



Republic of North Macedonia

Ministry of Information Society
and Administration

INVESTING IN MOBILE COMMUNICATIONS MARKET IN NORTH MACEDONIA

A Path to NEW HORIZONS

ICT SECTOR CONTEXT



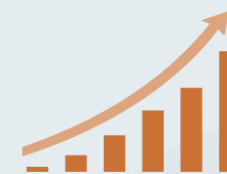
€862 mio

ICT Market Value (Central Registry of the Republic of North Macedonia)



4%

Contribution to GDP (EBRD)



47%

Market growth last 5 years (National Bank of the Republic of North Macedonia)



18,242

Employees in ICT (PWC 2018)



around 2000 students

enroll ICT studies per annum (Ministry of Education and Science, 2019)



€945/month

Average gross wage in Telecommunication sector (State Statistical Office, 2019)



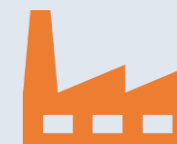
8.2%

Software Market Growth per annum (Invest North Macedonia)



84.7%

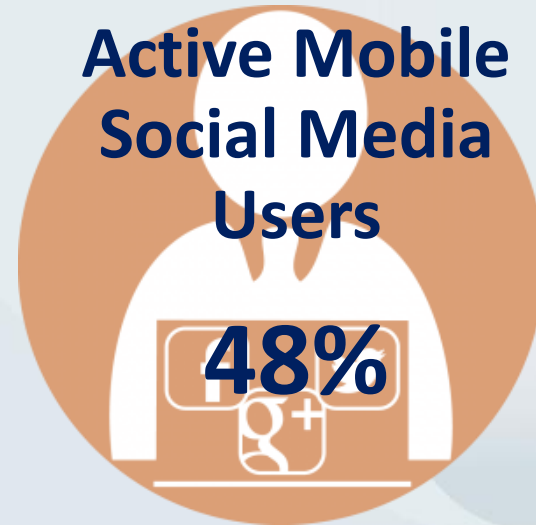
Hardware Market Growth (Invest North Macedonia)



257

New ICT Entities created in 2017 (PWC, 2018)

ICT SECTOR INDICATORS



MOBILE COMMUNICATIONS MARKET INDICATORS

Mobile
Active
Telephony
Subscribers
94.8%

Number of
Fixed Lines
18.41%

Total
Internet
Users
85.4%

Active
Social
Media Users
53%

Online
Banking
9%

Fixed
Internet
subscribers
20.6%

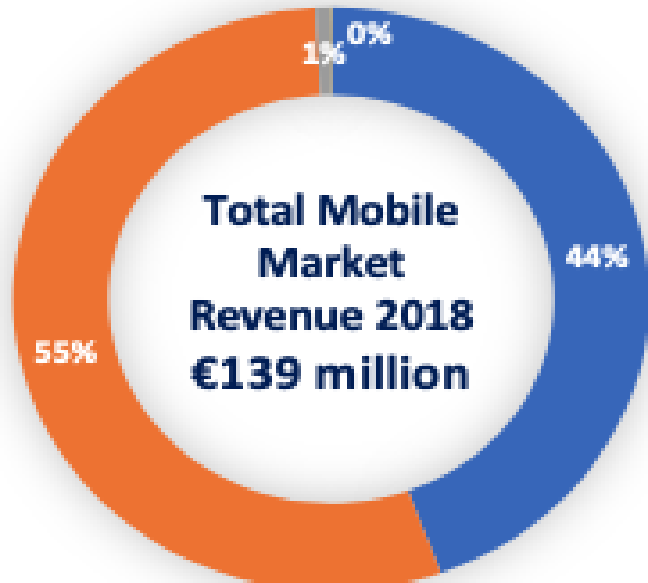
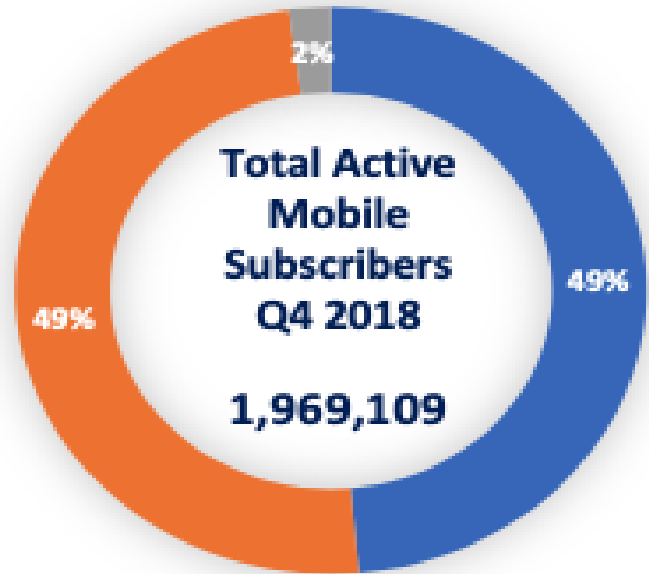
Mobile
Internet
subscribers
(2G/3G/4G) Active Users
65%

