

3G and 4G Mobile Trends Is It the Application or Device?

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Focus Points

Today's presentation will outline mobile growth strategies of global mobile operators including:

- Overall growth trends
- Services and devices that are important to mobile operator growth
- Overview of mobile trends by region
- Challenges mobile operators are facing
- Partnership strategies
- Summary of trends, strategies and insight for the mobile industry

Mobile Services and the Economic Downturn

- The macro economic downturn has effected the mobile industry from the standpoint that consumers and businesses are taking more time to make decisions on their mobile devices and services to make sure they get the best value for their money.
- Consumers worldwide are still opting-in to new mobile services and devices and continuing mobile services over other communications services.
- Communications service providers with fixed and mobile services are seeing growth or at minimum remaining stable with mobile customers while they are seeing a decline with voice, land line customers.
- Mobile data usage is growing at a pace that is causing mobile operators to increase capacity and consider new mobile technologies at a faster pace than previously expected in order to provide higher bandwidth for data services.
- Cell sites, customers, voice and data usage, and revenue have all seen growth year-over-year.

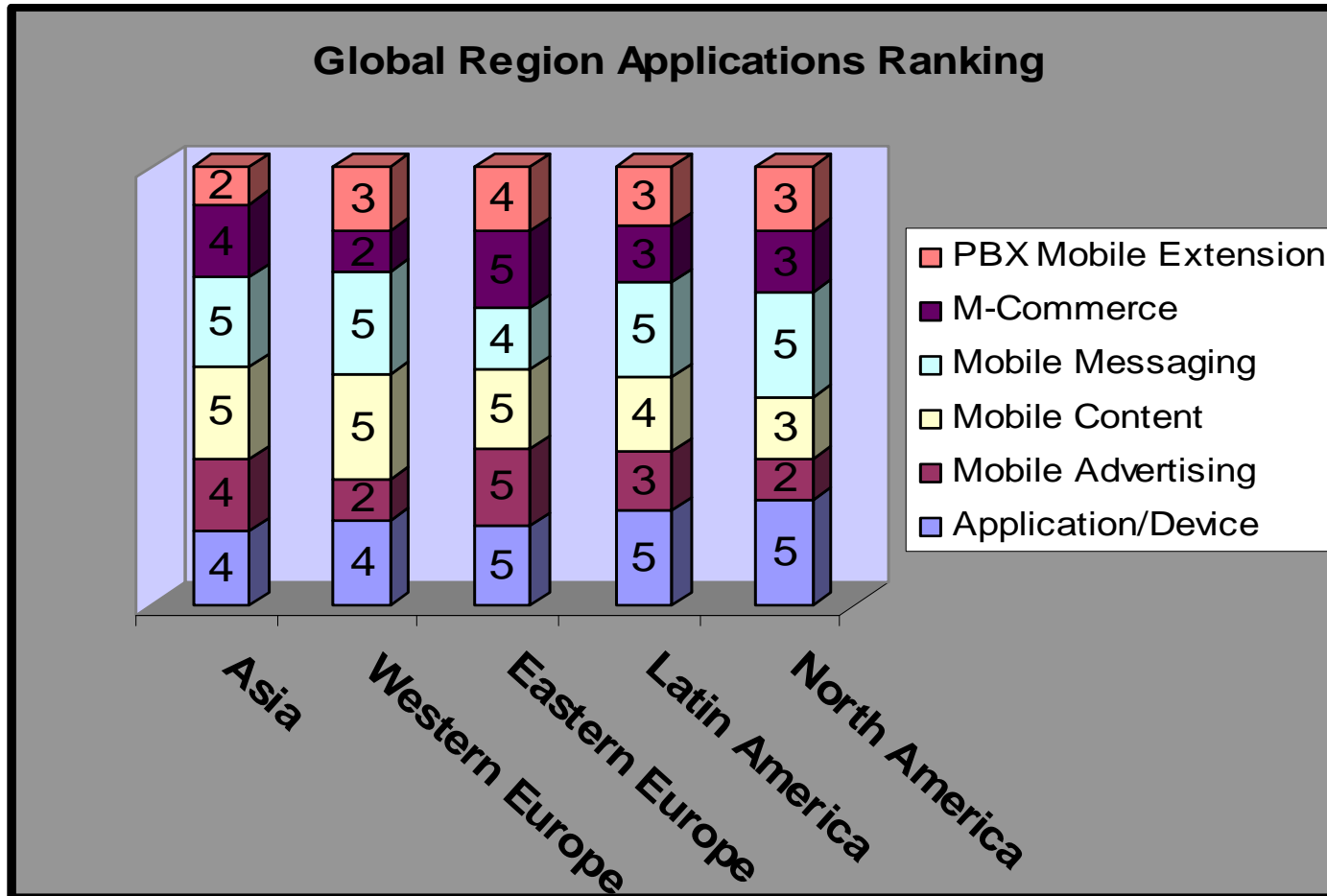
Mobile Services

Stratecast conducted a survey of global Mobile Network Operators (MNO) in late 2008 and early 2009 to determine their mobile services strategies.

Surveys were conducted to determine those services that were most important to the MNOs, both now and which ones they believe will be important to their success in the future. Consumer and enterprise services were discussed. Surveys and the specific services discussed included:

- Devices - Mobile phones, Smartphones, Netbooks, embedded laptops, and vertical specific mobile devices
- Mobile Advertising - Consumer and enterprise
- Mobile Content - Video, gaming, music and social networking
- Mobile Messaging - Short Message Services and Multimedia Message Services (SMS/MMS)
- M-Commerce - Banking, retail, and other transaction-based services
- PBX Mobile Extension - Enterprise services

Mobile Services Ranking by Region



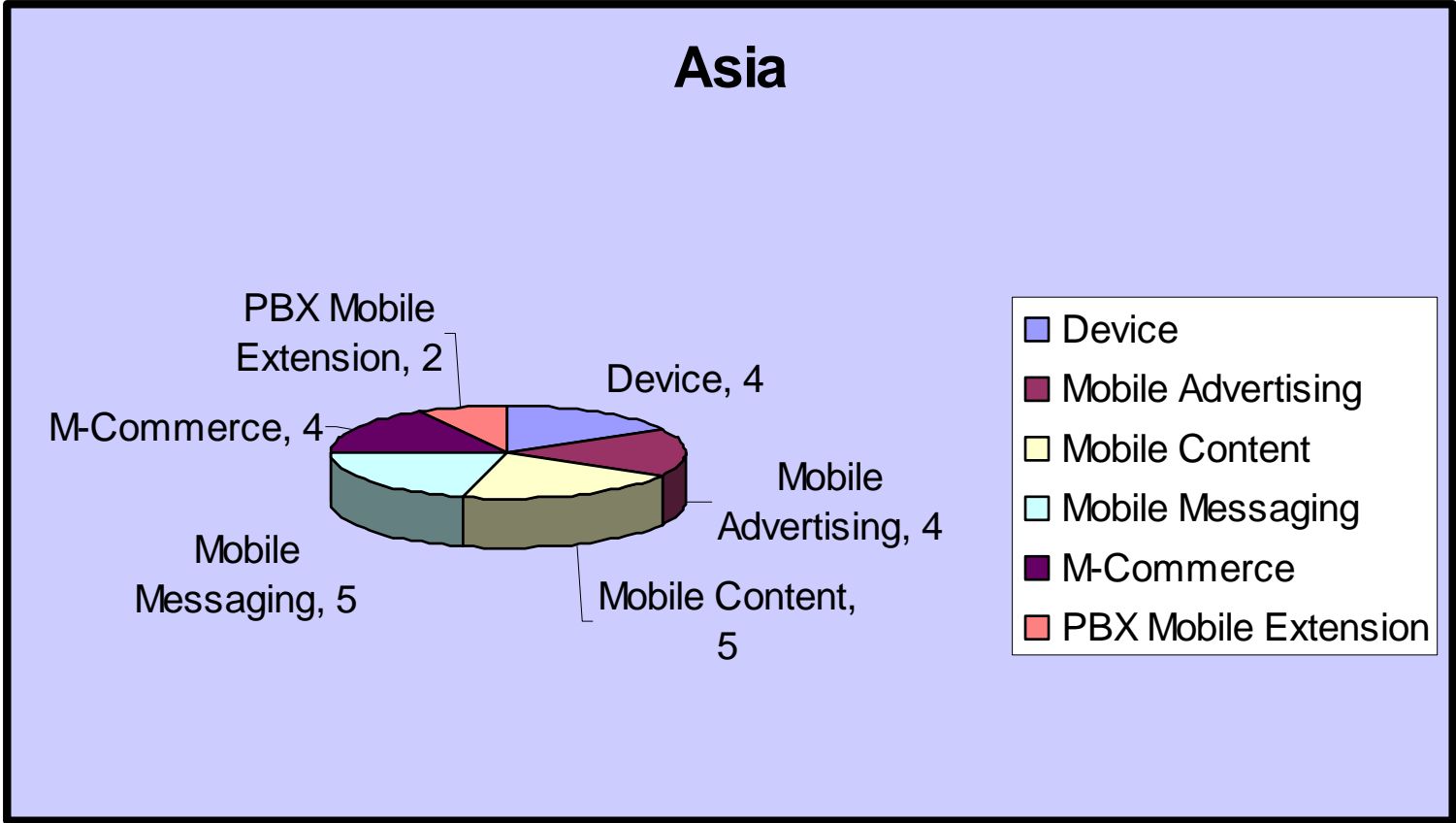
Source: *Stratecast*, A Division of *Frost & Sullivan*

