

A man with a beard and short brown hair, wearing a white button-down shirt, is smiling and talking on a mobile phone. He is sitting at a desk with a laptop in front of him. The background is a blurred office interior with windows. The overall image has a dark, semi-transparent overlay.

mm1

Market study:
10 years of Fixed-Mobile-Convergence

What do successful FMC operators do differently?

mm1 Telecommunications Practice
June 2020 / **EXTENDED VERSION**

Market study: 10 years of Fixed-Mobile-Convergence

What do successful FMC operators do differently?

Motivation

Situation:

Fixed-Mobile-Convergence (FMC) for voice services since the early 2000s, first convergent offers for internet in the US and Europe in the early 2010s, rapid spread across Europe and later worldwide

Question:

How do FMC offers for private customers worldwide differ in 2020?

Method:

Analysis of **25 FMC providers in 14 countries** based on publicly available information: 25 websites, 23 annual reports from 2018 / 2019, 7 studies already published (e.g. by BCG or Deloitte)

Key insights

- ①
 - The introduction of FMC offers correlates with **decreasing churn**
 - No positive influence on sales and new customers visible
- ②
 - Operators differentiate themselves through **monetary and non-monetary benefits** and an **increasing degree of flexibility** in bundled components and benefits
 - First providers offer **FMC based on FMS** (Fixed-Mobile-Substitution)
- ③
 - Monetary discounts range between **1 and 34%**, mostly depending on the package
 - **More economic offer design** is possible for higher-value price plans and through non-monetary benefits
- ④
 - **Vodafone Spain, Movistar, Ziggo and Proximus** show the highest FMC penetration rate
 - Providers with **highest FMC penetration rates** tend to use the following approach: relevant but moderate monetary benefits plus non-monetary benefits, presented either as simple, hard bundles or flexible soft bundles

Around 2010 the first internet FMC offers were launched. What is the situation today?

2000s

- Technology trend of merging fixed-line and mobile voice telephony emerges
- Providers offer convergent voice services

2010s

- Orange launches one of the first FMC offers with Internet in Europe
- In the following years, other providers follow suit: initially, FMC offers spread mainly in Europe, later also worldwide
- From the very beginning, high expectations were associated with FMC offers:

*“Mobile-only is dead,
long live convergence”¹*

2020

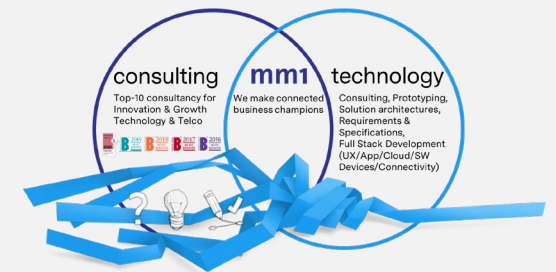
What does the FMC market for end customers look like today?

1. **Why** do telecommunications companies offer FMC services?
2. **How** do FMC offers look like?
3. **What's** in it for the customer?
4. **How** successful are those FMC offers?

Thought Leadership in Telecommunications:

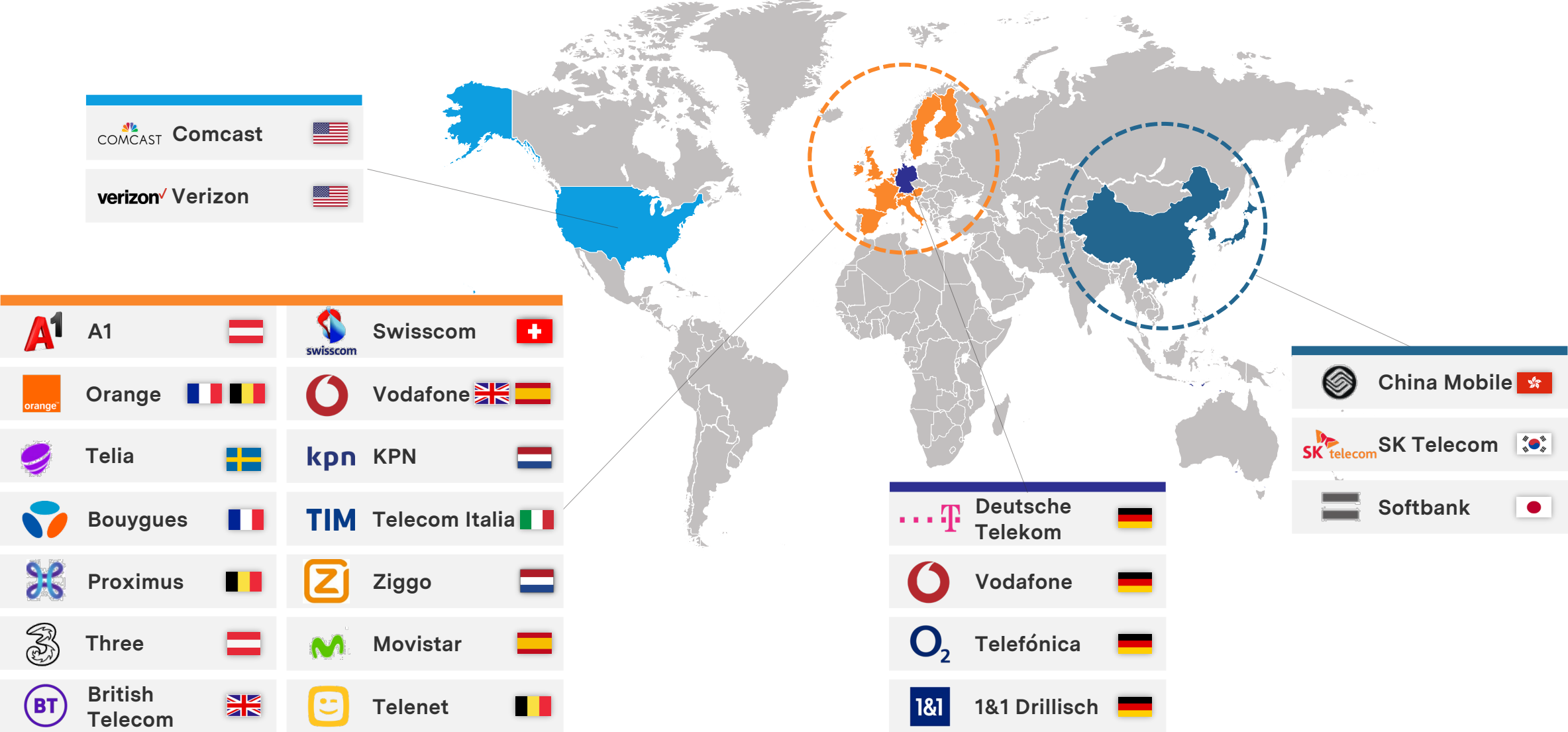
> **200** projects 

from strategy and innovation, over offer conception, up to agile development and transformation



¹ Orange Regulatory Department (2017)

Scope: This study compares the B2C FMC offers of 25 telcos from 14 countries



Current FMC offers from international telcos have been analyzed based on publicly available information



Scope

- Focus of this study is the current FMC market
- Analysis of existing FMC offers for end-customers (B2C) from 25 telecommunications providers in 14 countries
- Time of analysis: Q1 2020



Data basis

- 25 websites of considered telecommunication companies
- 23 company reports (2018 / 2019)
- 7 studies already published (e.g. from BCG or Deloitte)
- Stock prices collected via Ycharts.com



Analysis

The players' FMC offers were analyzed according to the following criteria:

Qualitative analysis

- Bundle size (Double, Triple oder Quadruple) and components
- Launch date
- Target group (families, households, individuals)
- Conditions of participation
- Anchor product (fixed or mobile)
- Flexibility of the offer
- Benefits for customers (monetary and non-monetary)
- Marketing on the website

Quantitative analysis

- Level of monetary benefit (absolute and percentage)
- FMC penetration rate
- Penetration speed per year (FMC penetration / months) x 12

Focus of this study are the customer facing commercial offerings of Fixed-Mobile-Convergence (FMC)

Visible to customers



Customer facing commercial offers

- Offer of **bundled contracts** for fixed net, postpaid mobile services and TV
- Customers benefit from **lower prices** and **other advantages**, such as additional mobile data volume



Focus of study

Not visible to customers



Operational level

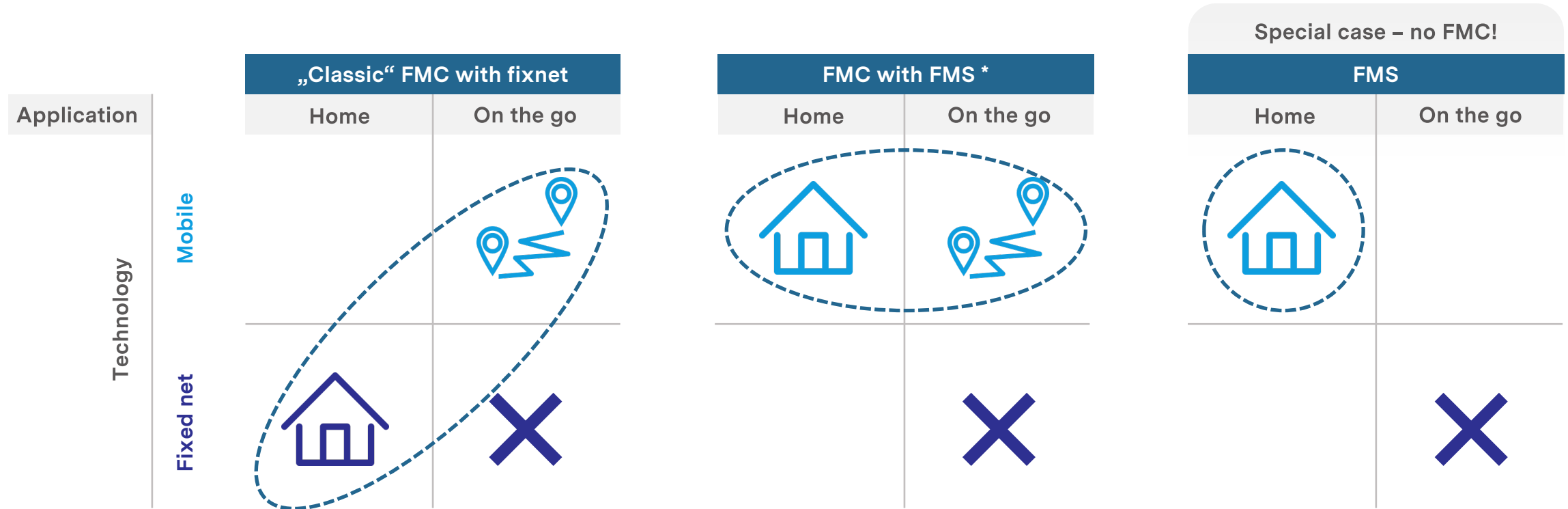
- Increasing **standardization** and centralization of **business and administrative processes** in the business units for mobile and fixed network operations
- Standardization increases **process efficiency** and **fixed cost depression**



Network level

- Merging of mobile and fixed network technologies** by using the same network infrastructure for fixed and mobile services, e.g.
- Expansion of the fiber optic network to simultaneously install FTTH/B connections and 5G antennas
 - Use of mobile routers at home

FMC is the combination of telecommunication services at home and on the go. FMC with FMS is the new kid on the block



A "classic FMC" offer is an integrated bundle consisting of fixed network for coverage at home and mobile on the go

"FMC with FMS" is an integrated bundle consisting of a partially location-based mobile service for coverage at home (e.g. via a 4G/5G router) and mobile on the go

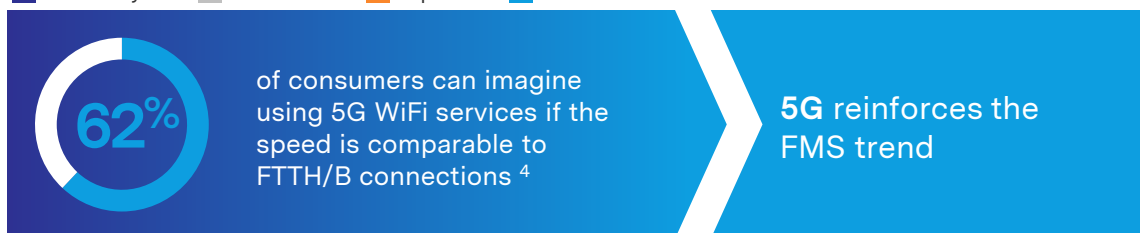
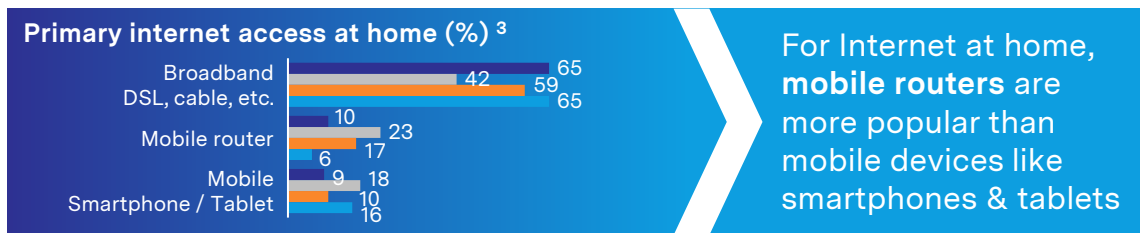
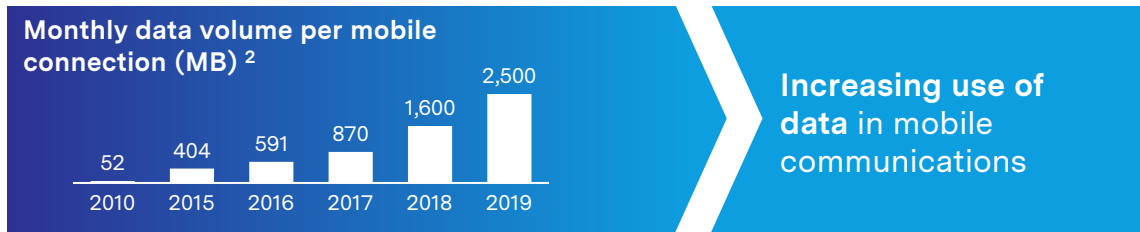
A pure "FMS" offer consists of mobile for coverage both at home and on the go via a mobile device. Different tariff conditions may apply for home use, e.g. no volume limit at home

* FMS: Fixed-Mobile-Substitution

Fixed-Mobile-Substitution (FMS) is facilitated by the development of increasingly powerful mobile networks

Demand trend

„Fixed-Mobile-Substitution“: replacement of fixed network by mobile networks



FMS

Commercial offering trend

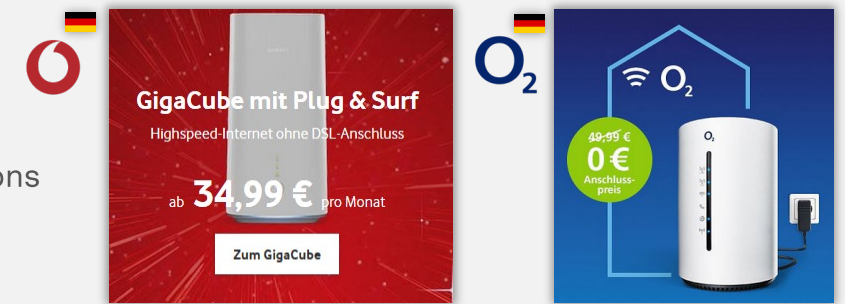
4G or 5G routers provide Internet access at home - without cable, DSL or fibre - as long as indoor coverage is available

Use cases

1. Lack of fixed network infrastructure: undeveloped or poorly developed rural areas and developing countries ⁵
2. Continuous availability: back-up solution for network disruptions
3. Instant availability: plug & play/ temporary solution for e.g. relocations

Examples

Some of the considered telecommunications companies offer FMS, e.g.



