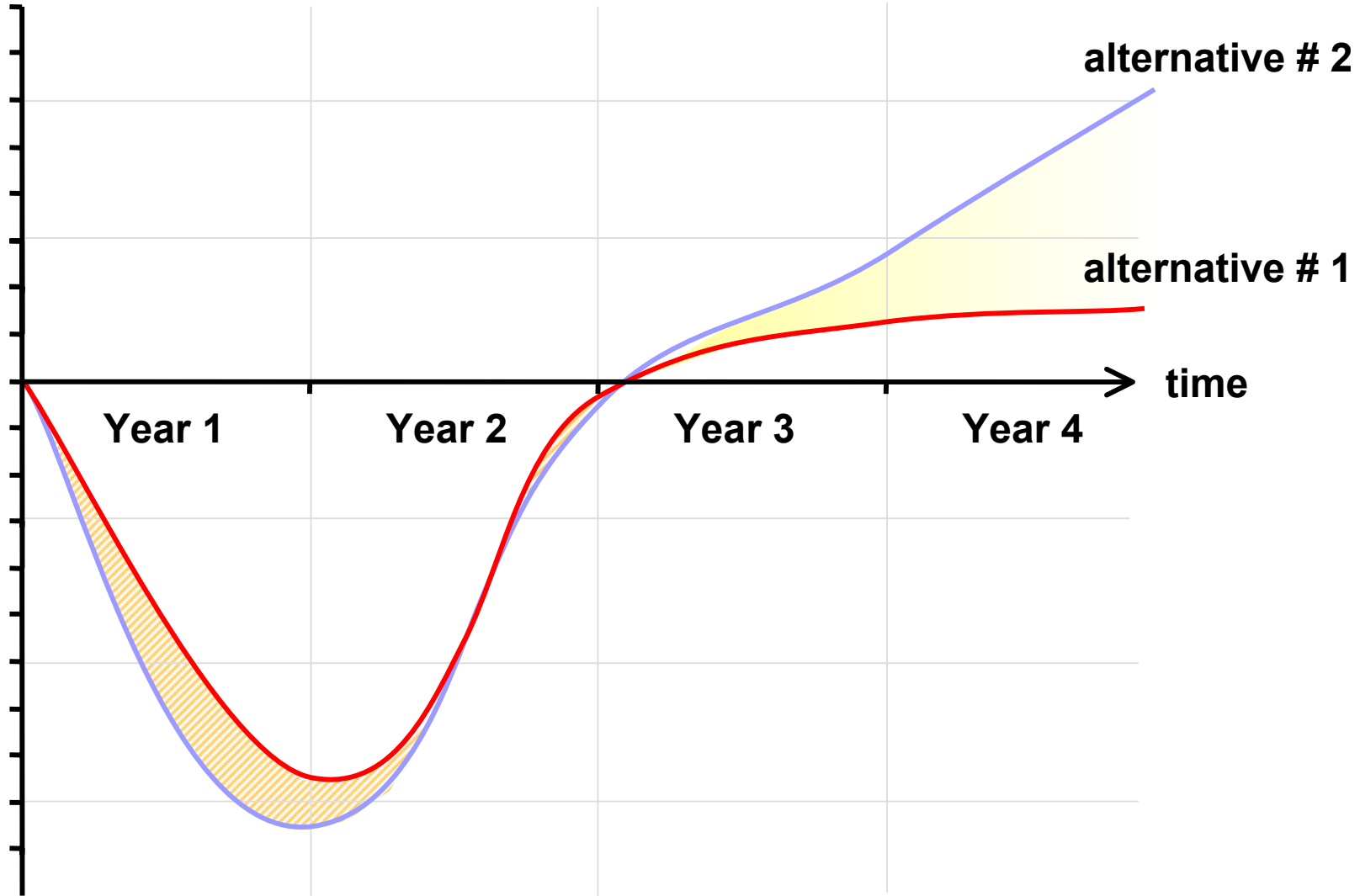
**WLAN deployment of the past quickly delivered decisive expertise in order to commence serious business starting in 2003/ 2004**

# development of revenues



operator's gross  
profit/ loss

# loss/ profit development





# Market impact of major telcos' WLAN commitment

- a major telco launching WLAN activities might considerably change the WLAN business model
  - ⇒ on the one hand, OPEX will be higher, e.g. due to larger marketing investments (national advertising campaigns)
  - ⇒ but on the other hand, the WLAN business case will become much more attractive due to several leverage effects
    - major telcos entering the WLAN market will encourage manufacturers to push WLAN as a standard equipment
    - a major telco's marketing power will attract a higher number of users more quickly
    - higher and more slowly decreasing ARPU due to cross selling opportunities (e.g. product bundle: GSM+UMTS+WLAN)
- the impact on the WLAN business model will positively affect revenues as well as profit
  - ⇒ revenues will be twice as high in a period of about 4 years
  - ⇒ in the same period of time, profit might even be more than four times as high

# Migration to future networks/ services

- **HW as well as SW and systems will experience upgrades in the near future**
  - ⇒ **higher bandwidth (currently up to 54 Mbps commercialised, up to 162 Mbps demonstrated)**
  - ⇒ **extended range (e.g. by Vivato technology)**
  - ⇒ **more sophisticated systems**
    - **VoWLAN**
    - **national roaming**
    - **automatic hand-over to other networks (GSM, UMTS, ...)**
- **WLAN is able to offer more than just internet access and might be used to launch public services in the medium term**
  - ⇒ **traffic control**
  - ⇒ **tele metering**
  - ⇒ **video surveillance**
- **Ad Hoc Networks are a next escalation step along the WLAN migration path, with mobile users being part of a flexible and ubiquitous network**