Trends in Asia

Services and Devices, China and South Korea



Asian Services and Devices Trends



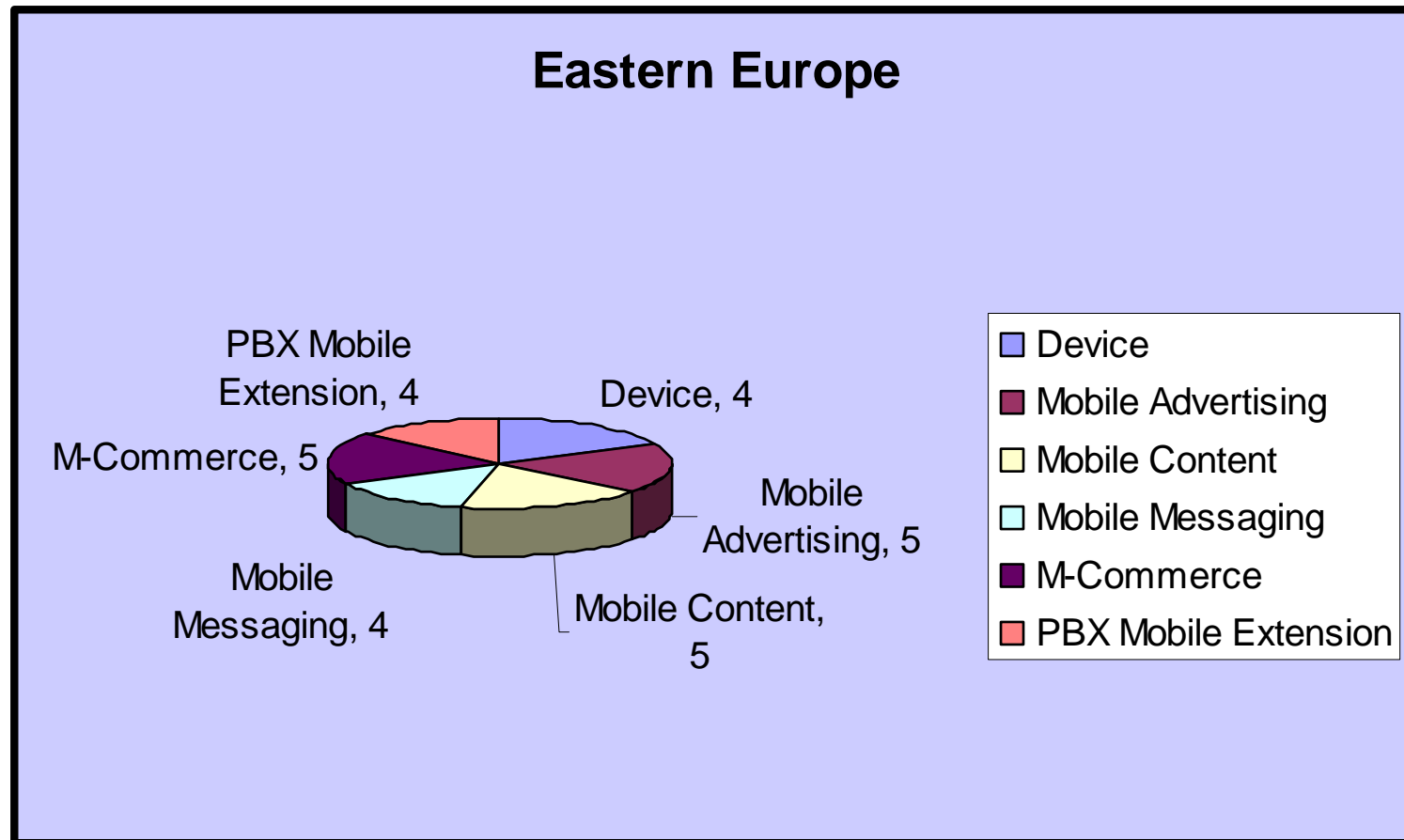
Source: *Stratecast, A Division of Frost & Sullivan*

