

# **LTE Broadcast: *It Starts with Video***

Market Report  
Third Quarter 2014





---

# LTE Broadcast: *It Starts with Video*

---

## Market Report

Published Third Quarter 2014

Version 1.0

Report Number: 032014-04

*iGR*  
12400 W. Hwy 71  
Suite 350 PMB 341  
Austin TX 78738

# Table of Contents

---

<b>Abstract</b> .....	<b>3</b>
<b>Executive Summary</b> .....	<b>5</b>
<b>Methodology</b> .....	<b>7</b>
<b>LTE Broadcast: Starting with Video</b> .....	<b>8</b>
<b>Growth of Mobile Data and Video</b> .....	<b>8</b>
Table 1: Total Monthly Mobile Data Usage, 2013-2018 .....	8
Figure 1: Total Monthly Mobile Data Usage, 2013-2018 .....	9
Table 2: Total Monthly Mobile Video Usage, 2013-2018 .....	9
Figure 2: Mobile Video Growth, 2013-2018 .....	10
Table 3: Total Monthly Mobile Video Usage, 2013-2018 .....	10
Figure 3: Total Monthly Mobile Video Usage, 2013-2018 .....	11
<b>Mobile Video Drivers</b> .....	<b>11</b>
<b>Consumer Video Trends</b> .....	<b>11</b>
<b>Unicast versus Broadcast</b> .....	<b>13</b>
Figure 4: Unicast versus Broadcast & Multicast .....	13
Figure 5: Number of Individual Broadcast Streams, Two Scenarios .....	15
<b>Broadcast versus multicast</b> .....	<b>15</b>
Figure 6: Potential Efficiency Gains Associated with eMBMS.....	16
<b>Single Frequency Network (SFN)</b> .....	<b>16</b>
Figure 7: Coexistence of Unicast and Broadcast Content.....	17
<b>Capacity improvements</b> .....	<b>18</b>
<b>Delivery of eMBMS over LTE</b> .....	<b>19</b>
Video Encoding .....	19
HEVC .....	20
DASH .....	20
Figure 8: eMBMS Device Middleware .....	21
Figure 9: eMBMS Network Architecture.....	22
<b>eMBMS: Use Cases</b> .....	<b>24</b>
Live events .....	24
Media distribution.....	25
Group information distribution.....	25
Offload data .....	25
<b>Operator View of LTE Broadcast</b> .....	<b>27</b>
Concerns.....	27
<b>Current Activity Around LTE-B</b> .....	<b>29</b>
AT&T .....	29
China Mobile .....	29
China Telecom .....	29
Etisalat .....	29
Everything Everywhere .....	29

<b>Korea Telecom</b> .....	<b>30</b>
<b>KPN (Netherlands)</b> .....	<b>30</b>
<b>Orange France</b> .....	<b>30</b>
<b>Reliance</b> .....	<b>31</b>
<b>Sohu Video</b> .....	<b>31</b>
<b>Telenor Sweden</b> .....	<b>31</b>
<b>Telstra Australia</b> .....	<b>31</b>
<b>Smart Communications</b> .....	<b>32</b>
<b>Verizon Wireless</b> .....	<b>32</b>
<b>Vodafone Germany</b> .....	<b>33</b>
<b>Outlook for LTE Broadcast</b> .....	<b>34</b>
<b>LTE-Broadcast Forecast Assumptions</b> .....	<b>34</b>
Table 4: Global LTE Connections, 2013-2018 (000s).....	37
Figure 10: Global LTE Connections, 2013-2018 .....	38
Table 5: Global eMBMS-Capable Connections, 2013-2018 (000s) .....	39
Figure 11: Global eMBMS-Capable Connections, 2013-2018 .....	39
Table 6: eMBMS-capable Connections as Percent of Total Connections, 2013-2018 .....	40
Figure 12: eMBMS-capable Connections as Percent of All Connections, 2013-2018 .....	41
<b>LTE Broadcast Vendor Profiles</b> .....	<b>42</b>
<b>Alcatel-Lucent</b> .....	<b>42</b>
<b>Altair Semiconductor</b> .....	<b>43</b>
<b>ATIS</b> .....	<b>45</b>
<b>Ericsson</b> .....	<b>46</b>
<b>Expway</b> .....	<b>48</b>
<b>Huawei</b> .....	<b>50</b>
<b>Media Excel</b> .....	<b>51</b>
<b>MobiTV</b> .....	<b>54</b>
<b>Nokia Networks</b> .....	<b>56</b>
<b>Qualcomm</b> .....	<b>58</b>
<b>Roundbox</b> .....	<b>61</b>
<b>Samsung Electronics</b> .....	<b>63</b>
<b>Sequans Communications</b> .....	<b>65</b>
<b>Thomson Video Networks</b> .....	<b>67</b>
<b>Definitions</b> .....	<b>69</b>
<b>General</b> .....	<b>69</b>
<b>Device Types</b> .....	<b>69</b>
<b>Services</b> .....	<b>70</b>
<b>Network Technology</b> .....	<b>71</b>
<b>About <i>iGR</i></b> .....	<b>75</b>
<b>Disclaimer</b> .....	<b>75</b>

# Abstract

---

LTE Broadcast or eMBMS (evolved Multimedia Broadcast Multicast Service) provides an answer to part of the mobile operators' bandwidth challenges. Simply put, LTE Broadcast (eMBMS) enables a Single Frequency Network (SFN) broadcast capability within LTE, so that the same content can be sent to a large number of users at the same time, resulting in a more efficient use of network resources compared to unicasting the content. eMBMS was originally defined in Release 8 and 9 of the 3GPP standards and has been enhanced in Releases 10 and 11.

LTE Broadcast can be used for distributing content such as live events and media to a wide audience, as well as for background file and software delivery and group information distribution.

This market study, which provides an introduction to LTE Broadcast and its use cases, discusses mobile operators' views and concerns, summarizes current market activity, includes profiles of major LTE Broadcast vendors, and provides a five-year global forecast of eMBMS-capable connections.

Key questions addressed:

- How is mobile data usage expected to grow over time?
- How is mobile video usage expected to grow over time?
- What are some of the major consumer trends driving the use of mobile video?
- What are unicast and broadcast video?
- What is LTE Broadcast / eMBMS?
- What is a Single Frequency Network?
- What is the benefit of shifting video delivery from unicast to broadcast?
- What are some of the key standards involved in video delivery over eMBMS?
- At a high level, how does an LTE Broadcast network work?
- What are the major use cases surrounding eMBMS?
- Who is trialing / deploying eMBMS right now?
- What are mobile operators' views on eMBMS?

Who should read this report?

- Mobile operators
- Telecom / Datacom Equipment Manufacturers

- Venue owners
- Content providers / Content creators / Content owners
- Financial analysts and investors.