Vodafone: GigaCube mit Plug & Surf
 Highspeed-Internet ohne DSL-Anschluss
 ab **34,99 €** pro Monat
 Zum GigaCube

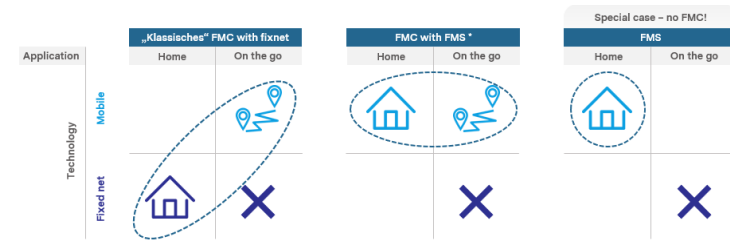
O2: GigaCube
 49,99 €
0 € Anschlusspreis

²⁾ Statista ³⁾ Statista ⁴⁾ Deloitte Insights: Connectivity and Mobile Trends Survey (2019) ⁵⁾ Globalwebindex (2017)

Convergent services based on FMS are mainly an opportunity for mobile telecommunication operators

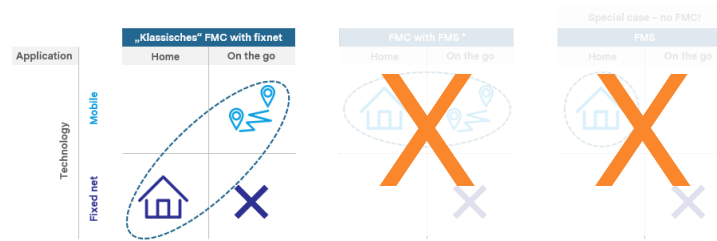
Integrated operator

Established operators, which are strong in both mobile and broadband, can offer any combination of FMC and FMS services independently



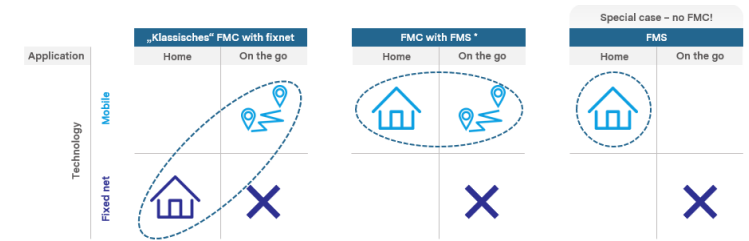
Fixed network operator

Pure fixed network providers cooperate with "mobile providers" in order to offer FMC. FMS-based offers are not useful for these companies



Mobile network operator

Pure mobile operators purchase broadband services to offer FMC. This purchase can only be an intermediate step on the way to an "FMC with FMS" offer



Optional „hybrid approach“: intelligent traffic control distributes data streams over broadband and mobile networks in a way that network performance and wholesale costs are optimized, requires hybrid routers

Example:



Market leader in broadband and mobile in CH

Example:



Telenet as MVNO with Mobistar (Orange Belgium)

Example:



Drei Duolink.

Mit unserem Hybrid-Router Drei Duolink nutzen Sie schnelles Internet von Drei zuhause. Dieser Router unterstützt sowohl DSL Festnetz als auch LTE Hybrid Technologie

Hybrid Router.



1

Why do telecommunications companies offer FMC services?

2

How do FMC offers look like?

3

What's in it for the customer?

4

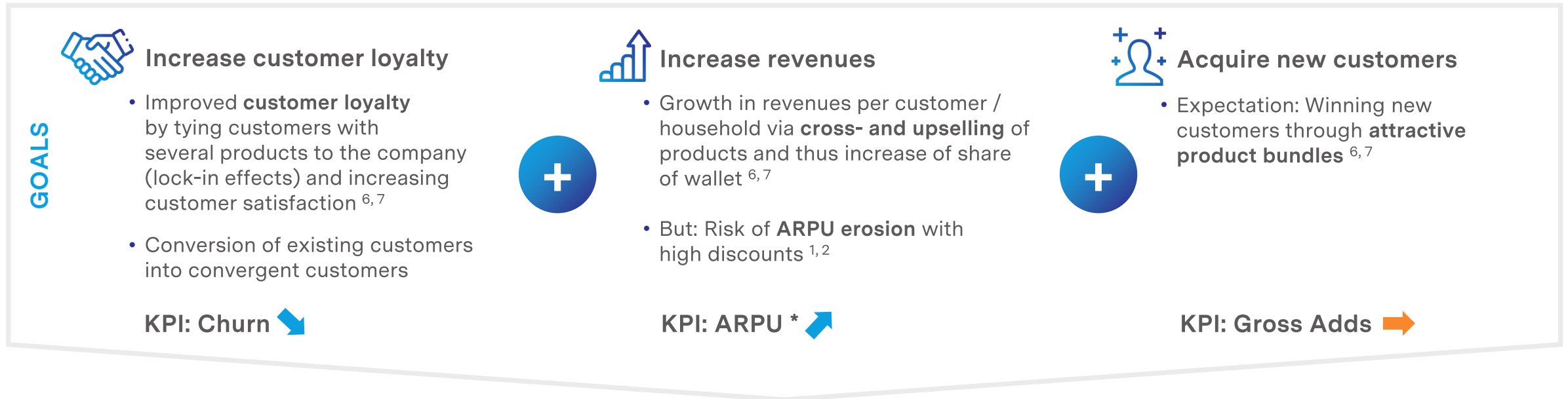
How successful are those FMC offers?



1

Why do telecommunications companies offer FMC services?

In principle, FMC provide the opportunity to increase sales, reduce churn and acquire new customers



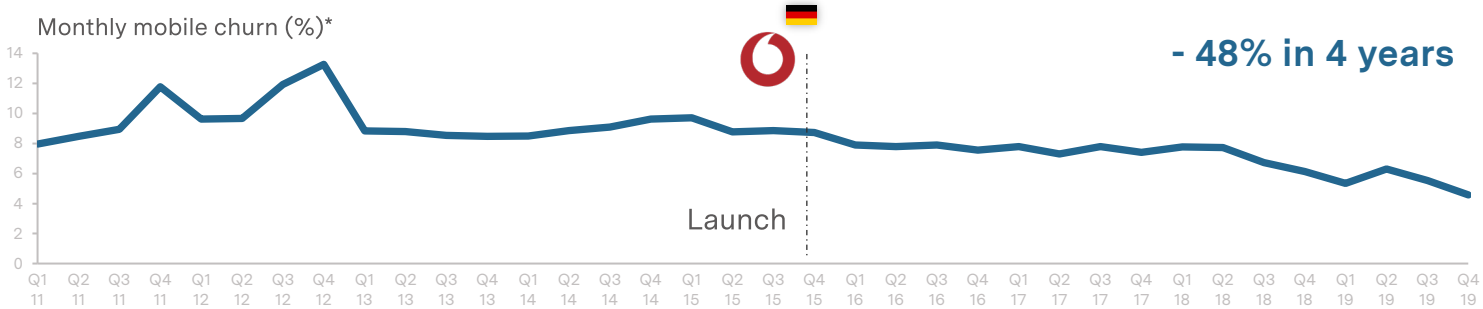
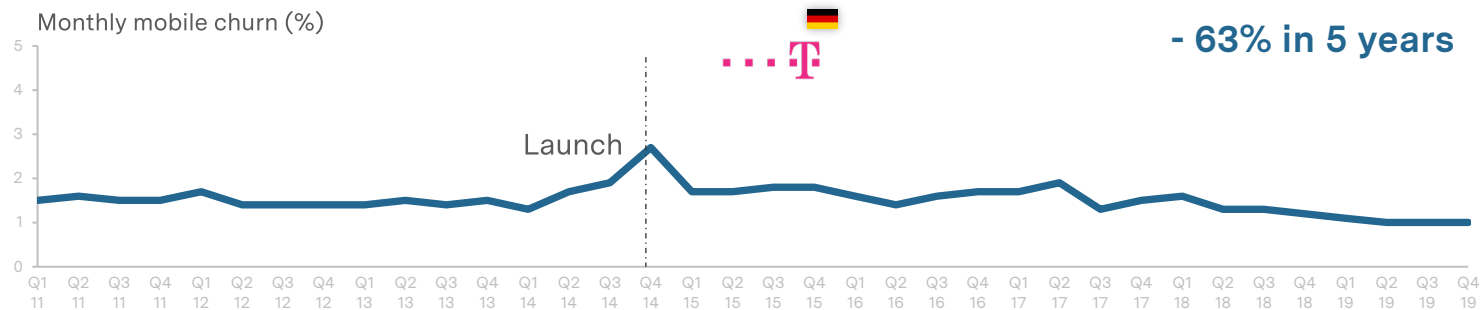
LEVER **FMC penetration** (=share of FMC customers in customer base)

- High FMC penetration supports the achievement of the three abovementioned goals
- Faster FMC penetration leads to a better achievement of the three abovementioned goals
- Emphasis on achieving goals depends on individual corporate strategy, e.g. FMC offering presented only to existing customers

¹⁾ Orange Regulatory Department (2017) ⁶⁾ Arthur D. Little: Time to monetize fixed-mobile convergence (2016)
⁷⁾ IEEE – Fixed Mobile Convergence: An integrated Operator Case Study (2007)

* ARPU: Average revenue per user

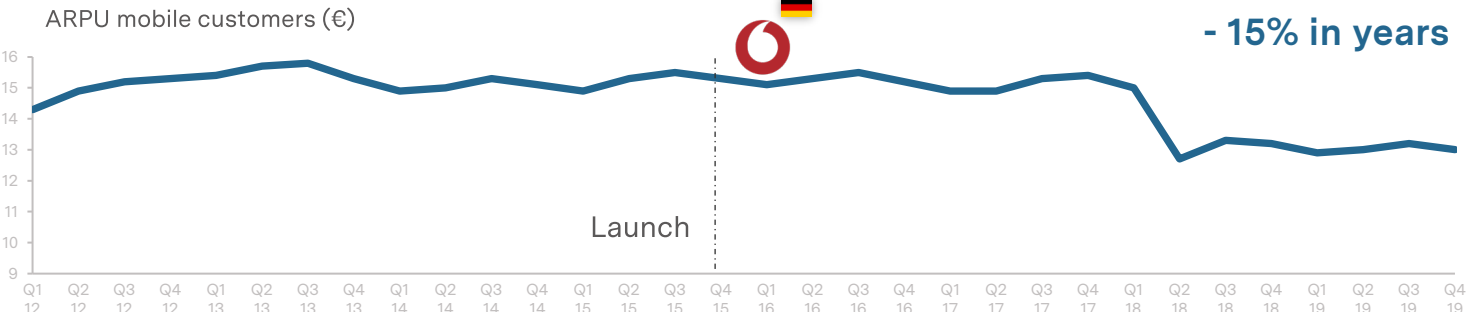
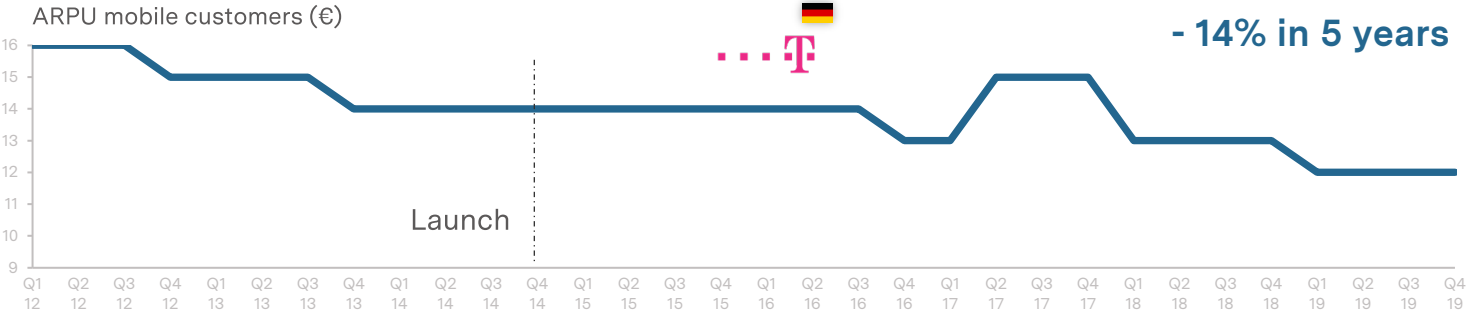
The churn rate of German telco providers decreased since the introduction of FMC offers



⁸ Statista, annual reports of companies * Churn per quarter, converted to months

- At the time FMC was launched by DT, the company was faced with the highest churn rate in the past 10 years. Since Q2/18 the churn rate has reached the lowest level of the last 10 years
- Vodafone Germany's churn has dropped almost constantly after FMC launch
- At o2, the churn has decreased as well but comparatively little; annual churn peaks are visible in Q4
- Other factors besides the introduction of a FMC offering are certain to impact the churn rate. However, a correlation of both is visible

Relationship between FMC and ARPU cannot be identified. Regulation in fixed network, discounts mainly on mobile



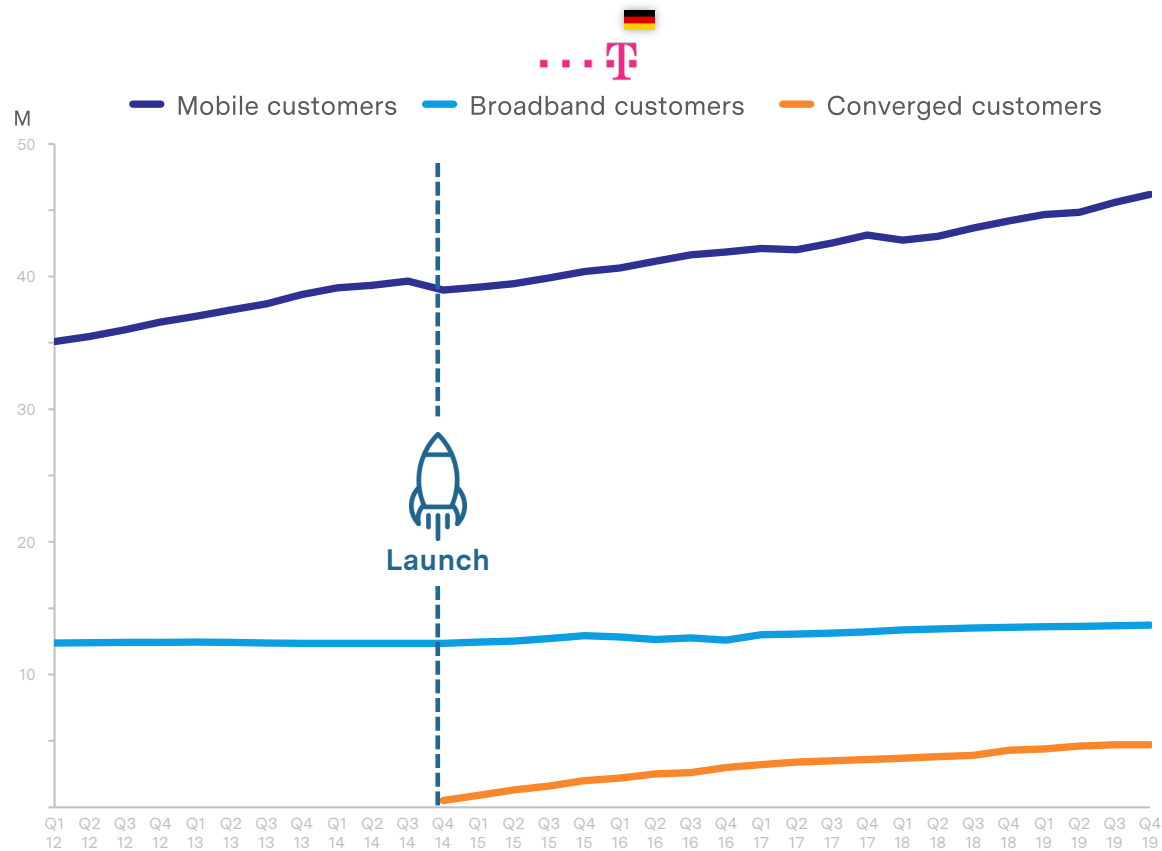
- Special regulatory requirements for fixed network limit the options for fixed net discounts
- Monetary advantages are, therefore, granted almost exclusively in mobile communications, which is reflected in the mobile ARPU
- Mobile ARPU has decreased since the launch of the FMC offer. At DT, the downward ARPU trend was visible already before the FMC launch
- No positive correlation between ARPU and FMC introduction apparent