Trends in Eastern Europe

Services and Devices, Turkey and Russia



Eastern European Services and Devices Trends



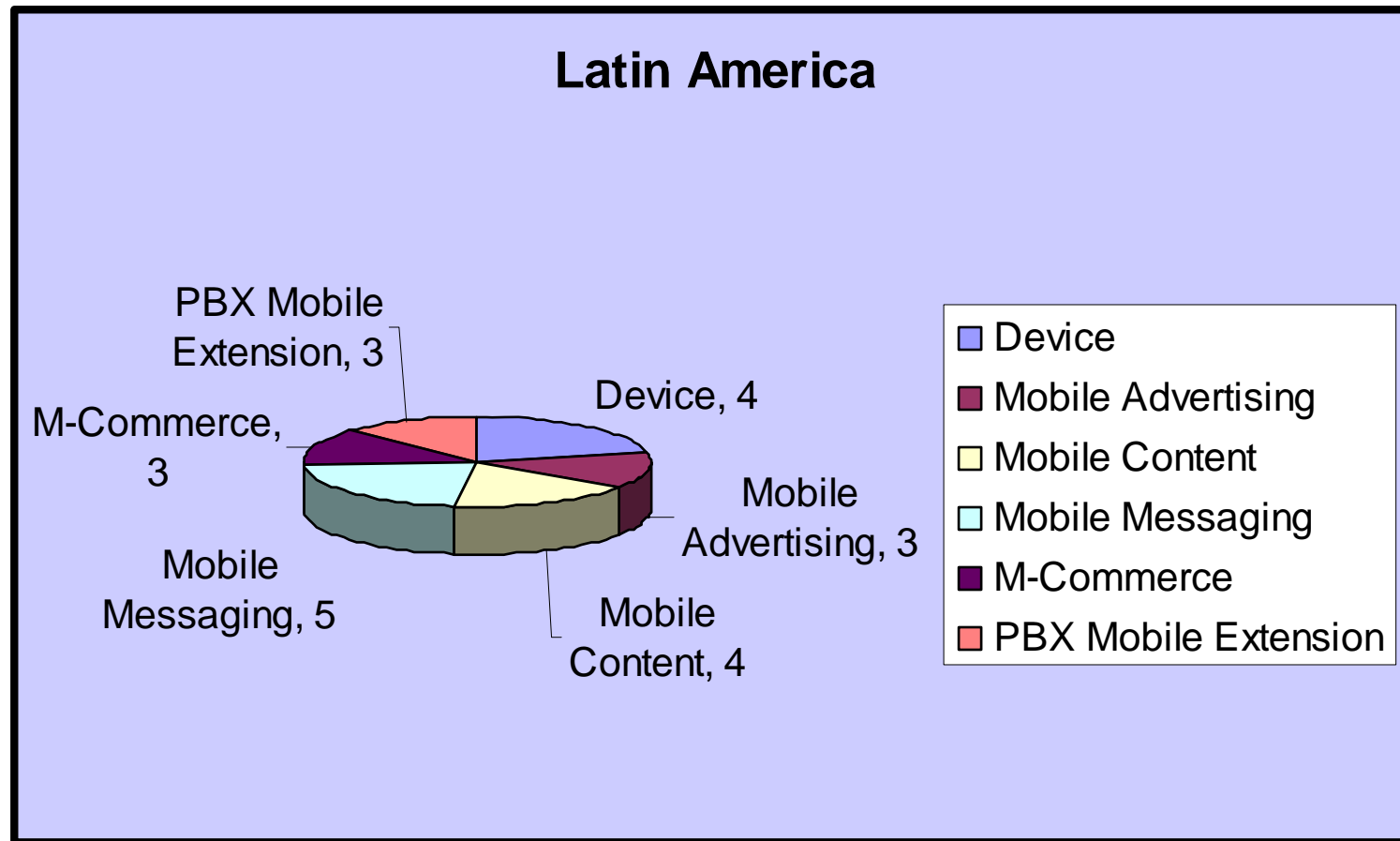
Source: *Stratecast, A Division of Frost & Sullivan*

