Fixed-to-Mobile Convergence
aus Sicht der Vodafone D2 GmbH

Dr. Andreas Jungmaier
Network Evolution Strategy and Assessment
TNES

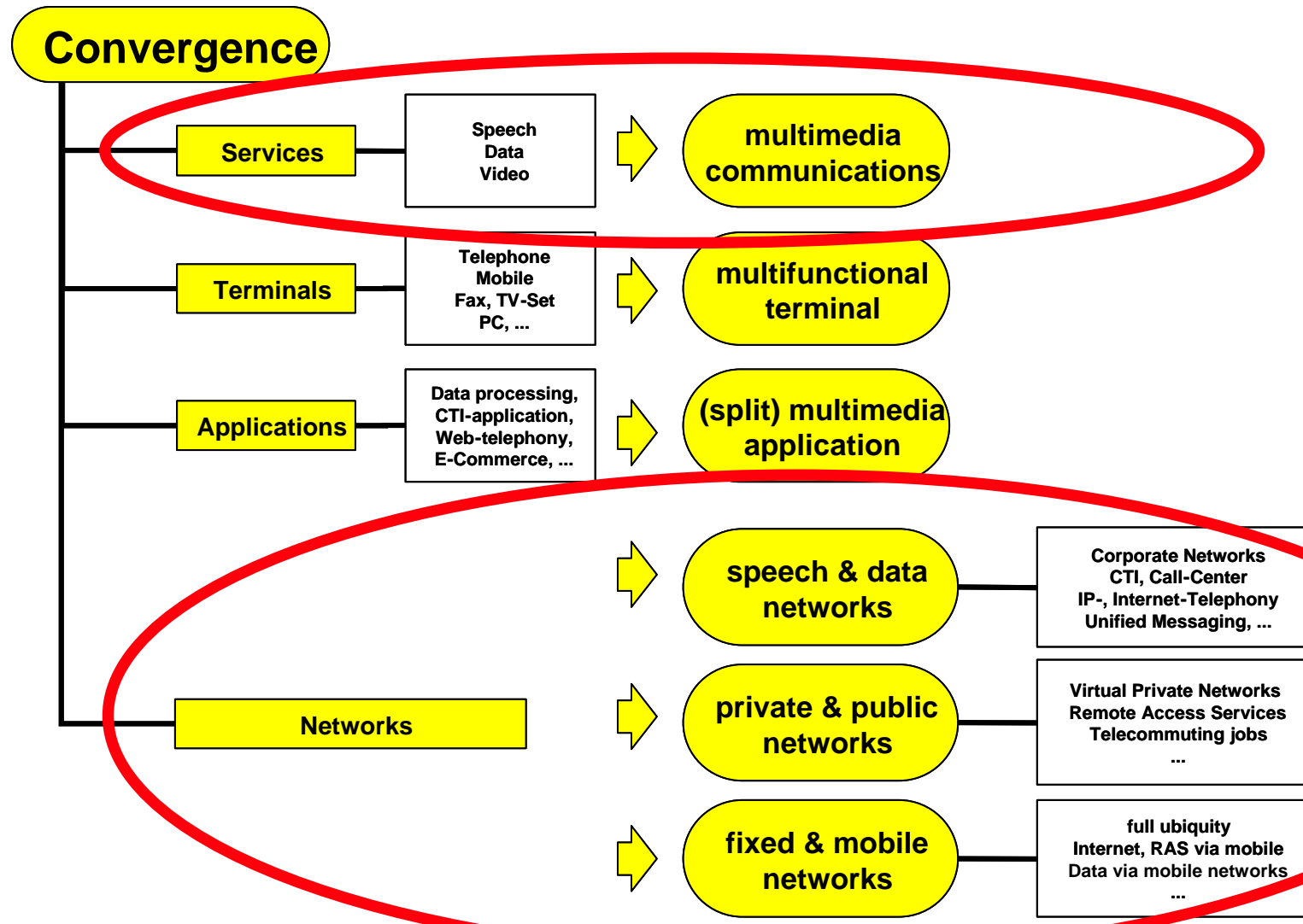22. Treffen der VDE/ITG-Fachgruppe 5.2.4
Darmstadt, 25.01.2007