Notes:

- Companies do not report ARPU of converged customers separately
- ARPU includes post- and prepaid and increasingly M2M cards that reduce ARPU

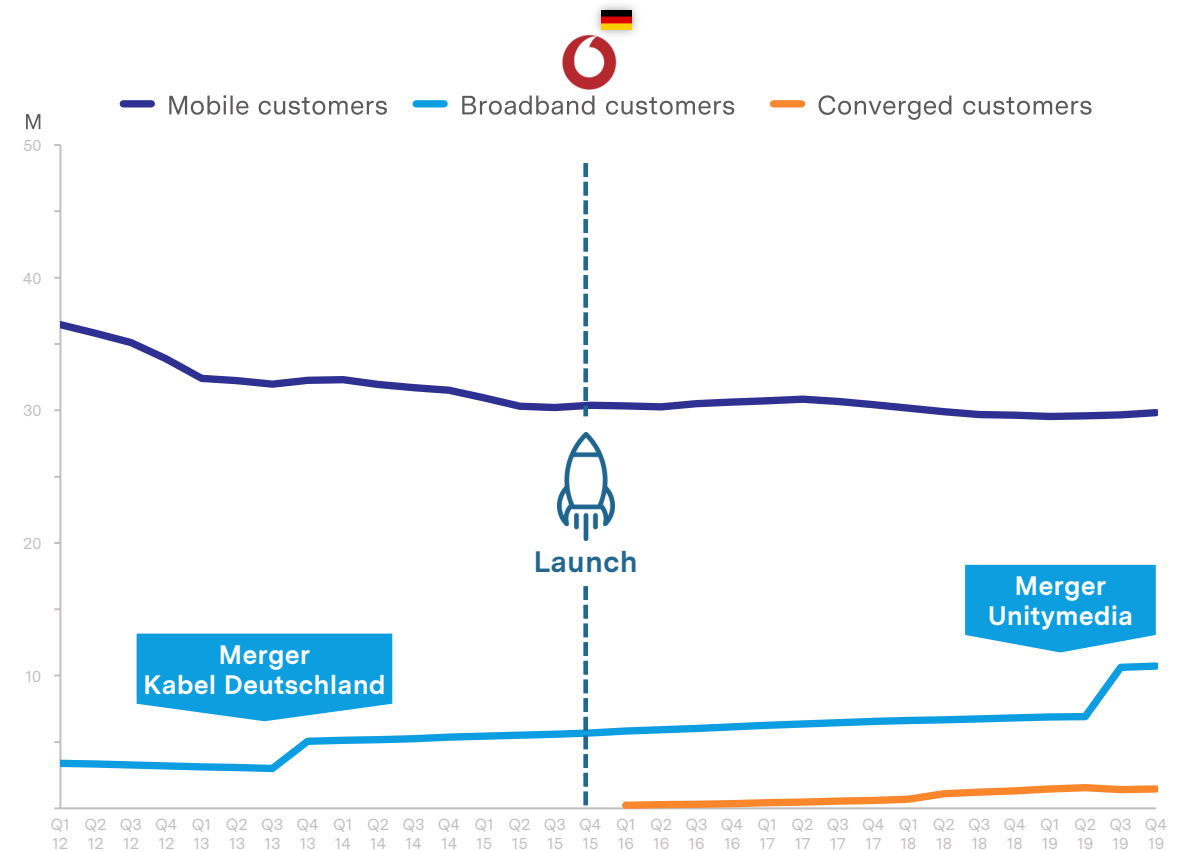
* ARPU: Average revenue per user

There is no evidence that the introduction of FMC offers leads to an increase in customers



- Strong growth in mobile customers but trend already visible before the introduction of FMC
- Slight growth in broadband customers
- Constant growth in convergent customers

¹⁰⁾ Statista, annual reports of companies

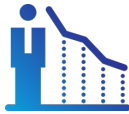


- Strong loss of mobile customers
- Merger with Kabel Deutschland and Unitymedia led to strong growth in broadband customers
- Growth in convergent customers visible from 2017 onwards

Conclusion: The introduction of FMC offers helps to reduce churn but has no impact on ARPU or new customers

Key findings from chapter

1



FMC reduces churn

Churn drops at Deutsche Telekom, Vodafone DE and o2 DE after introduction of FMC offer



No positive correlation between FMC and turnover or new customers

No increase in ARPU or new customers due to the introduction of FMC offers visible. Other factors such as network quality seem to be crucial here



2

How do FMC offers look like?






FMC offers differentiate along three dimensions: Product bundles, benefits and offer flexibility

1 PRODUCT BUNDLES

Bundle size: Number of products in the bundle




-  Double Play
-  Triple Play
-  Quadruple Play

Products: Components of the bundle

-  Broadband
-  Landline telephony
-  Mobile
-  TV
-  Others, e.g. Smart Home, Gaming

2 BENEFITS

Basic options for customer benefits:

-  **Monetary benefits**
e.g. discounts
-  **Telco services**
e.g. additional data volume
-  **Value-added services**
e.g. additional TV content

Definition: We consider those offering elements as benefits that go beyond those core elements contained in **product bundle (1)** and are offered **exclusively** when choosing a FMC plan, either free of charge or at a discount. Additional services that any customer can book free of charge or for an extra charge are not considered as FMC benefit in this study.

3 FLEXIBILITY

Degree of freedom the customer has when selecting the FMC bundle. Basic options:

Customizable packages (Flex Bundles)



Combination of existing plans (Soft Bundles)



Fixed bundles (Hard Bundles)



Product bundles: FMC bundles always contain a mobile component. Hence, there is only a limited set of options

1

PRODUCT BUNDLES (FMC and FMS)

Double Play

= Bundling of two products



Options:



Broadband + mobile



FMS + mobile



Mobile + TV

Triple Play

= Bundling of three products



Options:



Broadband + landline + mobile



Broadband + mobile + TV



Broadband + mobile + others [X]

Quadruple Play

= Bundling of four products



Options:



Broadband + landline + mobile + TV



Broadband + mobile + 2 others [X]

Notes:

Number does not refer to the number of bundled mobile contracts, some providers allow several mobile contracts in one FMC contract
















Some products can be booked as an option to the FMC bundle, e.g. fixed-line telephony or TV, but are not explicitly part of FMC promotion, e.g. at Ziggo

All bundles that do not contain mobile telephony are by definition not a FMC product. However, bundles without mobile products are also available on the market

Benefits: customers qualifying for the FMC conditions are granted exclusive advantages

2

BENEFITS

| | |
|--|--|
|  Monetary |  Price discount: Monthly price reduction on elements (e.g. mobile phone) of the bundle or other products, often as credit on invoice |
| |  Vouchers: Discounts for partner products |
|  Telco services |  Data volume: Free top-up of the available data volume in the mobile price plan |
| |  Zero rating: No consumption of data volume for using certain apps |
| |  SIM cards: Provision of additional SIM cards, often specifically for families, sometimes with data volume sharing |
| |  Telephone flatrate: Free landline or mobile flat rates (GER, EU or world) or free minutes to various networks |
| |  Plan upgrade: Access to more service for the same price |
|  Value-added services |  Customer service: Preferred or extended helpdesk service and provision of replacement equipment |
| |  Cloud storage: Free access to the provider's cloud storage |
| |  Security software: Free access to a security software |
| |  Content: Free access to additional content such as (OTT) TV, gaming, music, press, etc. |
| |  Hardware: Free provision of e.g. routers |

Note:

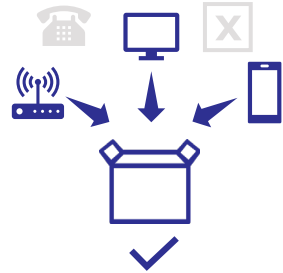
Benefits that go beyond the elements contained in the product bundle [1] and are offered exclusively free of charge or at a discount when choosing a FMC plan. Additional services that any customer can book free of charge or for an extra charge are not considered as FMC benefit in this study

Flexibility: FMC offers can be rigid or more flexible with a higher degree of freedom for the customer

3

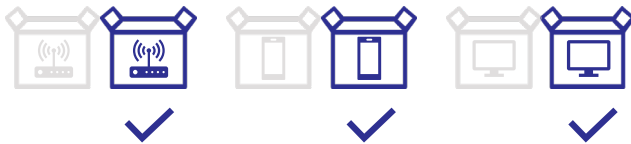
FLEXIBILITY

Customizable packages
(Flex Bundles)



- Maximum degree of freedom
- Higher complexity for customers
- Configuration of the FMC product through mostly free, individual selection of the specification of product components (broadband, landline, mobile, TV etc.)
- Benefits can rarely be selected individually

Combination of existing plans
(Soft Bundles)



- Medium degree of freedom
- Low complexity for customers
- Combination of existing broadband, mobile and/or TV plans
- Customer receives defined benefits for the combination

Fixed Bundles
(Hard Bundles)



- Low degree of freedom
- Minimum complexity for customers
- Selection from a few, already prefabricated bundles without the possibility of adjustment
- Customer receives defined benefits for the bundle

Quadruple play is no longer a differentiating feature for current FMC offers

1

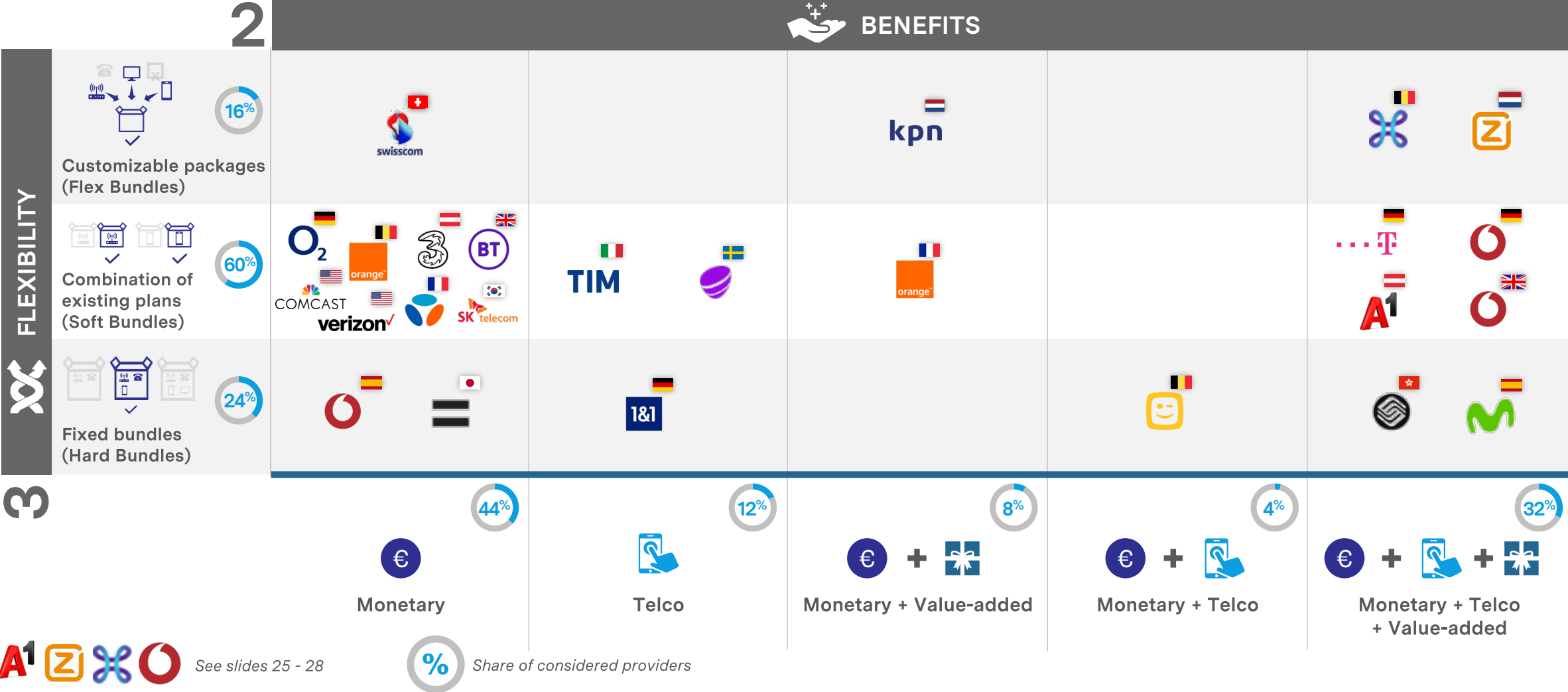
PRODUCT BUNDLE (FMC and FMS)

Components of FMC offer

| Landline telephony | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | | |
|--------------------|------------------|--------------------|------------|-----------|-----------|--------------------|------------------|------------|------------|---|---|-----------|-----------|-----------|------------------|-----------|------------------|-----------|-----|---|-----------|------------|---|-----------|---|
| Broadband | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mobile | ✓ | ✓ | ✓ + FMS | ✓ | ✓ | ✓ | ✓ | ✓ + FMS | ✓ + FMS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ + FMS | ✓ | ✓ | ✓ |
| TV | ✓ IPTV VoD | ✓ IPTV Cable | | ✓ IPTV | ✓ IPTV | ✓ IPTV Cable | ✓ IPTV VoD | | | | | ✓ IPTV | ✓ IPTV | ✓ IPTV | ✓ IPTV VoD | ✓ IPTV | ✓ IPTV VoD | ✓ IPTV | VoD | | ✓ IPTV | ✓ VOD | | ✓ IPTV | ✓ |
| Double Play | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | | | | | ✓ | | ✓ | ✓ | ✓ | |
| Triple Play | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | | | | ✓ | | | ✓ |
| Quadruple Play | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | | |

Note:
Overview only shows the products that can be combined in the FMC offer, not the entire product portfolio of the operator

Many providers choose the "combination of existing plans", but differ in the type of benefits



Deep benefits: Price discounts, data volume, SIM cards, flat rates and customer service are offered most frequently

| Advantages that the customer receives exclusively for the FMC package | | Germany | | | | Europe | | | | | | | | | | | US | | Asia | | | | | | | |
|---|-------------------|---------|---|---|---|--------|--------|---|---|---|---|---|---|---|---|---|----|---|------|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Monetary | Price discount | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Vouchers | | | | | ✓ | | | ✓ | | | | | | | | | | | | | | ✓ | | | |
| Telco services | Data volume | ✓ | ✓ | | | | ✓ | | ✓ | | | | | | | | | | | | | | | | | ✓ |
| | Zero rating | | | | | | | | | | | | | | | | | | | | ✓ | | | | | |
| | SIM cards | | % | | ✓ | | | | ✓ | | | | % | | | | | | | ✓ | ✓ | % | | | | |
| | Voice flatrate | ✓ | ✓ | | ✓ | | | | | | ✓ | | | | | | ✓ | | | | | | | | | |
| | Plan upgrade | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| Value-added services | Customer service | ✓ | ✓ | | | | | | ✓ | | ✓ | | | | | | | | | | ✓ | | | | | |
| | Cloud storage | | | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| | Security software | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | | | |
| | Content | | | | | % | OTT TV | | | | | | | | | | | | | | | | | | | |
| | Hardware | | | | | | | | | | | | ✓ | | | | | | | | | | | | | ✓ |