Trends in Latin America

Services and Devices, Chile and Peru



Latin American Services and Devices Trends



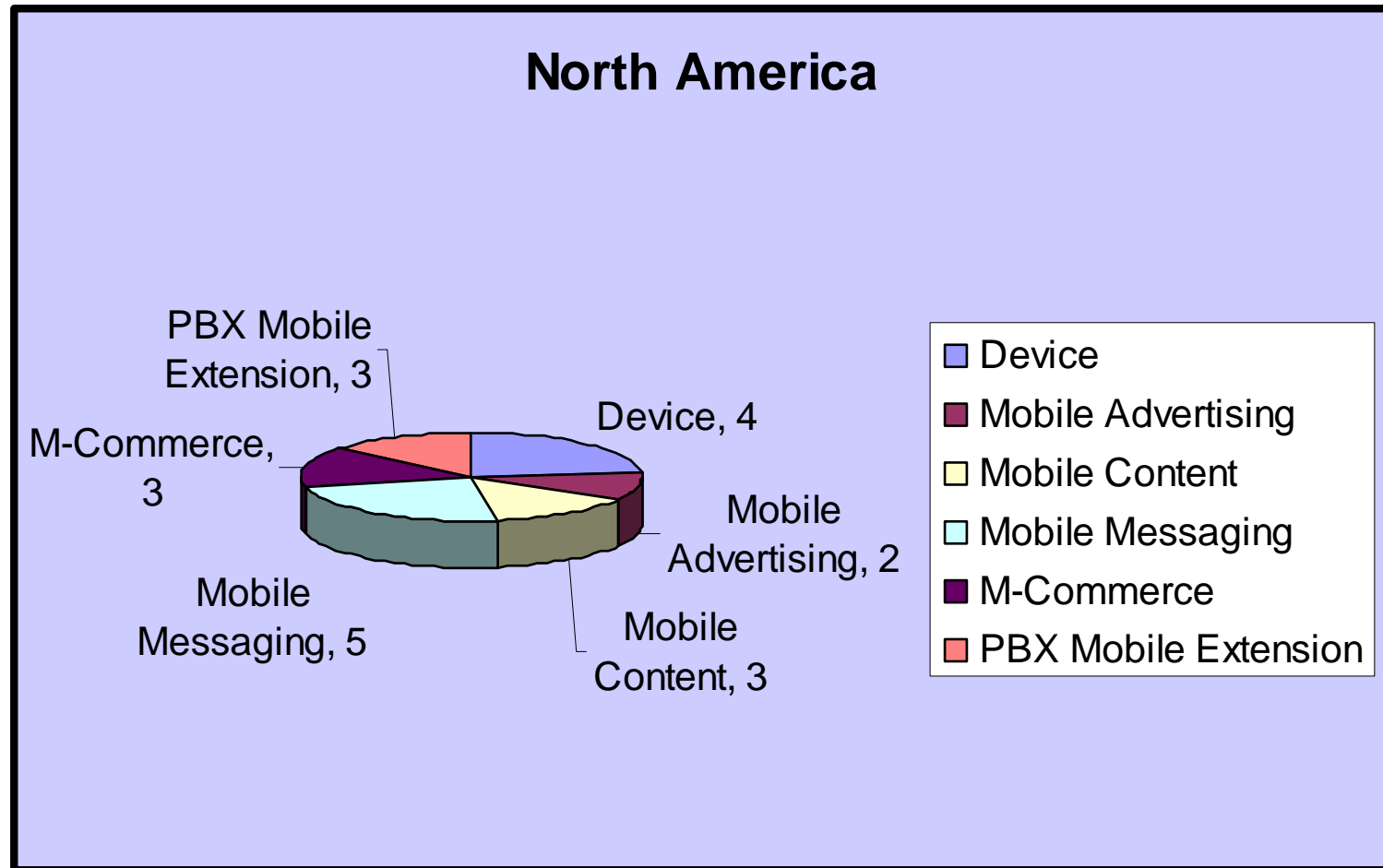
Source: *Stratecast, A Division of Frost & Sullivan*

