



ecma

INTERNATIONAL

Optical Discs

Ecma Golden Jubilee

June 29th, 2011

by

Paul Weijenbergh

- **The Beginning 1975 – 1985**

- *Laser Disc (300 mm / 30 min)*
 - **30 cm discs with analog video**
 - **Philips standard → ISO/IEC standard**
- *12" WORM (300 mm / 1.25 GByte)*
 - **12 inch discs for Write Once data recording**
 - **Direct ISO/IEC standard**
- *5 ¼ " MO (130 mm / 650 Mbyte)*
 - **130 mm discs for Read & Write data recording**
 - **Ecma → ISO/IEC Standard**
- *90 mm MO disc (90 mm / 128 MByte)*
 - **90 mm discs for Read & Write data recording**
 - **Ecma → ISO/IEC standard**



- **The Boost 1985 – 2000**

- *Introduction of CD 1982*
- *CD-Audio*
 - **120 mm disc**
 - **74 minutes of Digital Audio**
- *CD-ROM*
 - **650 Mbytes Read Only Data**
- *CD-R*
 - **650 Mbytes of Recordable Data**
- *CD-RW*
 - **650 Mbytes of Rewritable Data**



COMPACT
disc
DIGITAL AUDIO

All Ecma standards

- **Mature Market 2000 – 2015**
 - *Introduction of DVD in 1996*
 - *DVD-Video*
 - **2 hours of Standard Definition Video**
 - *DVD-R & DVD+R*
 - **9,4 Gbytes of Recordable Data**
 - *DVD-RAM & DVD+RW & DVD-RW*
 - **9,4 Gbytes of Rewritable Data**