vodafone

Contents

- **Types of Convergence**

- **FMS/FMC Market Considerations**

- **Leveraging Mobile Leadership**

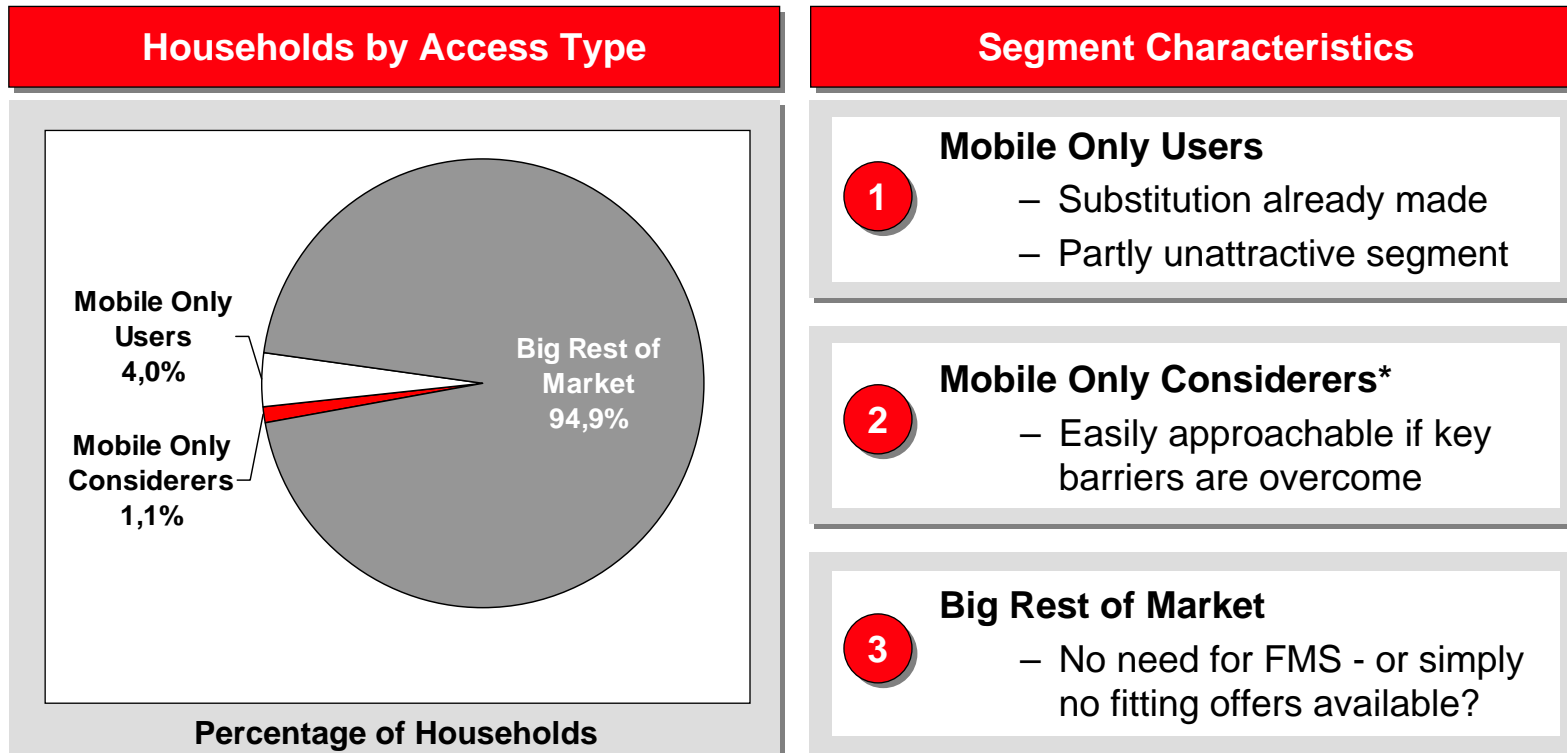- **Overview of FMC Products**

- **Technical Enablers**

Different Types of Convergence…

Convergence

Services → | Speech
Data
Video | ⇒ **multimedia communications**

Terminals → | Telephone
Mobile
Fax, TV-Set
PC, ... | ⇒ **multifunctional terminal**

Applications → | Data processing,
CTI-application,