Trends in North America

Services and Devices, United States



United States Services and Devices Trends



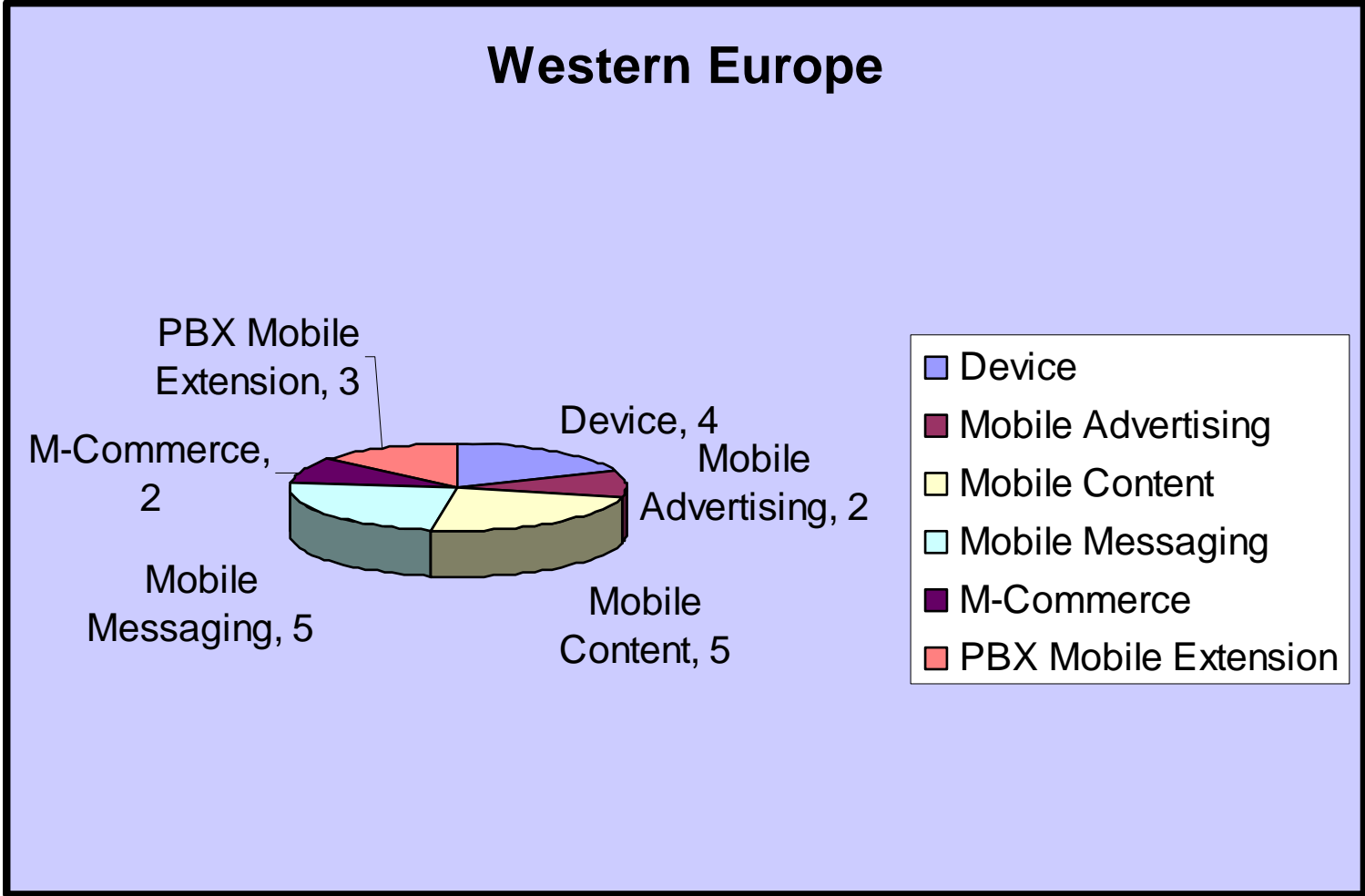
Source: *Stratecast, A Division of Frost & Sullivan*