% = Advantage is not free, but a discount on a product

= Benefit not permanently (e.g. Sky 6 months free of charge)

Status: 15/05/2020






Example of innovative bundle components: A1 bundles FMS routers into FMC bundles as an alternative to DSL



 Double Play



Benefits:

-  Flexible discount of 2 - 10€ / month
-  20% on smart home plans
-  6 months Sky Entertainment & Sport
-  10 GB additional mobile data volume
-  Prioritized access to service desk

Choice between fixed and mobile internet for FMC package

A1 5GigaNet S

↓ 150 Mbit/s ↑ 40 Mbit/s

5Giga Bandbreiten Garantie

5Giganetz auswählen

€ 59,90 /Monat

- € 10,-/Monat für A1 Mobil Kunden

Prüfen & bestellen >

A1 5GigaCube L

↓ 500 Mbit/s ↑ 70 Mbit/s

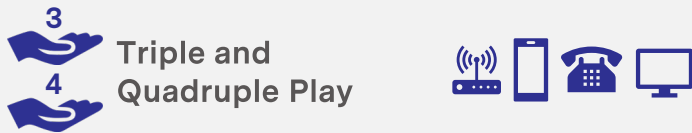
A1 Cube 5G inkludiert zur Netzabdeckungskarte

€ 109,90 /Monat


- € 10,-/Monat für A1 Mobil Kunden


Jetzt bestellen >


Example of clear benefit communication and flexibility: With Ziggo, customers can choose benefits according to its needs




Benefits:

 Price discount of 2.50 – 5€ / month

 Double mobile data

 FSecure Online package

 Choice of one of three OTT TV packages

Ziggo offers a high degree of flexibility in its offer and various benefits, which are presented transparently. The OTT TV package can be chosen individually



Example for target group specific offer with many individualization options: Proximus updated its offer in July 2020 (Status: 15/07/2020)



Flex / Epic Combo



Double -
Quadruple Play



Benefits:

- Flexible price discount (depending on configuration, „Multi-mobile advantage“)
- 59€ discount on installation fee
- 0,99 € / month discount on one TV pack
- Fixnet flat to fixnet and 1000 minutes to mobile network in BL (for Flex)
- App “My Family App” (for Flex)
- Access to news portal „My e-Press“ (for Flex) or gaming platform „Shadow“ (for Epic Combo)

Proximus offers various FMC packages with individual customization options, guides customers through the offer selection process and provides targeted offers to families and young people

Flex

Configure your pack according to your needs

Your mobile experience

Your 1st mobile subscription Remove from the cart

Always included:
Unlimited calls and SMSes in Belgium and Europe

Choose your mobile data:

| | |
|---------------|----------------|
| 5 GB or 15 GB | Unlimited data |
|---------------|----------------|

Unlimited Light Included

Unlimited data
Surf 20 GB at full speed in Belgium + EU. Surf out of bundle at no extra cost with reduced speed.

Unlimited + €6

Unlimited data
Surf 40 GB at full speed in Belgium + EU. Surf out of bundle at no extra cost with reduced speed.

Unlimited Premium 5G + €17

Unlimited data
Surf without limits in Belgium + 50 GB at full speed in EU.

[More info about data and surfing speed](#)

Multi-mobile advantage

Add an extra mobile subscription as from €9/month

Your TV & Entertainment experience

- Always included in your Pickx experience:
- 1 decoder
 - More than 80 TV channels
 - Access to the Proximus Pickx app on all your devices
 - 5 GB of extra data for using the Pickx app
 - [My e-Press](#): Unlimited access to Le Soir+ or Het Laatste Nieuws Digitaal

Upgrade your Pickx experience

Choose your TV option(s):

Flex advantage €0.99 discount applied on your first TV option added to your pack (not compatible for Be-TV)

| | |
|--|--|
| <input checked="" type="radio"/> Family The top thematic channels and children's favorite heroes! To share as a family! More info €10.99/month | <input type="radio"/> Movies & Series Unlimited access to an "on demand" catalog of recent, classic or award-winning movies and Belgian and international series. More info €10.99/month |
| <input type="radio"/> All Sports Access to the best national and international competitions. More info €16.99/month | <input type="radio"/> All Stars Combination of Netflix + Movies & Series + Family. More info €20.00 €24.99/month |

[See other TV options](#) Show more

Your home experience (Internet and Landline)

- Always included:
- Surf unlimited at home up to 100 Mbps (download) and 20 Mbps (upload)
 - [Smart Wifi](#): always a stable and fast connection, even if you go to another room
 - 10 GB storage space in your personal Proximus Cloud

Upgrade your home experience (€ 11 /month) Yes

- Landline: unlimited calls to landlines + 1000 minutes/month to mobiles in Belgium 24/7
- Wifi Booster: amplify your wifi signal indoors, ideal for when you have a slightly larger house
- An app for the family:
 Family Life Premium
Fun and collaborative, an app that simplifies your daily life

Add free international calls (+ € 2.80/month)



Example for target group specific offer with many individualization options: Proximus (Status: 15/05/2020)



Tuttimus / Minimus / Epic Combo



Double -
Triple -
Quadruple Play



Benefits:



Flexible price discount from 1 – 40€ / month, depending on configuration



59€ discount on installation fee



Additional data volume compared to normal mobile price plans



Free landline voice in the evening and on weekends



Access to the news portal "My e-Press" or Gaming platform

Proximus offers various FMC packages with individual customization options, guides customers through the offer selection process and provides targeted offers to families and young people

Our packs

Select what you need, we will suggest the packs that best meet your expectations.

- Internet (Included in pack)
- Television
- Mobile
- Fixed line

I don't know what I need...
Help me choose

Go

Great! Who will use your pack?

- More than one adult
- Just me
- One or more adults and children

Previous Next

Almost done! How many mobiles do you and your family need?

Mobile subscription(s)

Previous Next

What would you like to do?

Select at least two options, this way we can propose the best pack for you.

- Make calls
- Watch TV
- Surf the Internet

Previous Next

Example of a simple offer structure: Vodafone Spain offers five FMC bundles



Vodafone One



Triple and
Quadruple Play



Benefits:



0.50 / 3 / 7 / 16 €/month



50% discount for additional SIM cards

FMC offering on the homepage of the website, simple set of bundles

The screenshot shows the Vodafone Spain homepage with a navigation bar and a grid of three FMC bundles. Each bundle includes a 50% discount for 3 months. The bundles are:

| Bundle Name | Mobile Data & Calls | Fiber Speed | Price (€/month) |
|------------------------------|---------------------|--------------------|--------------------|
| Vodafone One ilimitada | ilimitadas con 5G | 100Mbps simétricos | 31,99€ (IVA incl.) |
| Vodafone One ilimitada Súper | ilimitadas con 5G | 600Mbps simétricos | 41,99€ (IVA incl.) |
| Vodafone One ilimitada Total | ilimitadas con 5G | 1Gbps simétricos | 54,99€ (IVA incl.) |

Additional details for all bundles: 2Mbps de velocidad de descarga, Dto. durante 3 meses. Permanencia 12 meses, Pack Seriefans Gratis con HBO incluido, + línea Mini Gratis durante 12 meses.

Conclusion: Operators differentiate via FMC benefits, increasingly also via a higher degree of flexibility

Key findings from chapter

2



Quadruple Play is no longer a differentiator

The majority of the analyzed telcos today can offer quadruple play. The fourth element is often TV, but can also be smart home, gaming or others



Telcos differentiate through monetary and non-monetary advantages

Customers receive exclusive benefits for booking a FMC offer such as discounts, voice flat rates, extra data volume, exclusive customer service or currently increasingly OTT / VoD content. Some providers are targeting families and households with additional SIM cards



Flexible offers are on the rise

Many operators allow the combination of existing price plans, but innovative providers increasingly allow their customers to combine their FMC bundle components freely



First operators with FMC based on FMS

First providers offer FMC offers with FMS and are obviously willing to accept cannibalization of their traditional fixed broadband offers

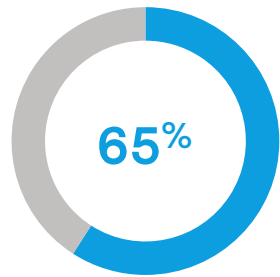


3

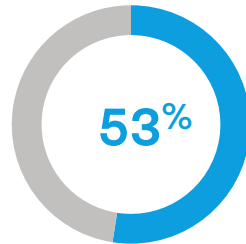
What's in it for the customer?

When deciding for a FMC offer, costs are the most important factor - additional benefits are also significant

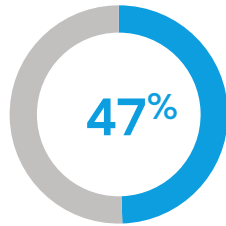
Reasons for decision for a FMC offer



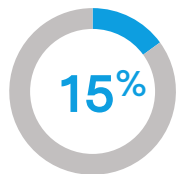
Price savings ¹⁴



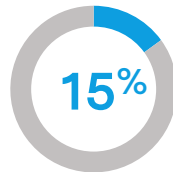
Additional services, e.g. extra data volume or free TV ¹⁴



Increased flexibility in the selection of components, e.g. optional landline telephony ¹⁴



One invoice with one supplier ¹¹

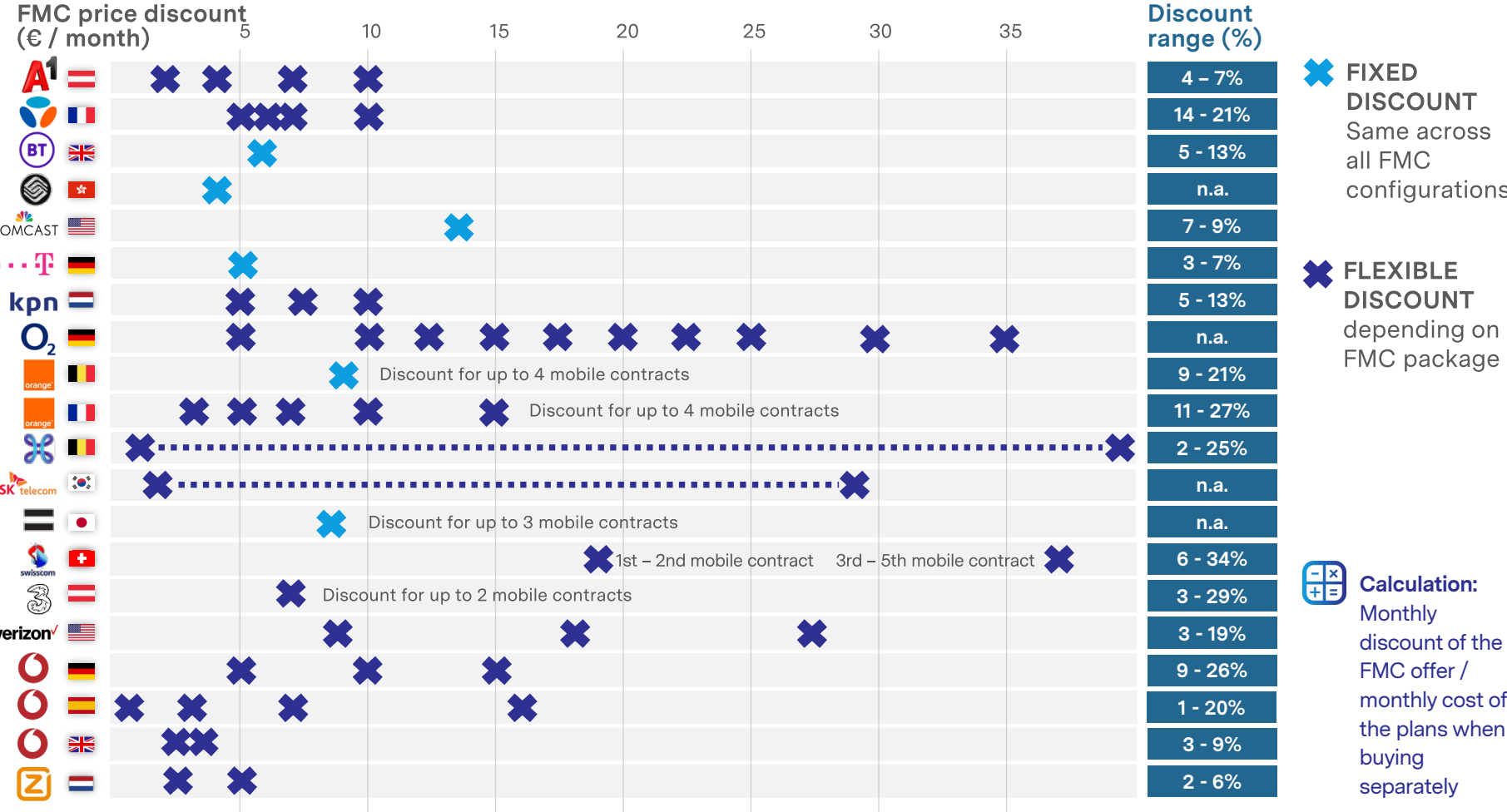


Quality of Service ¹¹

- **Price savings** are an important factor for 2/3 of consumers during the decision-making process
- For more than half of consumers, value-enhancing **telecommunications services**, e.g. zero rating ¹⁴, and **additional services**, e.g. free TV ¹⁴, are also relevant
- Media content is gaining in relevance due to the popularity of **over-the-top streaming** ¹³
- **Flexibility** of the FMC package plays a role for half of the consumers ¹⁴
- **Intrinsic advantages**, e.g. a better overview of all telecommunications contracts, are only relevant for a few consumers ¹¹

¹¹⁾ Berenberg – Convergence to remain key in 2016 (2015) ¹²⁾ BCG – Fixed-Mobile Bundles: Here to Stay (2015) ¹³⁾ Statista (2019) ¹⁴⁾ Telecompaper (2020)

Most providers offer discounts for FMC products, ranging from 1 to 34%, mostly depending on the selected package