Web-telephony,
E-Commerce, ... | ⇒ **(split) multimedia application**

Networks →

⇒ **speech & data networks** — | Corporate Networks
CTI, Call-Center
IP-, Internet-Telephony
Unified Messaging, ...

⇒ **private & public networks** — | Virtual Private Networks
Remote Access Services
Telecommuting jobs
...

⇒ **fixed & mobile networks** — | full ubiquity
Internet, RAS via mobile
Data via mobile networks
...
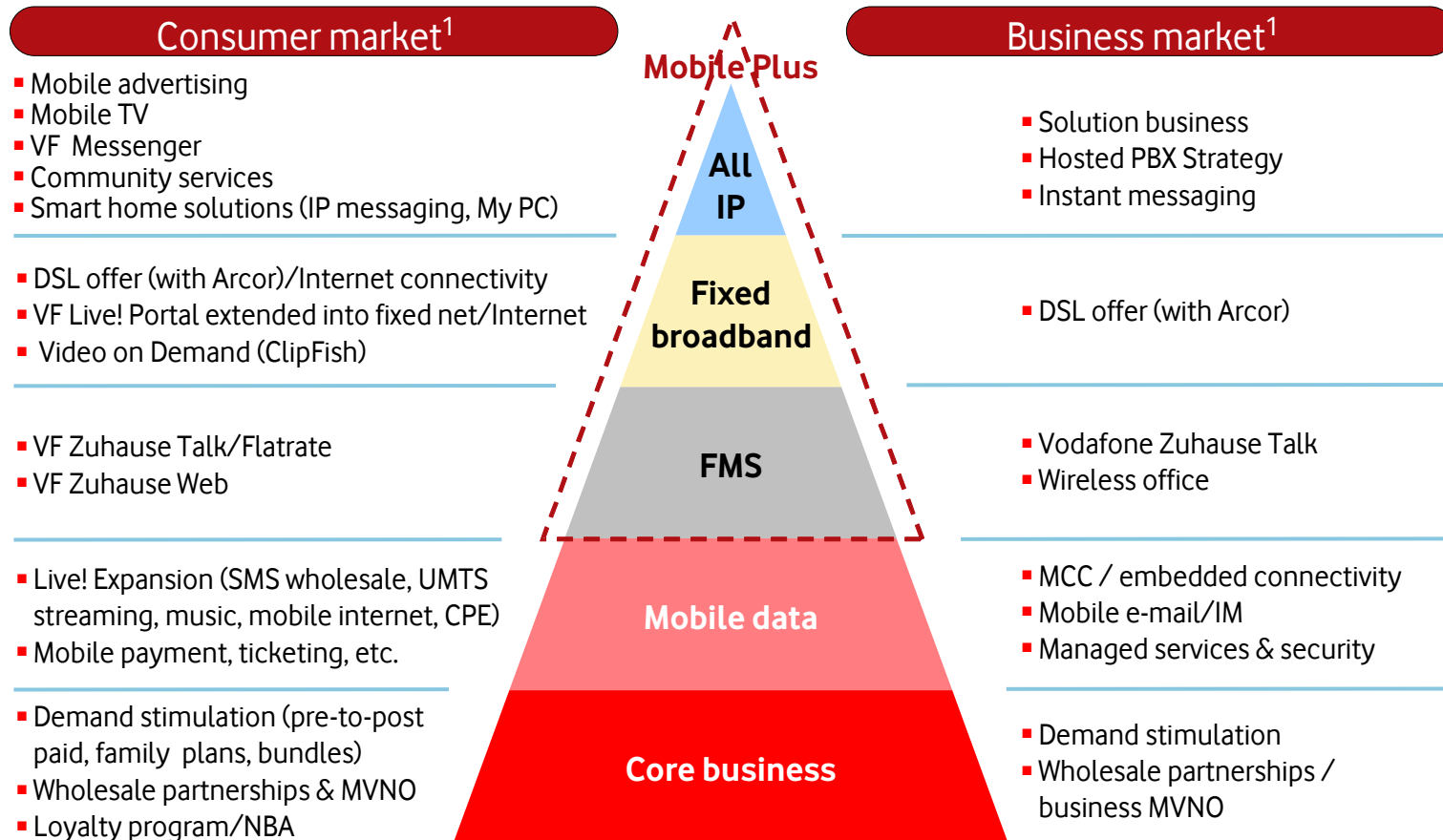
vodafone

