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## GSM/3G MARKET/TECHNOLOGY UPDATE

### LTE TDD: summary of network plans, commitments, trials, deployments

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#### Global TD-LTE Initiative launched at MWC 2011

*The Global TD-LTE Initiative (GTI) was launched at MWC 2011. Founding members were China Mobile, Bharti Airtel, Softbank Mobile, Vodafone, Clearwire, Aero2 and E-Plus. The initiative aims to bring together leading industry partners to steer the TD-LTE ecosystem as a major standard in mobile broadband technology & drive the development of next generation mobile broadband networks.*

<b>Australia</b>	WiMAX™ operator Vivid Wireless trialled LTE TDD in Sydney for 2 months from December 2010 in high demand, high density, inner city conditions. Commercial launch is expected by 2012. NBN Co is deploying a 2.3 GHz fixed-wireless LTE TDD network to serve rural areas
<b>China</b>	China Mobile has launched large-scale LTE TDD trials consisting of more than 1,000 base stations in Beijing, Shanghai, Hangzhou, Nanjing, Guangzhou, Shenzhen, and Xiamen. Commercial services are expected in 2012
<b>Denmark</b>	3 acquired 2.6 GHz TDD spectrum and is deploying a combined LTE FDD/TDD network
<b>France</b>	Orange has deployed a trial LTE network in Paris, initially with 10 MHz bandwidth supporting FDD and TDD modes, upgraded to 20 MHz in May 2010. FDD-TDD co-existence tests are on-going
<b>Germany</b>	E-Plus, a member of the Global TD-LTE Initiative, is trialling LTE TDD in 2.6 GHz
<b>India</b>	<ul style="list-style-type: none"> <li>• RIL has committed to deploy LTE TDD</li> <li>• Bharti Airtel, a member of the Global TD-LTE Initiative, is committed to deploy LTE TDD</li> <li>• Qualcomm India LTE Venture is committed to LTE TDD deployment.</li> <li>• Tikona Digital is committed to deploy LTE TDD</li> <li>• Augere is deploying LTE TDD</li> <li>• BSNL is considering introducing LTE TDD</li> <li>• MTNL is considering introducing LTE TDD</li> </ul>

<b>Ireland</b>	LTE TDD testing was completed June 2010
<b>Japan</b>	Softbank Mobile is considering LTE TDD in the 2.6 GHz spectrum it owns and has joined the Global TD-LTE Initiative
<b>Malaysia</b>	<p>WiMAX™ operator Packet Networks (P1) is planning to deploy LTE TDD on existing sites as an overlay network.</p> <p>WiMAX™ operator Asiaspace is planning deployment of 2.3 GHz LTE TDD</p>
<b>Oman</b>	Omantel showcased LTE TDD during the Salalah Tourism Festival in July 2010 and at Comex 2011, and had become the first Arab network to join the Global TD-LTE Initiative
<b>Poland</b>	Aero2 is testing and deploying LTE TDD in 2.6 GHz in Aleksandrów Łódzki and Łódź; commercial launch is planned in 2011. Aero2 has joined the Global TD-LTE Initiative
<b>Russia</b>	<p>WiMAX™ operator Yota is deploying LTE</p> <p>Rostelecom plans to conduct LTE TDD trials in 2.3 - 2.4 GHz spectrum</p>
<b>Saudi Arabia</b>	<b>Commercial LTE TDD networks are launched by Etisalat and STC</b>
<b>Sweden</b>	3 acquired 2.6 GHz TDD spectrum and is deploying a combined LTE FDD/TDD network
<b>Taiwan</b>	<p>CHT has also completed LTE tests on the high-speed rail system using TDD and FDD modes in 2.6GHz spectrum</p> <p>FarEasTone and China Mobile are co-operating on an LTE TDD trial in Taipei</p> <p>The National Chiao Tung University conducted a trial of LTE TDD in 2010</p> <p>WiMAX operator Global Mobile Corp will seek approval to allow a switch to LTE TDD once WiMAX coverage hits 70% of the population</p>
<b>USA</b>	<p>Clearwire requested 3GPP to standardize LTE TDD for operation in the band 2496 – 2690 MHz and in August 2011 announced plans to deploy LTE TDD in this band as an overlay to its existing network.</p> <p>Clearwire is a member of the Global TD-LTE Initiative</p>