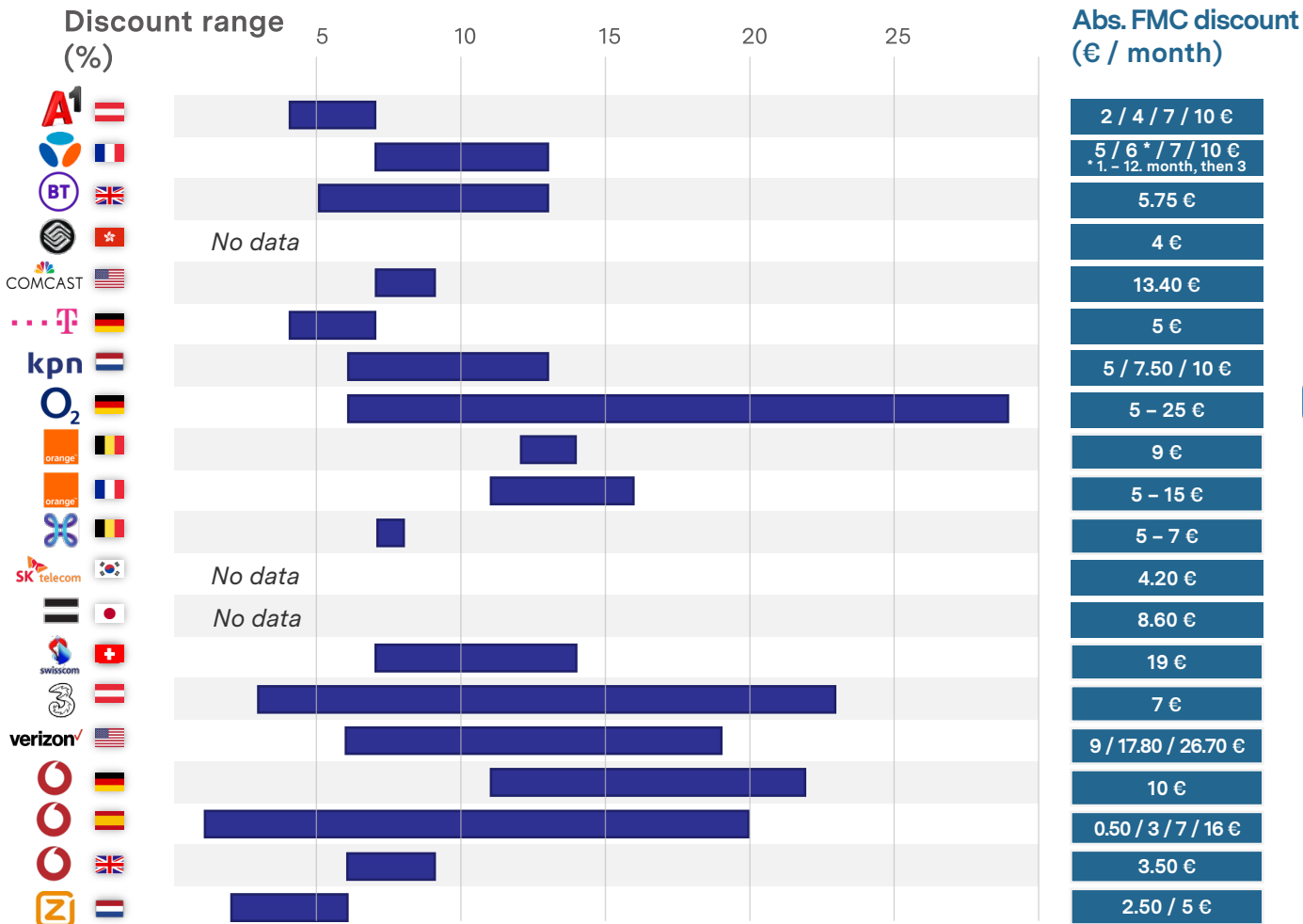
- 22 of the 25 FMC offers include a price rebate
- **Absolute discounts** are fixed or flexible
- **Flexible price discounts** depending on:
 - Number of mobile plans included
 - Value of the individual plans
 - Number/type of bundled products (Double - Quad Play)
 - Basic product
- **Percentage discounts** differ in their amount and range (1 - 34%)
- Example: Deutsche Telekom always gives 5€ discount for MagentaEINS customers, which is 3 - 7% savings in comparison to buying products separately, depending on the price plans

Calculation:
 Monthly discount of the FMC offer / monthly cost of the plans when buying separately

Amount of the FMC price rebate for M and ☺ not quantifiable due to lack of price transparency of individual products

Source: websites of the companies
 Status: 15/05/2020

Discount on the FMC product usually <=10€ and depending on price plans - Scenario: broadband + one mobile contract



Calculation:

Monthly discount of the FMC offer / monthly cost of the plans when buying separately

Discount margin: comparison of a "minimum" bundle (cheapest qualified plan option) and a "maximum" bundle (most expensive plan option)

Duration: 24 months, bundling of one mobile contract and broadband; landline voice is sometimes included in broadband

Scenario

1 broadband + 1 mobile contract

- Absolute discount on the FMC product usually <=10€
- **Percentage price discount** often dependent on the value of the individual plans
 - With constant discounts, the choice of more expensive individual price plan leads to a lower percentage FMC discount
 - Constant discounts are easy to understand, but **not an incentive** to choose more expensive price plans
 - Consideration required: level of discount and ARPU erosion
- Companies with moderate discount levels also have **moderate discount margins** (range between minimum and maximum discount in %)
- Discount level is an **important factor** for the customer, but other advantages of the FMC packages are also of value

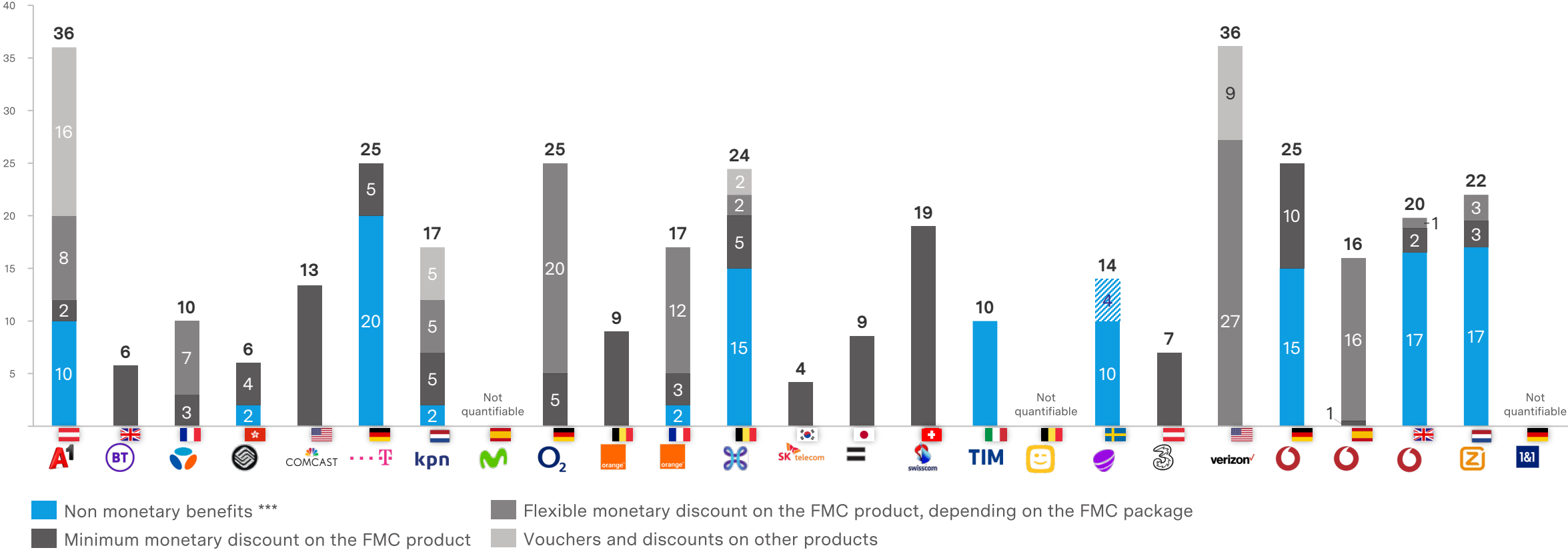
Source: websites of companies
Status: 15/05/2020

* Channel-specific benefits, e.g. online benefits, short-term promotions and set up fees are not included, standard 6- or 12-month promotions are included

Approximately 50% of the operators offer non-monetary benefits to their convergent customers

Scenario
1 broadband +
1 mobile contract

Value of all quantifiable benefits (€) / month

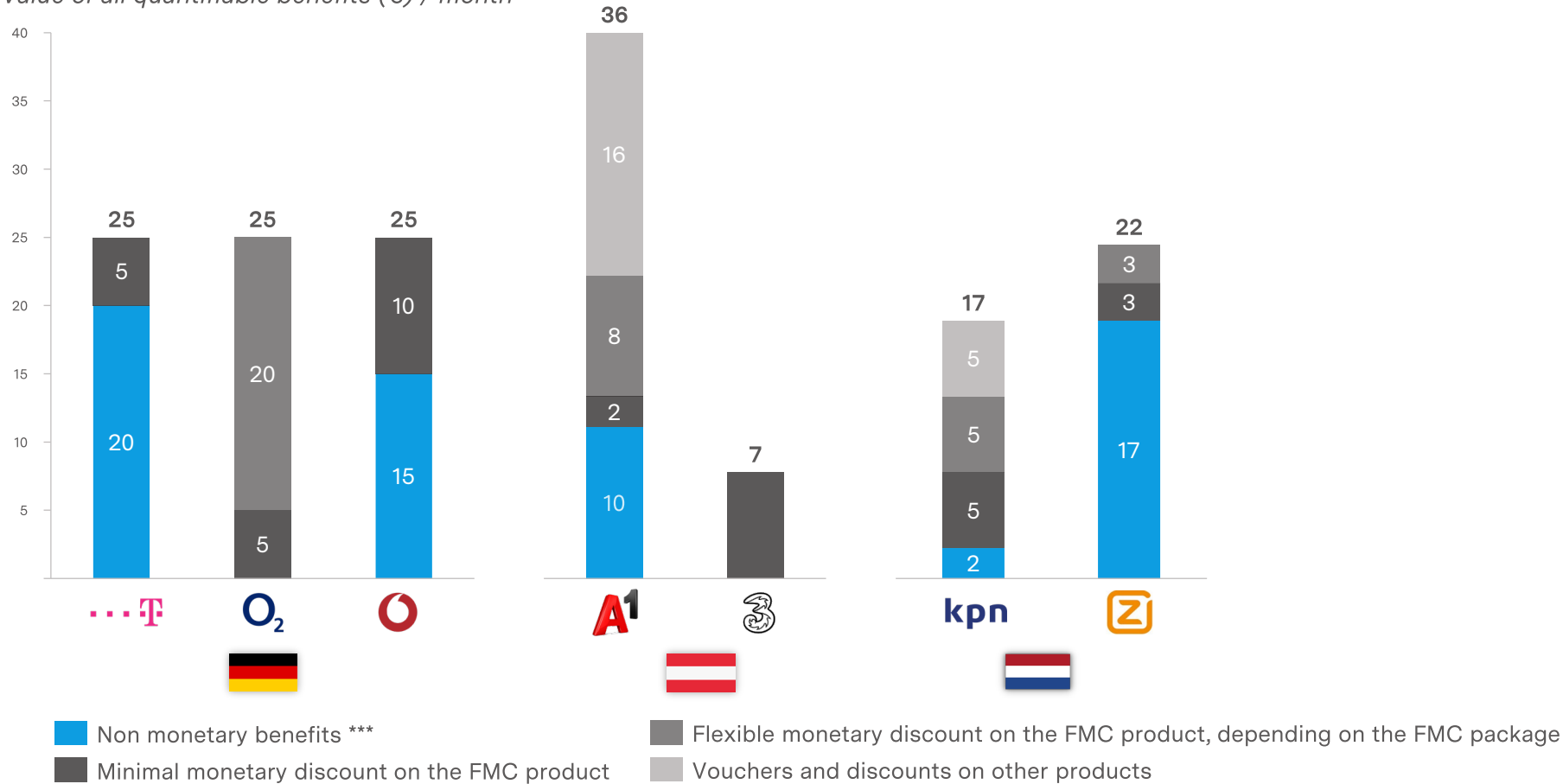


*** **Calculation:** sum of all quantifiable non-monetary benefits, calculated for minimum term of the benefit or 24 months contract term of the FMC offer; non-monetary benefits not always quantifiable in monetary terms. Scenario: broadband + one mobile contract

Status: 15/05/2020

Non-monetary benefits increase the value of an FMC offer but have no negative impact on ARPU

Value of all quantifiable benefits (€) / month



*** **Calculation:** sum of all quantifiable non-monetary benefits, calculated for minimum term of the benefit or 24 months contract term of the FMC offer; non-monetary benefits not always quantifiable in monetary terms. Scenario: broadband + one mobile contract

Scenario

**1 broadband +
1 mobile contract**

Non-monetary benefits increase the overall value of an FMC offer

- Sum of all advantages at Deutsche Telekom and Vodafone equal
- Evaluation of all advantages makes A1 significantly better than Three
- Considering all benefits Ziggo outperforms KPN

Non-monetary benefits do not reduce ARPU - unlike monetary benefits

- Deutsche Telekom has less ARPU erosion than Vodafone or o2 (with a discount > 5€) due to a lower monetary discount
- KPN with its higher discounts is more willing to accept negative impact on ARPU than Ziggo

ARPU: Average revenue per user
Status: 15/05/2020

Example of discount logic driving upselling: Verizon gives higher discounts for combining more expensive plans



verizon ✓ Mobile + Home



Double -
Triple Play
Quadruple Play



Benefits:



Discount of 10 - 20 USD/month for existing customers, 20 - 30 USD/month for new customers (9.20 - 27€)



„Save 10 USD / month for your next device“

More for more: Combination of different mobile and broadband tariffs with progressive discount (Level 1 -3) depending on the value of the individual plans. Additional discount for new customers who book both products together

All the ways to save.



Level 1

I just need the basics.

You'll get rewarded when you combine a Verizon mobile and Fios Home Internet plan.

\$10/mo

toward your next phone or tablet ①

Level 2

I want more of the best.

You'll get even more when you combine Unlimited with a Fios Home Internet plan, or Fios Gigabit Connection with a Verizon mobile plan.

\$10/mo

toward your next phone or tablet ①

\$10/mo

in bill savings ①
\$5/mo off Fios + \$5/mo off Wireless

Level 3

Yup, I want it all.

You'll get the most rewards when you combine Unlimited and Fios Gigabit Connection together.

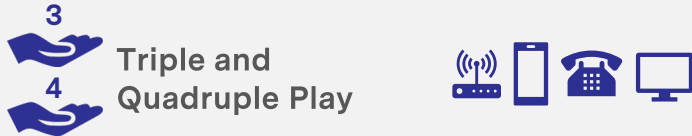
\$10/mo

toward your next phone or tablet ①

\$20/mo

in bill savings ①
\$10/mo off Fios + \$10/mo off wireless

Example for non-monetary benefits: Deutsche Telekom non-monetary benefits worth more than the discount



Vorteile:

- Constant discount of 5€ / month
- Double mobile data volume, also for Family Cards
- Free flat rate from fixed network to all mobile networks
- Preferred service at the helpdesk and the supply of new hardware

At Deutsche Telekom, customers can combine mobile and broadband rates and receive a monetary discount and other benefits whose value is transparently shown

| Meine Mobilfunk Übersicht | | | |
|--|--------------|---|----------------|
| €/ einmalig | € | €/ monatlich | € |
| Folgende Kosten fallen einmalig an: | | Folgende Kosten fallen monatlich zzgl. zu Ihren bereits bestehenden Verträgen an: | |
| Bereitstellungspreis | 39,95 | MagentaMobil M | 49,95 |
| Versandkosten | 0,00 | Festnetz zu Mobil Flat Bei MagentaEINS inklusive | 0,00 |
| | | Zusätzliche MagentaEINS Vorteile: | |
| | | Preisvorteil Wird von Ihrer Mobilfunk-Rechnung abgezogen doppeltes Datenvolumen | -5,00 |
| | 39,95 | | 44,95 |
| Ihr monatlicher MagentaEINS Preisvorteil gegenüber dem Einzelkauf bestehend aus Doppeltem Datenvolumen, Festnetz zu Mobil Flat (19,95 €) und 5 € Preisvorteil beträgt monatlich: | | | 24,95 € |



Conclusion: Price discounts are popular FMC advantages, but more economic and smarter offering designs are possible

Key findings from chapter

3



Monetary benefits under 10€, non-monetary benefits up to 20€

The monetary FMC discount ranges between 1% and 34% depending on the FMC package, but usually remains below 10€ / month for the combination of broadband and a mobile contract. Non-monetary benefits have a value of up to 20€ / month



Higher-value advantages for higher-value tariffs possible

Constant price discounts are easy to understand but offer little incentive to upgrade to higher value plans. So far, few vendors have taken the approach of encouraging the purchase of higher value products through progressive benefits



Other advantages increase the overall value of the offer, but not at the expense of the ARPU

Non-monetary benefits increase the value of the FMC offer for the customer. For the provider, non-monetary benefits are economically better than monetary benefits, as they do not reduce the invoice amount



4

How successful are those FMC offers?