FMC/FMS - Market Considerations

- Only a small minority of households have already substituted their fixed network access or plan on doing so - but the vast majority remains unaddressed by current MNO offers.

Households by Access Type

Mobile Only
Users
4,0%

Mobile Only
Considerers
1,1%

Big Rest of
Market
94,9%

Percentage of Households

Segment Characteristics

1 **Mobile Only Users**
  - Substitution already made
  - Partly unattractive segment

2 **Mobile Only Considerers***
  - Easily approachable if key barriers are overcome

3 **Big Rest of Market**
  - No need for FMS - or simply no fitting offers available?

* Planning to substitute fixed line access for mobile only within 6 months
Source: Telebasics Home / FAZ 17.5.2004, p.21 / Statistisches Jahrbuch / SKP calculations
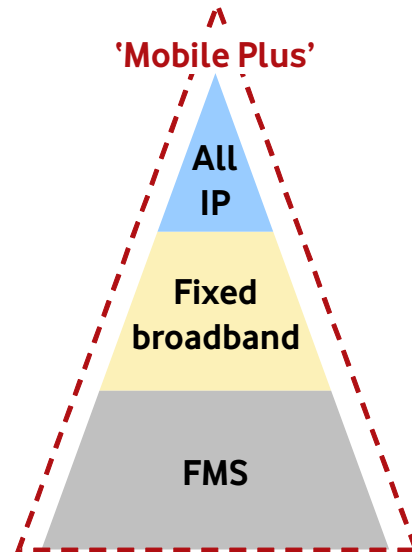
vodafone

Leveraging Mobile Leadership

Consumer market[1]

- Mobile advertising
- Mobile TV
- VF Messenger
- Community services
- Smart home solutions (IP messaging, My PC)

- DSL offer (with Arcor)/Internet connectivity
- VF Live! Portal extended into fixed net/Internet
- Video on Demand (ClipFish)

- VF Zuhause Talk/Flatrate
- VF Zuhause Web

- Live! Expansion (SMS wholesale, UMTS streaming, music, mobile internet, CPE)
- Mobile payment, ticketing, etc.