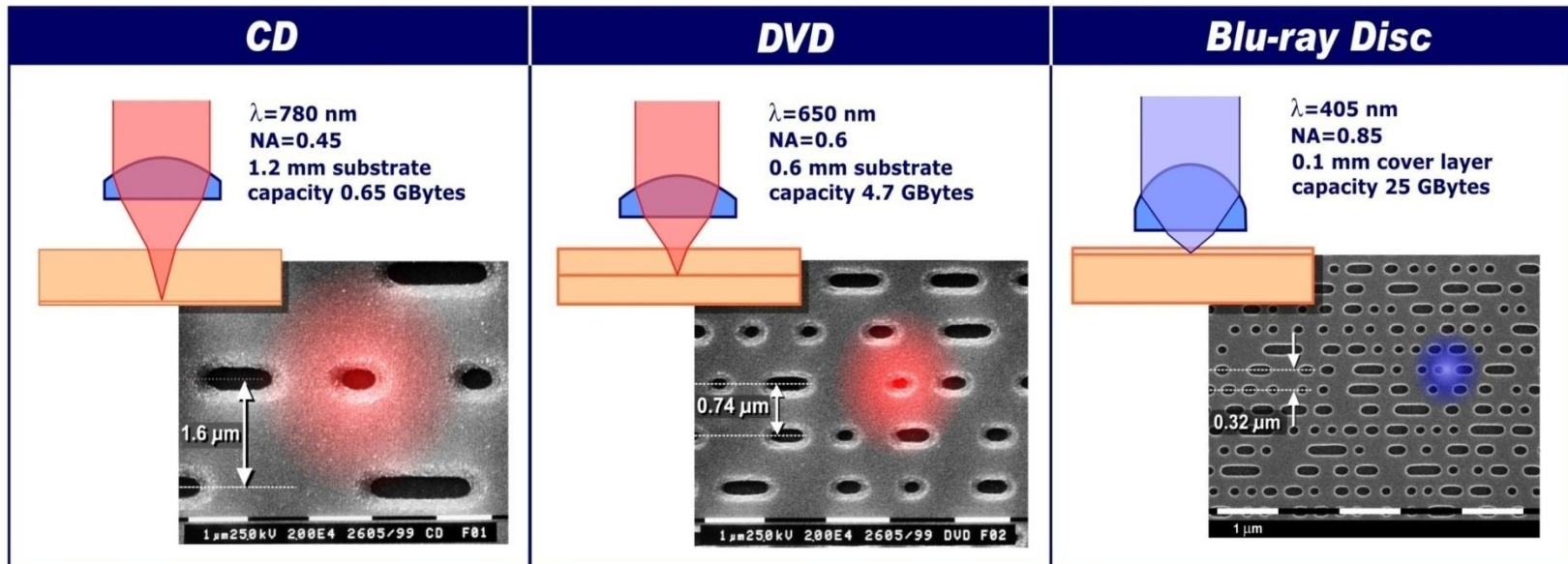
All Ecma standards

- **The last one (?) 2015 – 2025**
 - *Introduction of Blu-ray Disc in 2006*
 - *BD-Video*
 - **2 hours of High Definition Video**
 - *BD-Rewritable*
 - **Single & Double Layer 25/50 Gbytes**
 - **Triple Layer 100 GBytes**
 - *BD-Recordable*
 - **Single & Double Layer 25/50 Gbytes**
 - **Triple Layer 100 GBytes**
 - **Quadruple Layer 128 GBytes**



Ecma standards ???