Market success of an FMC offer is evaluated based on FMC penetration

FMC penetration

- Percentage of convergent customers in the total customer base
- The base is usually broadband customers, as broadband is the dominant customer group for most telcos *

$$\text{FMC penetration rate} = \frac{\text{Number of convergent customers}}{\text{Number of broadband or mobile customers}^*}$$

- Penetration speed describes how quickly FMC penetration was achieved

$$\text{Penetration speed of the FMC offer} = \frac{\text{Penetration rate in \%}}{\text{Months since launch of the offer}}$$

FMC penetration rates are not available for the following companies:



* FMC penetration rate is reported differently depending on the operator, usually in relation to the dominant customer group

Source: Published annual reports and financial publications of companies

European providers stand out from the rest of the world with innovative benefits and high FMC penetration

Germany

- FMC market in the growth phase
- Deutsche Telekom:
 - 4.7 million convergent customers (Q1 2020), +0.4 million convergent customers in 2019
 - 34% FMC penetration
- Vodafone DE
 - 1.5 million convergent customers (Q1 2019), +0.8 million convergent customers in 2018
 - 13% FMC penetration

Europe (outside Germany)

- FMC market in the maturity phase, telcos increasingly offer innovative value-added services as benefits
- Higher penetration compared to GER, especially Spanish consumers are open to FMC

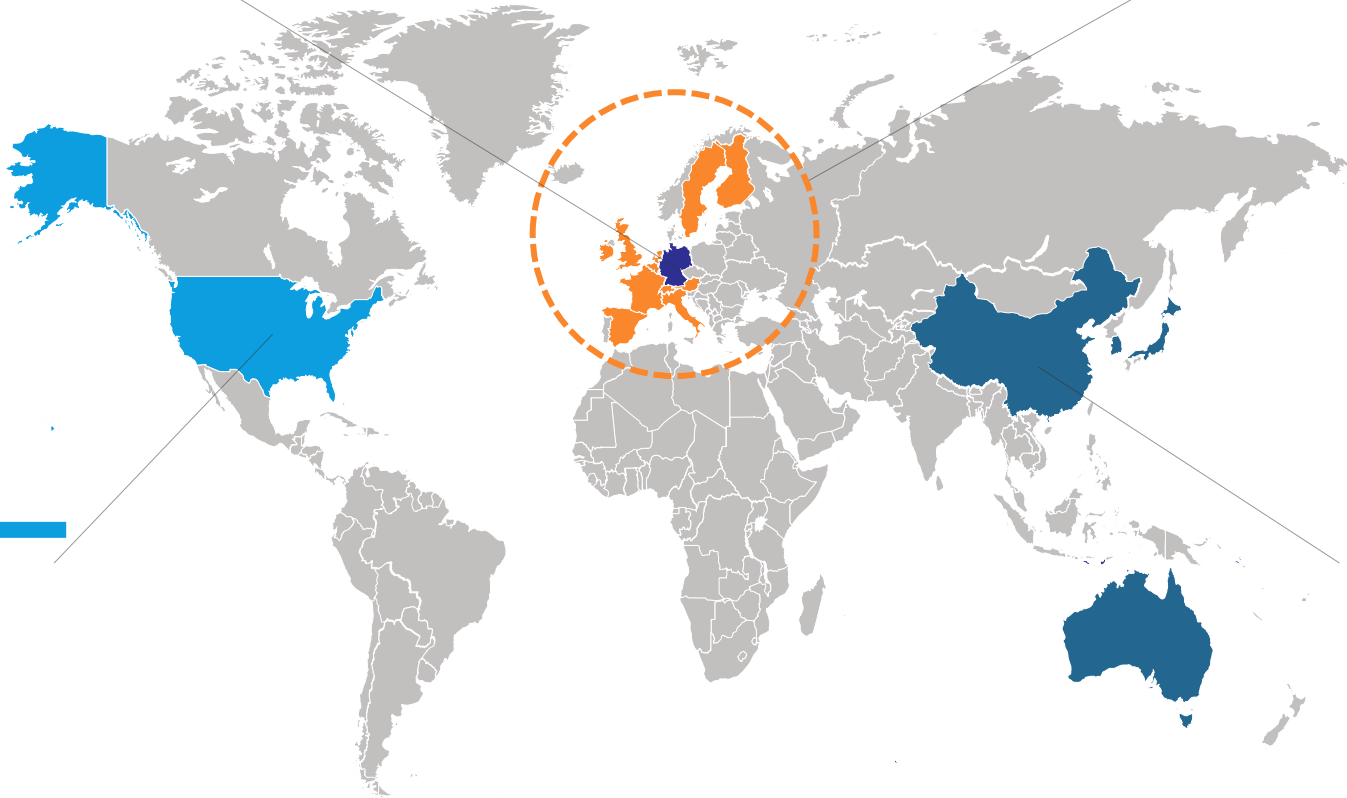
| | | |
|----------|---|-----|
| Vodafone |  | 92% |
| Movistar |  | 89% |
| Proximus |  | 60% |
| Vodafone |  | 55% |

US

- First Quadruple Play offering in 2009 (Verizon)
- Today, telcos mainly offer monetary FMC benefits, while Verizon has an interesting , upsell-oriented discount system

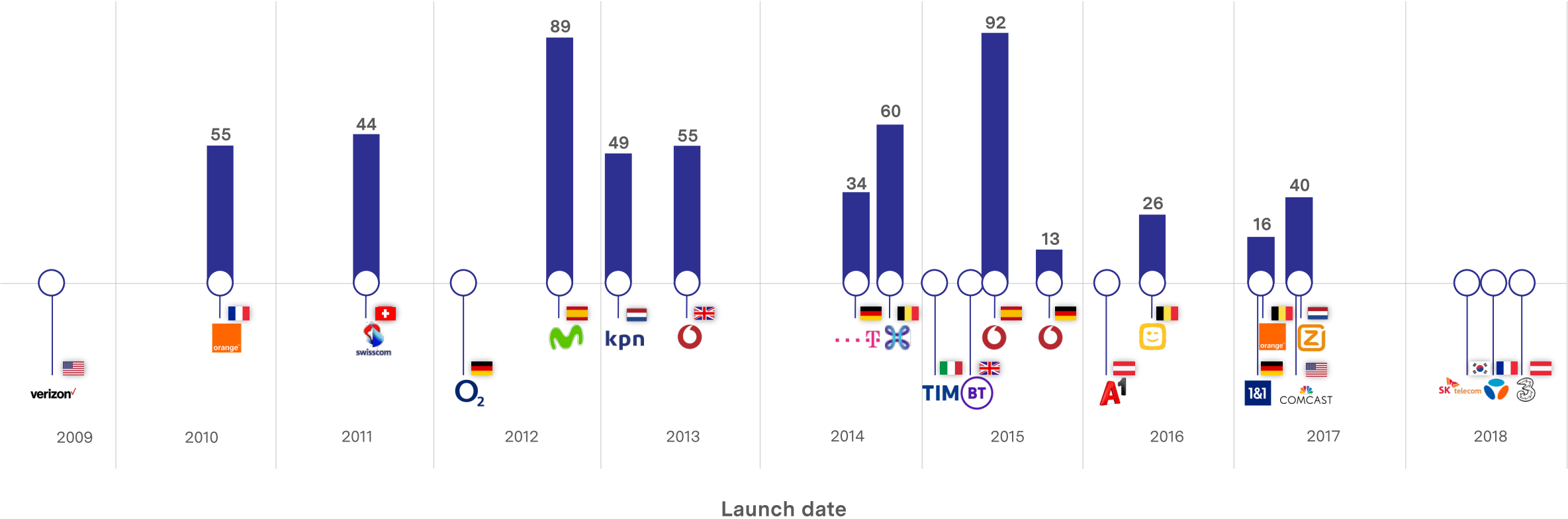
APAC

- 2 of the top 5 telcos in the region (NTT & Telstra) do not yet offer FMC
- The remaining 3 of the top 5 (Softbank, China Mobile & SK Telecom) primarily offer monetary benefits



Many providers have been offering convergent services for years and occasionally renew them with relaunches

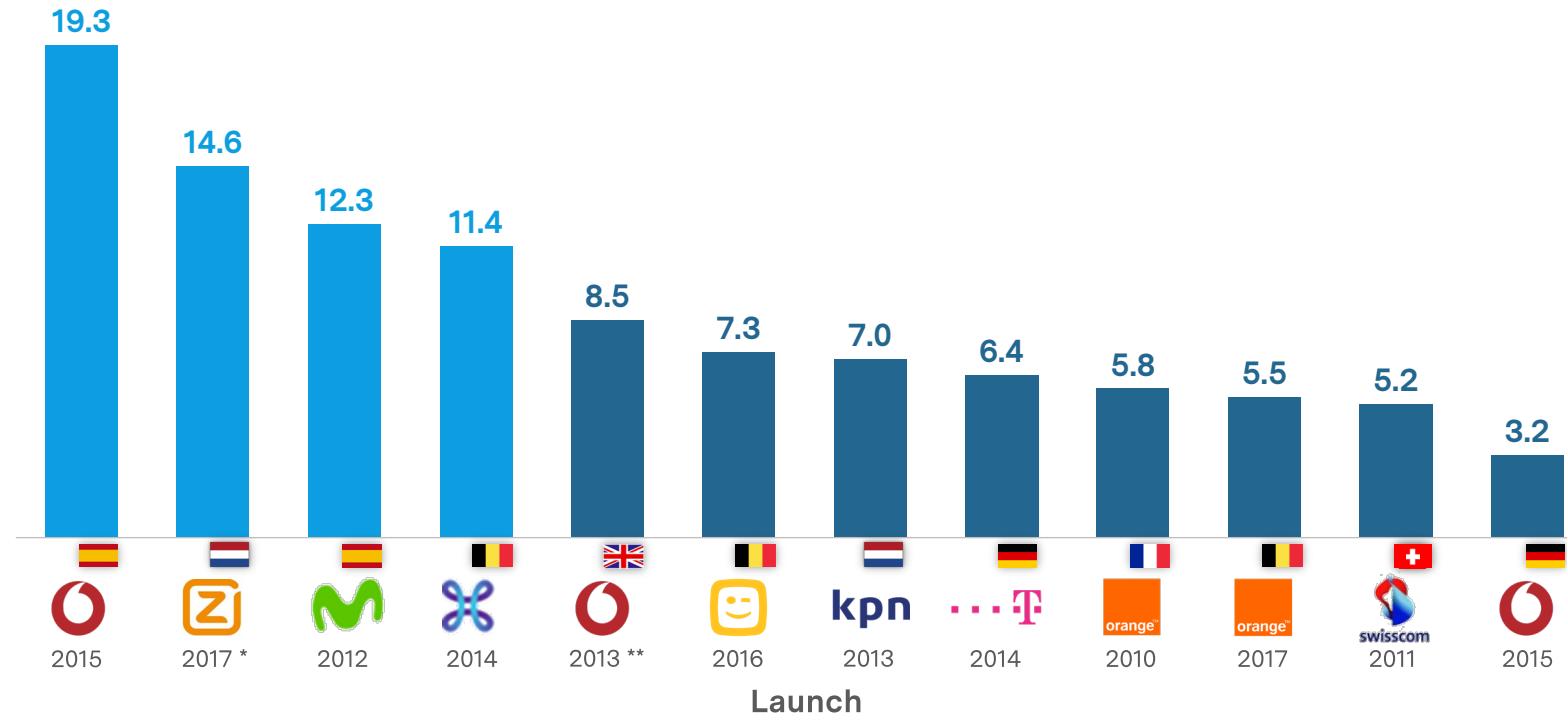
100% FMC penetration rate (status 2018/2019)



Sources: Publicly available information on the first marketed FMC product;
 Vodafone UK: Launch date approximated on the basis of company reports;
 VodafoneZiggo merger in 2016;
 Launch dates not known at Telia, Softbank and China Mobile

Vodafone ES, Ziggo, Movistar and Proximus were able to quickly migrate customers to FMC offers with 11-19% p.a.

Operators with the highest FMC penetration rates (%)



$$\frac{\text{FMC penetration rate (\%)}}{\text{Months since launch of the offer}} \times 12 = \text{Penetration speed per year (\%)}$$

* VodafoneZiggo merger in 2016 ** Vodafone UK: launch date approximated on the basis of company reports

- **Vodafone Spain, Ziggo, Movistar and Proximus** have the highest penetration speeds with 11-19% per year
- Spain is a highly convergent market with a special competitive situation:
 - Vodafone Spain and movistar both offer **fixed FMC bundles**
 - Vodafone Spain offers five easy to understand bundles
 - movistar provides 40 different bundles
- Ziggo and Proximus offer **customizable FMC packages** with **monetary benefits** as well as **telco and value-added services**
- The longer an FMC offer is on the market, the more saturation can be expected

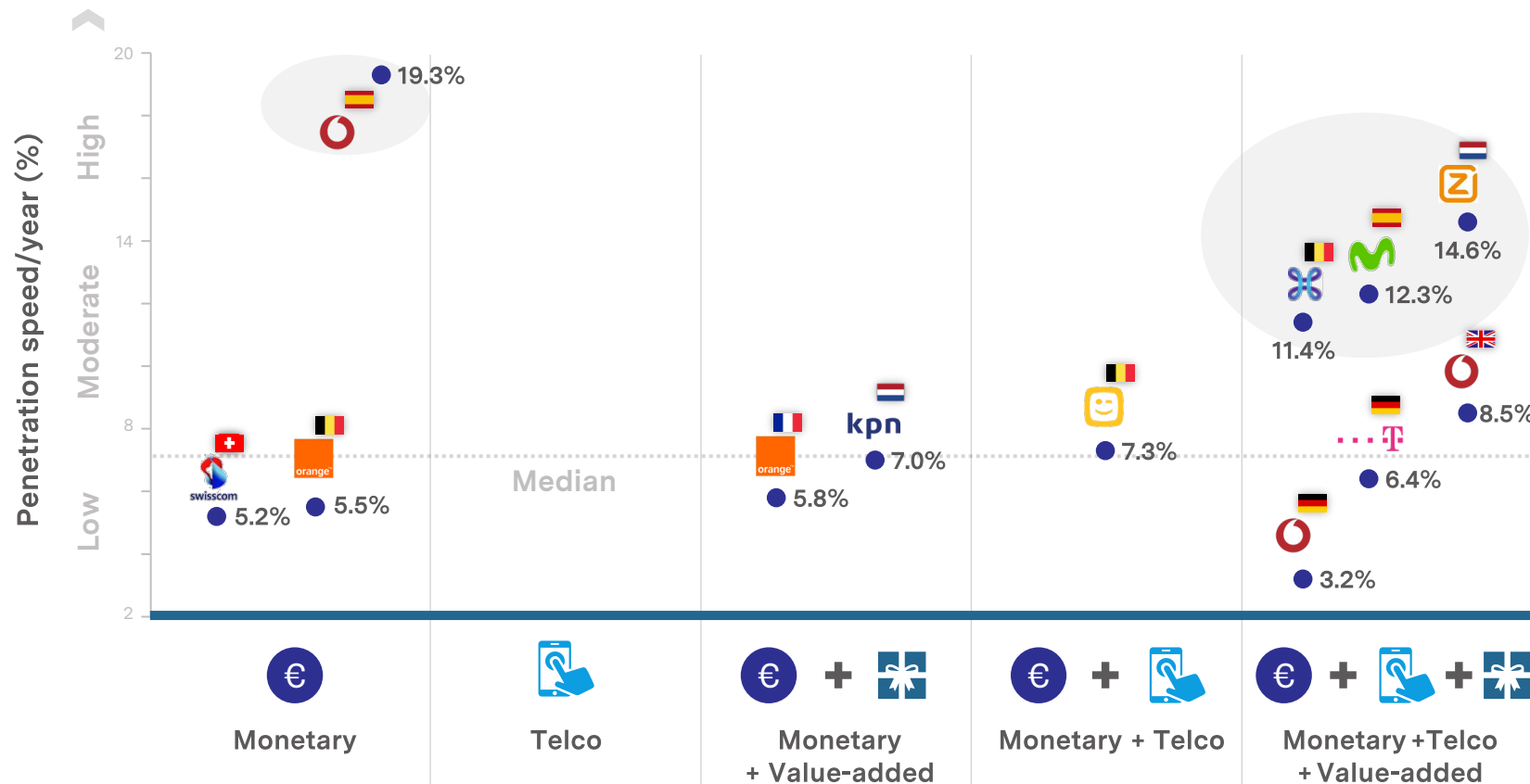
Note:
FMC penetration not available for all operators