- Demand stimulation (pre-to-post paid, family plans, bundles)
- Wholesale partnerships & MVNO
- Loyalty program/NBA

Mobile Plus

Pyramid levels:
- All IP
- Fixed broadband
- FMS
- Mobile data
- Core business

Business market[1]

- Solution business
- Hosted PBX Strategy
- Instant messaging

- DSL offer (with Arcor)

- Vodafone Zuhause Talk
- Wireless office

- MCC / embedded connectivity
- Mobile e-mail/IM
- Managed services & security

- Demand stimulation
- Wholesale partnerships / business MVNO

Mobile leadership based on core business

Mobile Plus = VF DE as provider of choice for customer's total communication needs

1) Examples   CPE = Consumer Push E-Mail

Leveraging Mobile Leadership

'Mobile Plus'

All
IP

Fixed
broadband

FMS

Mobile plus ReInvents „Mobility"

Access to a broad Class of Services through Vodafone:

- In any Location (@home, @work, on the move)
- In any Network (mobile, fixed, WiFi, Internet)
- On any Device (Mobile Phone, PC/Laptop, etc.)
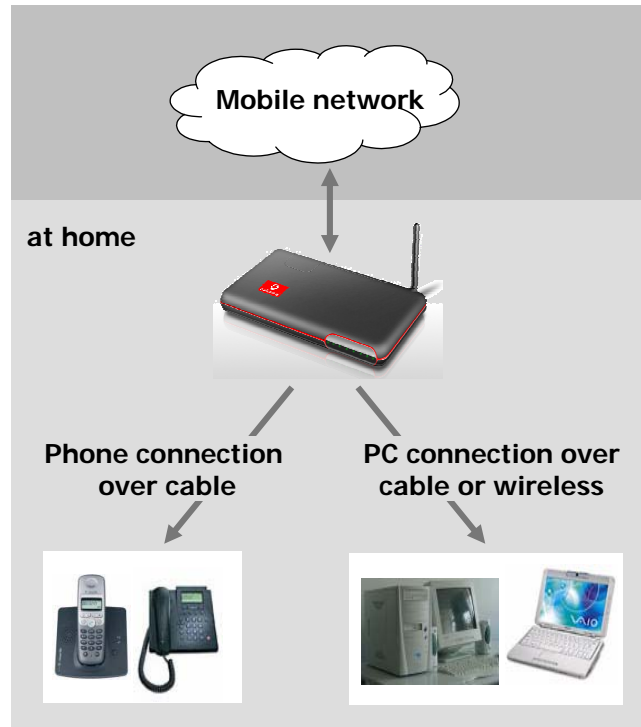- One address/number, best customer experience, optimum cost
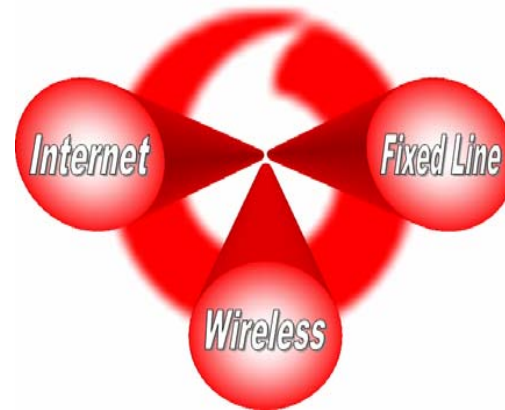
vodafone

FMC Products: Vodafone Zuhause DSL (launched 10/2006)

brand-new

- **Proposition**:
  - cheap calls and heavy internet access at home

- **Features:**
  - a mobile, fixed network and DSL Internet flat rate
  - A fixed network number is included
  - Vodafone DSL 6000 with three times the regular DSL data transmission speed for only 5€/month extra
  - Start surfing straight away with a mobile phone modem at no extra cost
  - Combinable with the Vodafone KombiPaket Zuhause or Zuhause Talk24 options
  - 24-month minimum term
  - Provided in a joint venture with Arcor
  - DSL activation from 16 October 2006 onwards

Vodafone Zuhause Talk & Web Box   (launched 10/2005)

Mobile network

at home

**Phone connection
over cable**

**PC connection over
cable or wireless**

- **Proposition:**
  - cheap calls and internet access at home or in the office

- **Product features:**
  - regional restriction to Zuhause zone
  - Plug&Play: put the box anywhere and plug it in
  - Connect it to PC or Laptop: either with cable or without (wireless over WLAN)
  - Insert DECT or POTS phone
  - Talk- & Web Box connects automatically for phone calls (2G) and internet services (3G)
  - simultaneously make phone calls and use the internet

Technical enablers

- Generally, the Zuhause zone is defined on a per cell basis. Different alternatives are investigated to define the zone more precisely to reduce the cannibalisation effects of the Zuhause tariffs.