Trends in Western Europe

Services and Devices, France, Portugal and Spain



Western European Services and Devices Trends



Source: *Stratecast, A Division of Frost & Sullivan*

Hot Topics - Current

Trends and initiatives – Network Infrastructure

- MNOs with a converged network environment (fixed, mobile and broadband) are focusing on the seamless hand off and converged services.
- MNOs that currently offer IPTV services were focusing on bringing the “three screens” together, and enabling voice services along with the IPTV services.
- MNOs with mobile-only infrastructure were focusing on upgrading to 3G/4G infrastructure to provide enhanced mobile services and mobile broadband services to market.

Trends and initiatives – Partnerships

- MNOs are taking diverse approaches to partnerships with X-Factor companies (Google, Yahoo, MSN, and other content providers).
- Strategies have been based on customer demand, government regulations, and business models that may or may not be optimum for the MNO or the partner.

Trends and initiatives – Developer Communities

- Developer communities for mobile applications have been implemented by both Tier 1 infrastructure vendors, by MNOs, by handset vendors and large software vendors.
- Tier 1 and 2 MNOs have portals, processes and applications contests for developers. The MNO offers the developer a software toolkit and a channel to bring new applications to the public.
- Sophisticated hardware and software platforms along with IMS and other technologies and architecture have been deployed to securely expose the network to developers, provide a platform that is a middle layer between the network and back-office functionality, and ultimately to streamline the processes for external and internal users.

Major Challenges

- Implementing a business model for partnership arrangements are mutually beneficial
- Managing and enabling developer ecosystems to work effectively for all parties
- Increasing network capacity to provide high data bandwidth consumption in a “just in time” manner to optimize costs
- Security; device, network, application and privacy

Major Drivers

- Services – Content, Location Based Services, and the Internet
- Smartphones, netbooks, embedded devices
- 4G Technologies
- Vertical applications

Is It the Application or the Device?

Conclusion

- Devices are leading the market and there is more change to come with decreasing device costs
 - More diverse devices, OS and competition will drive the market and usage
 - Vertical devices (healthcare, home monitoring, etc.) are the next wave of innovation
- Applications are at the very beginning of the lifecycle
 - Consumer applications will begin to become more 'utility' applications versus lifestyle applications
 - Application innovation starting at the vertical versus the CSP
 - Two-sided business models to benefit both parties and capitalize on the strengths of each party

For Additional Information

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About Frost & Sullivan



F R O S T & S U L L I V A N

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- Over 10,000 clients worldwide - emerging companies, the global 1000 and the investment community
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