Source: Published annual reports and financial publications of companies

The combination of various benefits is usually associated with a higher FMC penetration speed

2

BENEFITS

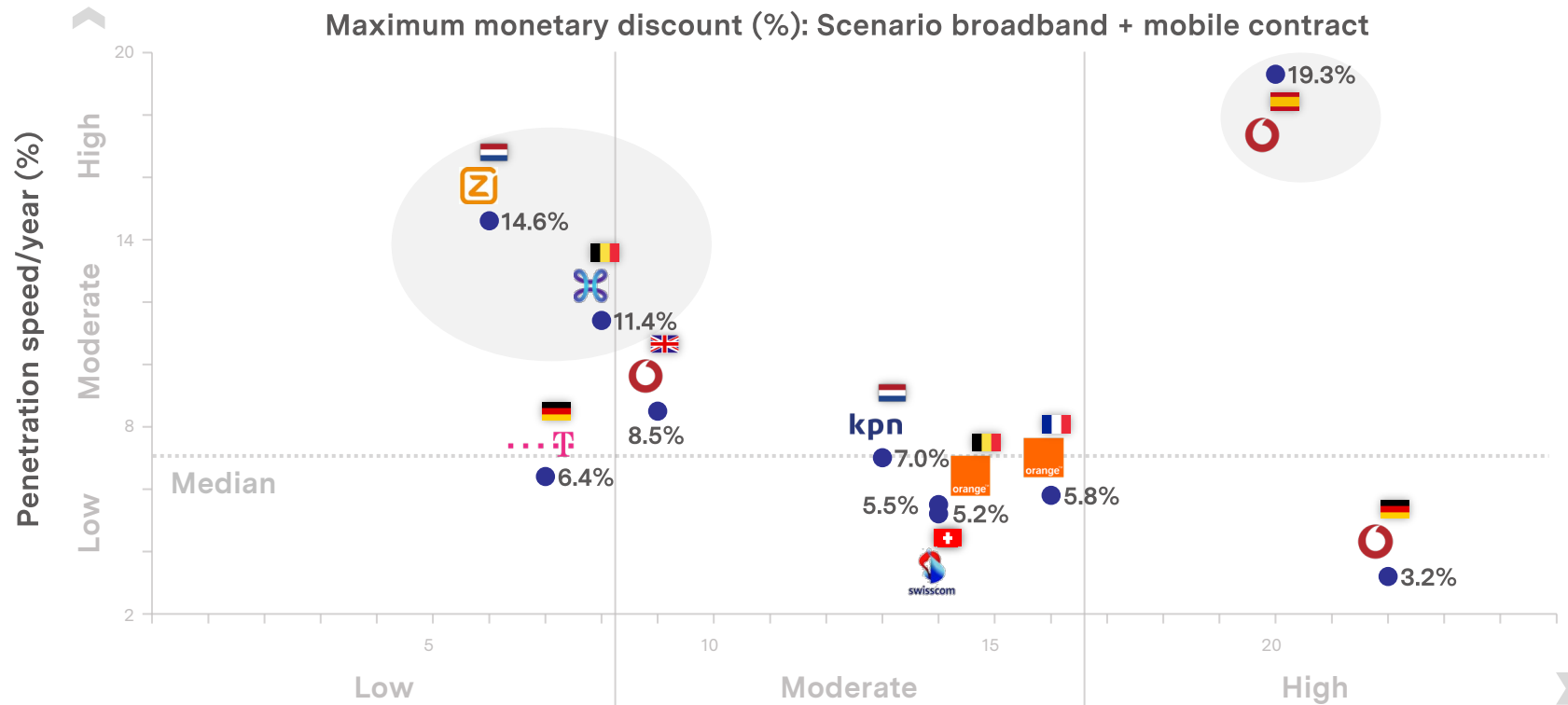


- Higher penetration speed for offers with **various advantages**
- Exception: **Vodafone Spain** only offers **monetary benefits**, but still shows a high penetration rate
- **Ziggo**: Advantages can partly be selected individually

Note:
FMC penetration not available for all operators

Source: Published annual reports and financial publications of companies

High discounts do not always result in greater speed of penetration



Calculation: Max. monetary discount for combination of broadband and a mobile contract

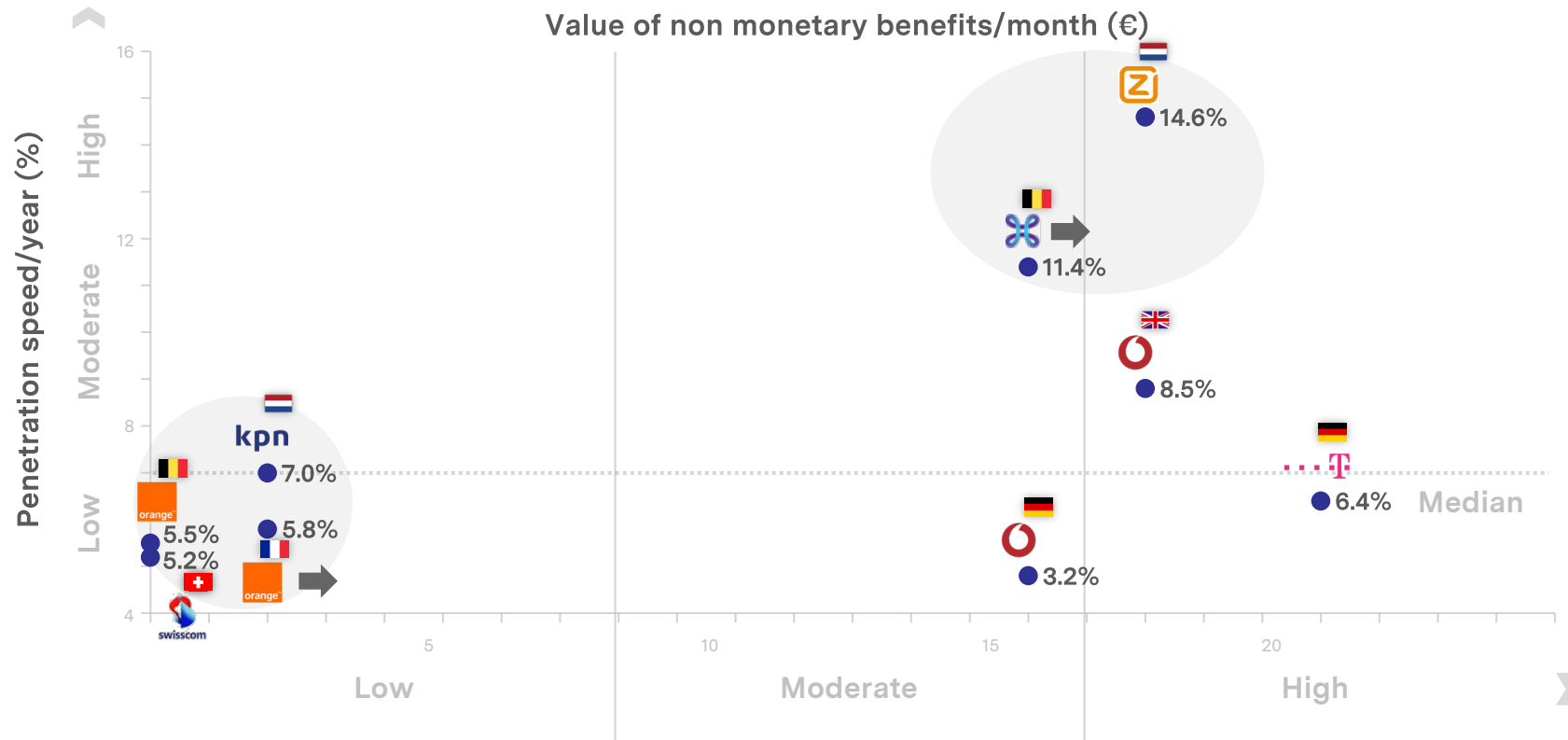
Scenario 1 broadband + 1 mobile contract

- Providers offer **different percentage discount levels** on their FMC offers
- Operators with **low to moderate discounts** show a higher FMC penetration speed than operators with high discounts
- Exception: Vodafone Spain gives a high discount on one bundle

Note:
FMC penetration not available for all operators. Statistical significance of the results was not investigated in this study




Source: Published annual reports and financial publications of companies

Higher value non-monetary benefits tend to lead to faster adoption of FMC offerings in the customer base



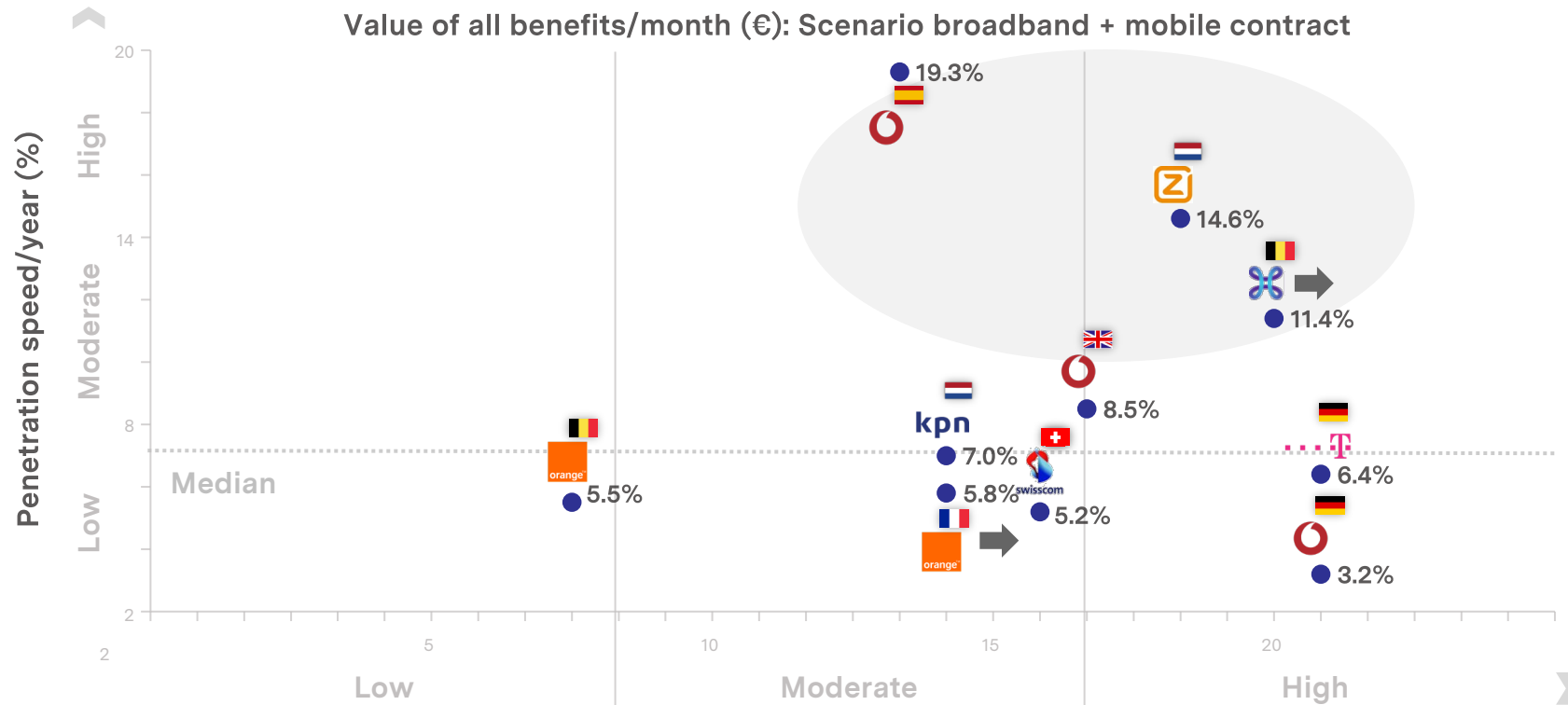
- Providers with additional **non-monetary benefits** sometimes show higher penetration rates
- Swisscom and Orange BE without non-monetary benefits show a slow FMC penetration speed in their customer base
- Value of the non-monetary benefits is usually **between 10 and 20€** per month
- **Value** of these advantages for the customer is **rarely communicated transparently**, high level of transparency at Ziggo or Deutsche Telekom

Notes:

- FMC penetration not available for all operators
- Non-monetary advantages of  and  and not assessable
-  Tendency to higher value, because not all advantages can be expressed in €
- Statistical significance of the results was not investigated in this study

Source: Published annual reports and financial publications of companies

In the reference scenario, monetary and non-monetary benefits per month tend to be worth between 15€ and 25€



Calculation: Max. monetary discount for combination of broadband and a mobile contract + all quantifiable non-monetary benefits




Scenario

**1 broadband +
1 mobile contract**

- Sum of the monetary value of all benefits is usually **between 15 and 25€** per month

- Not only the value of the benefits offered is relevant for the success of a FMC offer

Notes:

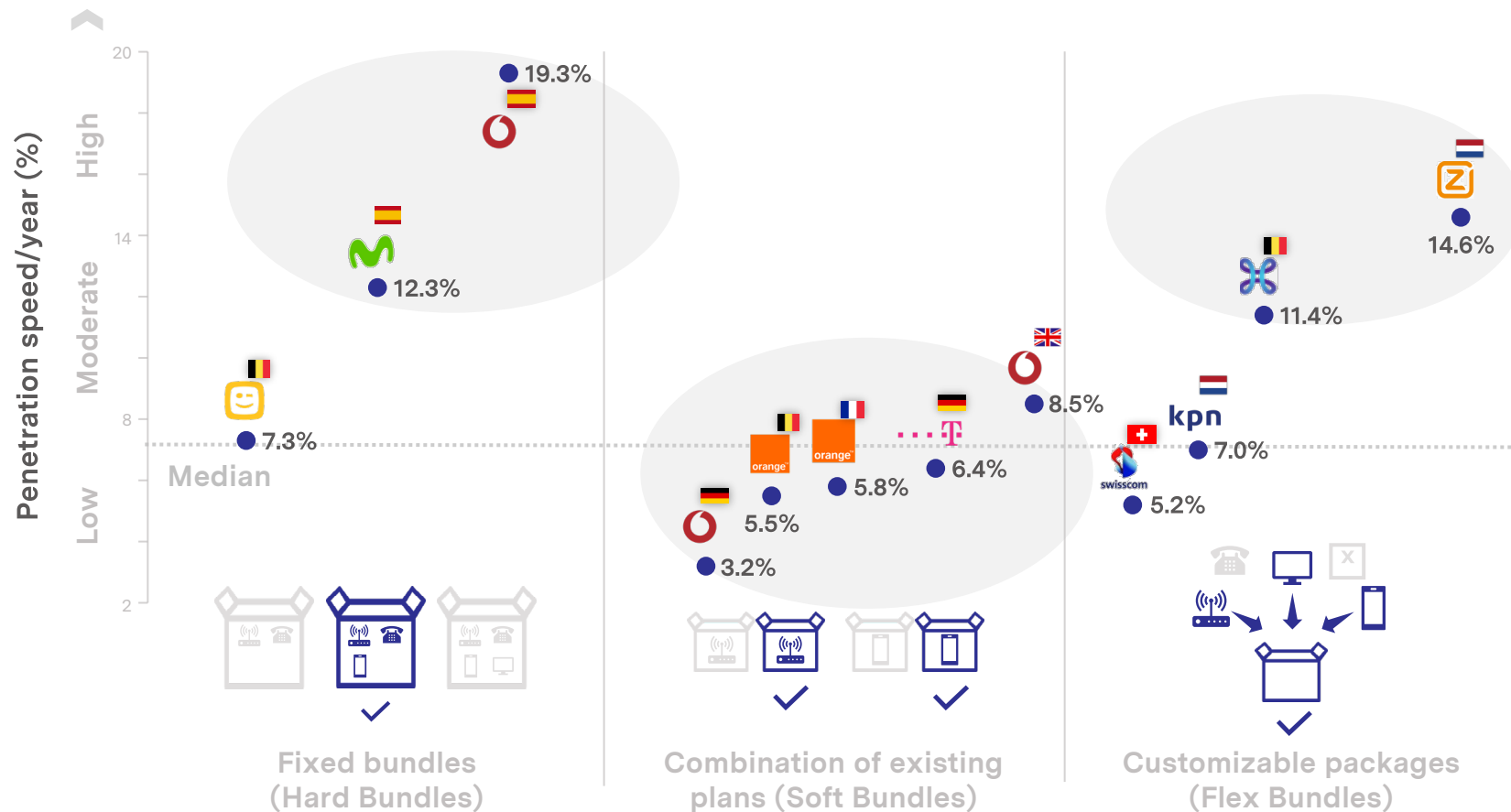
- FMC penetration not available for all operators
- Non-monetary advantages of  and  not assessable
-  : Tendency to higher value, because not all advantages can be valued in €
- Statistical significance of the results was not investigated in this study

Source: Published annual reports and financial publications of companies

Fixed bundles or packages with a higher degree of freedom have higher penetration speeds

3

 Flexibility



- Higher FMC penetration with **customizable packages** than with a combination of existing tariffs
- With Ziggo, Proximus, KPN and Swisscom, **FMC components** can be **selected individually**, e.g. TV is optional
- With Ziggo, some of the **benefits** can also be **selected individually**
- **Fixed bundles** also show rapid spread
 - Movistar offers 40 bundles to choose from, thus enabling a comprehensive offer range
 - Vodafone Spain has a very easy to understand offer with five fixed bundles

Notes:

- Swisscom basically has flexible tariffs that can be combined
- FMC penetration not available for all operators
- Statistical significance of the results was not investigated in this study

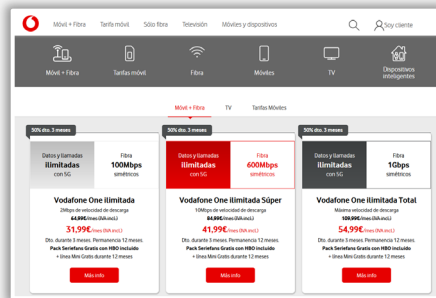
Source: Published annual reports and financial publications of companies

Providers with higher penetration rates are also more aggressive in marketing



Visibility of the offer

- **Easy access** to the offer for the customer
- Placement of the FMC offer on the **start page** or in the **main menu**
- **Minimal number of clicks** until offer is displayed
- Only **8%*** of the offers are placed directly on the homepage
- **24%*** can be found with 1 click
- **64%*** with 2 clicks

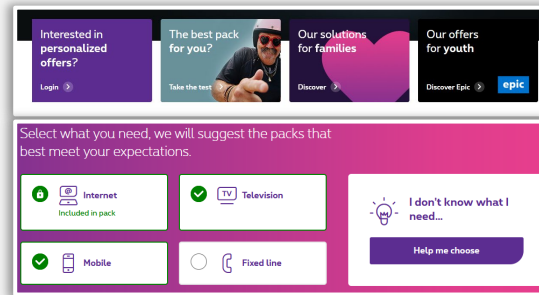


Offer directly visible on the start page



Customer centricity

- **Targeted offerings** for key customer groups and their needs
- Customer segments directly targeted are mainly **families** or households
- Simplification and support during the **selection process** of best-fitting FMC products



Tool to recommend the suitable FMC product for families, young people, etc.



Transparency of benefits & value

- **Clear presentation** of customer benefits for the convergent offer, even before entering the configuration or purchase process
- Explanation of **more complicated benefit systems** consisting of various benefits in a comprehensible way
- **Value of non-monetary** benefits is not always clearly communicated by companies



Recurring transparent presentation of the benefits granted



*Evaluation of the websites of 25 FMC offers

Conclusion: Simple pre-defined or fully-customizable FMC packages with moderate monetary plus non-monetary benefits have highest penetration rates

Key findings from chapter

4



Vodafone Spain, Ziggo and movistar with fastest FMC distribution

All three providers have converted over 40% of their customer base to FMC in a short period of time. Vodafone Spain leads with a penetration rate of 92%



High monetary advantages do not necessarily lead to high FMC penetration

The highest FMC penetration rates are achieved by providers with rather moderate price discounts (exception: Vodafone Spain). The value of the non-monetary benefits is also relevant, but is not always communicated transparently



Customizable or simple but comprehensive packages are more successful

Providers that give their customers more flexibility in designing the FMC bundle show a higher FMC penetration rate than providers that only incentivize the combination of existing tariffs. Ready-made bundles, on the other hand, are easy to understand and can also be successful



Besides the design of the offer, customer-centric marketing counts

Providers with the highest penetration rates place their FMC offer on the homepage, address the needs of key customer groups and show the benefits for the customer transparently

List of sources (1/4)

Theoretical background

- 1) Orange Regulatory Department: Mobile only is dead, long live convergence (2017)
- 2) Statista: Durchschnittliches Datenvolumen im Monat pro Mobilfunkanschluss in Deutschland von 2009 bis 2019 (2020)
- 3) Statista: Umfrage in Deutschland zur Art des Internetzugangs zuhause 2019, Umfrage in Österreich zur Art des Internetzugangs zuhause 2019, Umfrage in Spanien zur Art des Internetzugangs zuhause 2019, Umfrage in den USA zur Art des Internetzugangs zuhause 2019 (2019)
- 4) Deloitte Insights: Connectivity and Mobile Trends Survey (2019)
- 5) Globalwebindex: 27% of Digital Consumers in MEA are Mobile-Only (2017)
- 6) Arthur D. Little: Time to monetize fixed-mobile convergence (2016)
- 7) IEEE – Fixed Mobile Convergence: An integrated Operator Case Study (2007)
- 8) Statista: Monatliche Churn-Rate der Deutschen Telekom in Deutschland bis Q4 2019, Churn-Rate von Vodafone in Deutschland bis Q32019/20202019/2020, Monatliche Churn-Rate von Telefonica Deutschland im Mobilfunk bis Q4 2019 (2020)
- 9) Statista: ARPU der Mobilfunknetzbetreiber in Deutschland bis Q4 2019 (2020)
- 10) Statista: Anzahl der Mobilfunkkunden der Telekom in Deutschland bis 2019 (2020), Mobile phone customers of Vodafone in Germany 2008/09-2018/2019 (2019), Anzahl der Breitbandkunden in Deutschland nach Anbieter bis Q4 2018 (2019)
- 11) Berenberg: Convergence to remain key in 2016 (2015)
- 12) BCG: Fixed-Mobile Bundles: Here to Stay (2015)
- 13) Statista: Anzahl der Nutzer von OTT-Videoangeboten in den USA (2018)
- 14) Telecompaper: Cost savings drive choice for FMC package - survey (2020)

List of sources (2/4)

Company data and FMC offers:

- 15) Deutsche Telekom: <https://www.telekom.de/magenta-eins/vorteile> (aufgerufen Mai 2020)
- 16) Deutsche Telekom: [Annual Report 2019](#) (2020)
- 17) Vodafone: <https://www.vodafone.de/privat/mobiles-internet-dsl/gigakombi-bestellen.html> (aufgerufen Mai 2020)
- 18) Vodafone: [Annual Report 2020](#) (2020)
- 19) O2: <https://www.o2online.de/vorteile/fuer-kunden/kombivorteil/> (aufgerufen Mai 2020)
- 20) Telefonica Deutschland: [Annual Report 2019](#) (2020)
- 21) 1&1: <https://dsl.1und1.de/dsl-tarife> (aufgerufen Mai 2020)
- 22) United Internet: [Annual Report 2019](#) (2020)
- 23) KPN: <https://www.kpn.com/hussel.htm> (aufgerufen Mai 2020)
- 24) KPN: [Annual Report 2019](#) (2020)
- 25) VodafoneZiggo: [Annual Report 2019](#) (2020)
- 26) VodafoneZiggo: <https://www.ziggo.nl/pakketten#internet-online-tv#zonder-bellen> (aufgerufen Mai 2020)
- 27) Swisscom: <https://www.swisscom.ch/de/privatkunden/abos-tarife/inone.html> (aufgerufen Mai 2020)
- 28) Swisscom: [Annual Report 2019](#) (2020)
- 29) A1: <https://www.a1.net/connectplus> (aufgerufen Mai 2020)
- 30) A1: [Annual Report 2018](#) (2019)
- 31) Three: <https://www.drei.at/de/shop/tarife/privat/internet-tarife/tarife-fuer-zuhause/> (aufgerufen Mai 2020)
- 32) CK Hutchinson: [Annual Report 2019](#) (2020)

List of sources (3/4)

- 33) British Telecom: <https://www.bt.com/halo> (aufgerufen Mai 2020)
- 34) British Telecom: [Annual Report 2019](#) (2020)
- 35) Vodafone: <https://www.vodafone.co.uk/broadband-sim-only-deals> (aufgerufen Mai 2020)
- 36) Orange: <https://boutique.orange.fr/internet-mobile/pack-open-fibre> (aufgerufen Mai 2020)
- 37) Orange: [Annual Report 2019](#) (2020)
- 38) Bouygues: <https://www.bouyguestelecom.fr/offres-box-forfait> (aufgerufen Mai 2020)
- 39) Bouygues: [Annual Report 2019](#) (2020)
- 40) Orange: <https://www.orange.be/fr/produits-et-services/internet-tv-mobile/> (aufgerufen Mai 2020)
- 41) Orange: [Financial information Q4/2019](#) (2020)
- 42) Proximus: https://www.proximus.be/en/id_cr_all_packs/personal/packs.html (aufgerufen Mai 2020)
- 43) Proximus: [Annual Report 2019](#) (2020)
- 44) Telenet: <https://www2.telenet.be/nl/producten/wigo/> (aufgerufen Mai 2020)
- 45) Telenet: [Results 2019](#) (2020)
- 46) Movistar: <https://www.movistar.es/particulares/oferta-combinada/fusion> (aufgerufen Mai 2020)
- 47) Telefonica: [Telefónica Financial Report 2019](#) (2020)
- 48) Vodafone: <https://www.vodafone.es/c/particulares/es/productos-y-servicios/vodafone-one/> (aufgerufen Mai 2020)
- 49) Telecom Italia: <https://www.tim.it/tim-unica#/> (aufgerufen Mai 2020)
- 50) Telecom Italia: [Annual Report 2019](#) (2020)
- 51) Telia: <https://www.telia.se/privat/erbjudanden/samla-mer> (aufgerufen Mai 2020)
- 52) Telia: <https://www.telia.se/privat/telefoni/abonnemang-kontantkort> (aufgerufen Mai 2020)

List of sources (4/4)

- 53) Comcast: <https://www.xfinity.com/learn/bundles/triple-play> (aufgerufen Mai 2020)
- 54) Comcast: [Annual Report 2019](#) (2020)
- 55) Verizon: <https://www.verizonwireless.com/support/mobile-home-rewards-faqs/> (aufgerufen Mai 2020)
- 56) Verizon: [Annual Report 2019](#) (2020)
- 57) Softbank: <https://www.softbank.jp/ybb/air/> (aufgerufen Mai 2020)
- 58) Softbank: [Annual Report 2019](#) (2020)
- 59) SK Telecom: http://www.tworld.co.kr/normal.do?serviceId=S_PROD6040&viewId=V_CENT6040, <http://www.tworld.co.kr/poc/eng/html/EN1.8T.html>,
http://www.tworld.co.kr/normal.do?serviceId=S_COMB2638&viewId=V_WIRE7012¶mThmId=T00005 (aufgerufen Mai 2020)
- 60) SK Telecom: [Annual Report 2019](#) (2018)
- 61) China Mobile: https://www.hk.chinamobile.com/tc/corporate_information/Home_Service/mobile_home_2in1_pack/ (aufgerufen Mai 2020)
- 62) China Mobile: [Annual Report 2019](#) (2020)
- 63) YCharts.com

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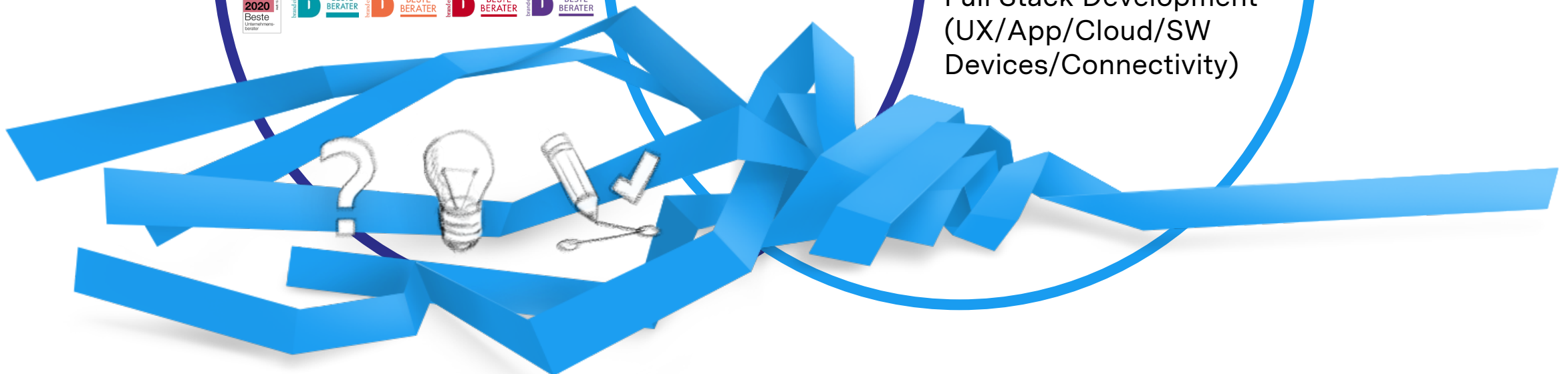


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