Zuhause and Zuhause & mobil
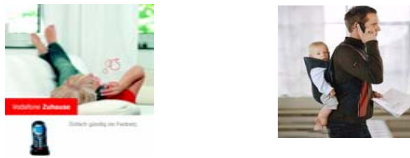
- **Zuhause zone is defined when the tariff is ordered**
- **IN platform is used to check the position of the phone**
- **solid 2G indoor coverage**

Zuhause Web

- **Zuhause zone is defined when the tariff is ordered**
- **location server is used to check the position of the data equipment**
- **solid 3G indoor coverage with HSDPA**

Zuhause Talk & Web

- **Zuhause zone is defined when the tariff is ordered**
- **IN platform is used to check the position of the box**
- **solid 2G and 3G indoor coverage**
- **HSDPA for higher data rates available**

vodafone

Technology Match for Consumer Market

Consumer market[1]

- Mobile advertising
- Mobile TV
- VF Messenger
- Community services
- Smart home solutions (IP messaging, My PC)

- DSL offer (with Arcor)/Internet connectivity
- VF Live! Portal extended into fixed net/Internet
- Video on Demand (ClipFish)

- VF Zuhause Talk/Flatrate
- VF Zuhause Web

- Live! Expansion (SMS wholesale, UMTS streaming, music, mobile internet, CPE)
- Mobile payment, ticketing, etc.

- Demand stimulation (pre-to-post paid, family plans, bundles)
- Wholesale partnerships & MVNO
- Loyalty program/NBA

'Mobile Plus'

All IP

Fixed broadband

FMS

Mobile data

Core business

Technology Match

- Drives DVB-H
- **Drives IMS**
- **Drives IP/MPLS core**

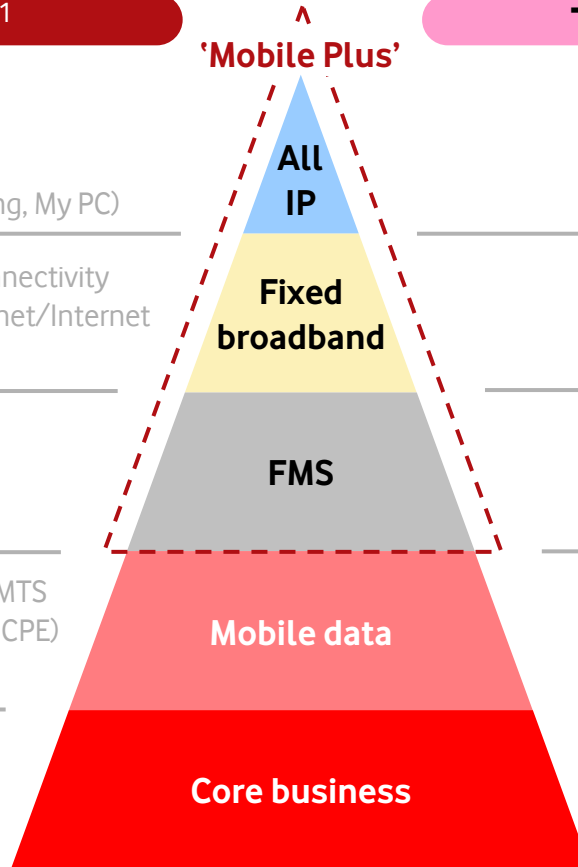- **Offloads PS core**
- **Drives IMS**

- **Drives R4 architecture in core** / voice quality
- Drives 2G invest in radio/ modernisation
- Could drive VAP or VoIP over DSL solution
- **VF Zuhause Web drives IP/MPLS network**