Businesses
with
Internet
Access
92.4%

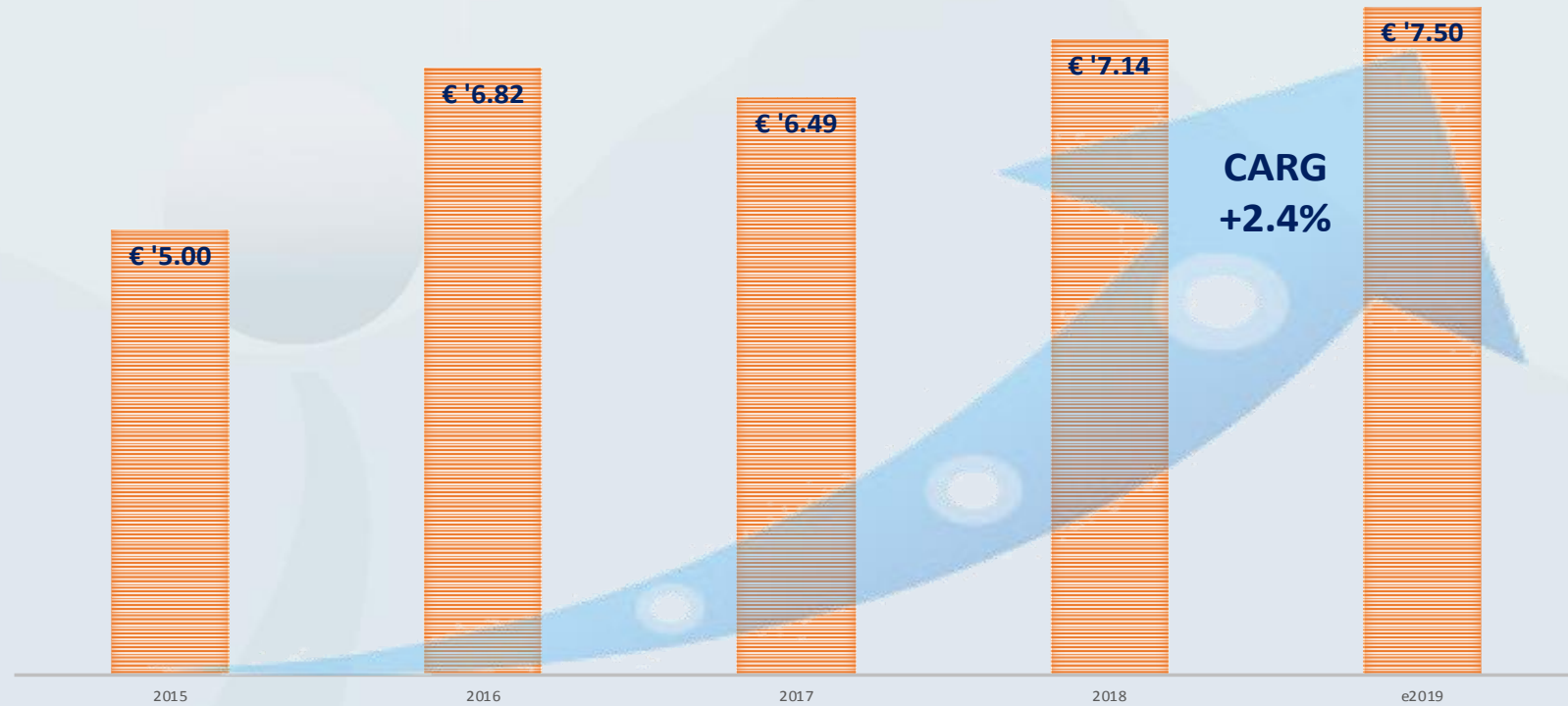
2 MNOs
2 MVNOs
>90 ISPs
15 Fixed
Telephony

Online
purchases / bill
payments
20%

MOBILE MARKET OVERVIEW



Average Revenue Per User 2015-e2019, excluding VAT



■ Makedonski Telekom

■ one.Vip

■ Lycamobile

■ Robi-Stip

AVAILABLE SPECTRUM – A KEY OPPORTUNITY FOR NEW MARKET ENTRY

2X10 MHz in 900 MHz

2X10 MHz in 1800 MHz

2X35 MHz in 2100 MHz

5G ROADMAP: POSSIBLE SPECTRUM BANDS FOR 5G SERVICES

700 MHz

- ✓ Release of the 700 MHz band finalized in December 2019

3.6 GHz

- ✓ Free band (3.6 – 3.8 GHz allocated for testing till November 2020)
- ✓ Allocated 31.5 MHz to Neotel for FWA (WiMAX/LTE)

24.35-27.5 GHz

- ✓ Currently this band is used for Fixed Service (210 point to point links) 2 PP links EVN and 208 PP links one.Vip

The National Operational Broadband Plan Targets, April 2019

Targets:

- ✓ **By the end of 2023**, 5G signal min 1 larger city to be covered with 5G signal.
- ✓ **By the end of 2025**, the main corridors covered with an uninterrupted 5G signal
- ✓ **By the end of 2027**, all towns in the country are covered with uninterrupted 5G signal
- ✓ **By the end of 2029**, total access through 5G with a minimum speed of at least 100 Mbps.
- ✓ **By the end of 2029**, min 50% of HH subscriber contracts with at least 100 Mbps
- ✓ **By the end of 2029**, all HH with affordable access to network with min 100 Mbps, with a possibility for upgrade to Gigabit speed
- ✓ **By the end of 2029**, all public, health and educational institutions, authorities and courts, including at local level to have symmetrical internet access with a speed of at last 1Gbps



Key supporting Measure: Public Fiber Optic Transmission Network with dark fiber access