- Drives UMTS rollout
- Drives HSPA
- Drives indoor coverage

- **Drives capacity enhancements**
- **Drives Network efficiency programs**

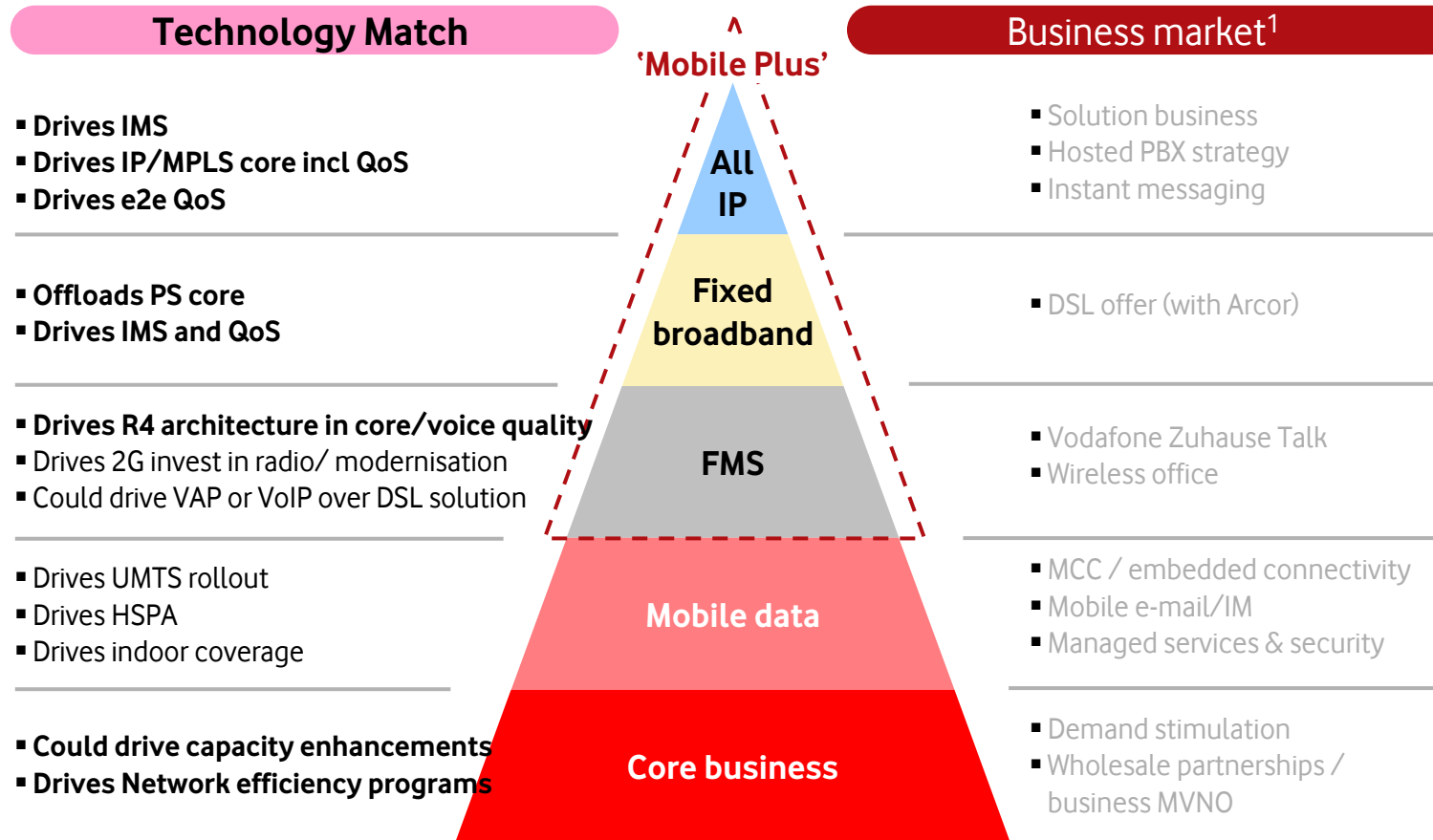**Mobile leadership based on core business**

'Mobile Plus' = VF DE as provider of choice for customer's total communication needs

1) Examples   CPE = Consumer Push E-Mail

vodafone

Technology Match for Business Market

Technology Match

'Mobile Plus'

- **Drives IMS**
- **Drives IP/MPLS core incl QoS**
- **Drives e2e QoS**

- **Offloads PS core**
- **Drives IMS and QoS**

- **Drives R4 architecture in core/voice quality**
- Drives 2G invest in radio/ modernisation
- Could drive VAP or VoIP over DSL solution

- Drives UMTS rollout
- Drives HSPA
- Drives indoor coverage

- **Could drive capacity enhancements**
- **Drives Network efficiency programs**

Pyramid (top to bottom)
- All IP
- Fixed broadband
- FMS
- Mobile data
- Core business

Business market[1]

- Solution business
- Hosted PBX strategy
- Instant messaging

- DSL offer (with Arcor)

- Vodafone Zuhause Talk
- Wireless office

- MCC / embedded connectivity
- Mobile e-mail/IM
- Managed services & security

- Demand stimulation
- Wholesale partnerships / business MVNO

Mobile leadership based on core business

'Mobile Plus' = VF DE as provider of choice for customer's total communication needs

1) Examples   CPE = Consumer Push E-Mail

vodafone

Conclusions

1. **Service convergence is necessary to ensure future revenue growth**

2. **Vodafone D2 has addressed service convergence with appropriate products and is on track regarding FMC**

3. **Service and also network convergence depends on economic efficiency and (realistic) forecasts of demands**

Thank you !

Make the most of now!

Backup

The Basics: FMC – Definition (ETSI)

"Fixed Mobile Convergence (FMC) is concerned with the provision of **network capabilities** which are **independent of the access technique**. This does not imply the physical convergence of networks. It is concerned with the development of a converged network architecture and supporting standards. This **set of standards** may be used to offer fixed, mobile or hybrid services.

An important feature of fixed mobile convergence is the **separation of the subscriptions and services** from individual access points and terminals and to allow users to access a **consistent set of services** from any fixed or mobile terminal via any compatible access point. An important extension of this principle is related to **inter-network roaming**, users should be able to roam between different networks and to be able to use the same consistent set of services through those visited networks".

ETSI

vodafone

Vodafone Zuhause Talk   (launched 11/2004)

Vodafone **Zuhause**

Einfach günstig ins Festnetz.

- **Proposition:**
  - Cheap calls into the fixed line network – easy & convenient

- **Device:**
  - with special handset and cradle
  - or SIM only, with existing customer handset

- **Product features:**
  - regional restriction (incoming and outgoing calls) to the Zuhause zone
  - Complementary to existing mobile tariff
  - currently 2G only

up to 06/2005: Incoming calls at mobile rates
**since 06/2005: fixed number and incoming calls
                        at fixed rates**

Vodafone Zuhause Option   (launched 10/2005)

- **Proposition:**
    - Cheap calls into the fixed line network – easy & convenient

- **Device:**
    - no additional handset required

- **Product features:**
    - customers use their existing mobile handsets and receive a preferential tariff for outgoing calls inside the Zuhause zone.
    - fixed number and incoming calls at fixed rates when at home
    - HO from the Zuhause zone to the regular network and vice versa without loss of service
    - currently 2G only

Vodafone Zuhause Web   (launched 03/2005)

- **Proposition:**
  - at home and in the office convenient and cheap internet access

- **Product features:**
  - Zuhause zone indicator at dial-up (‚Landing Page')
  - cell reselection from the Zuhause zone to the regular network and vice versa without loss of service.