The Optical Density



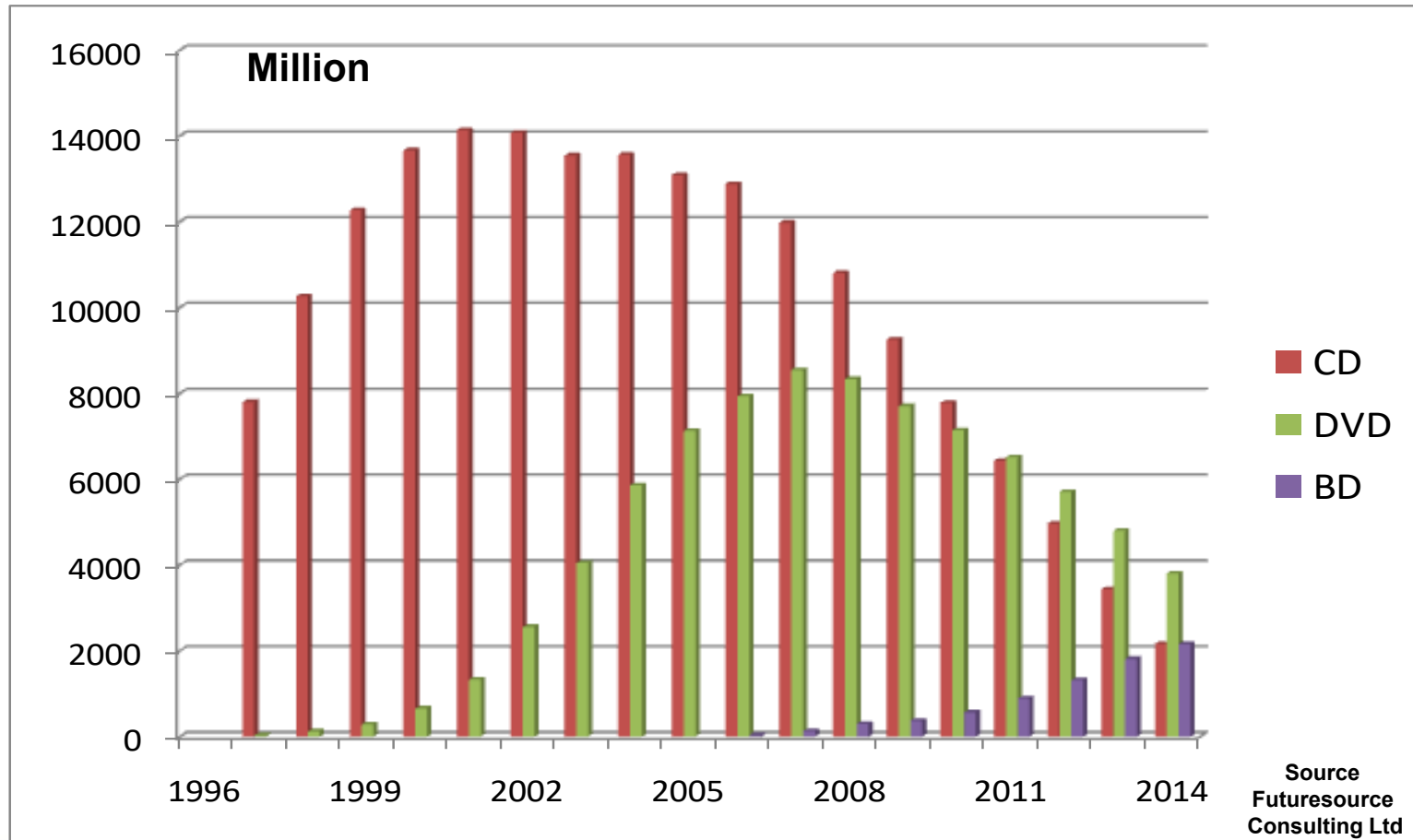
1

7

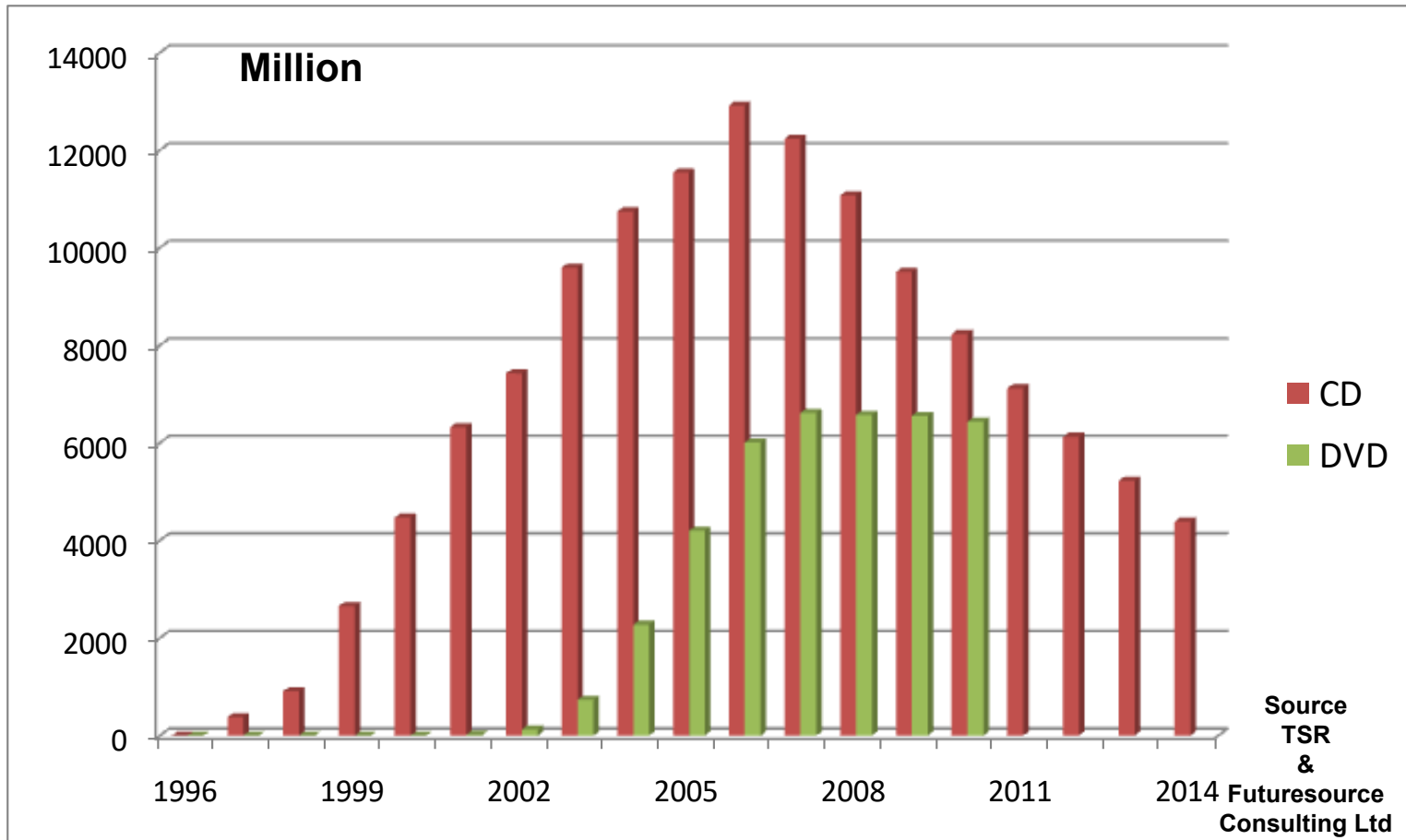
38



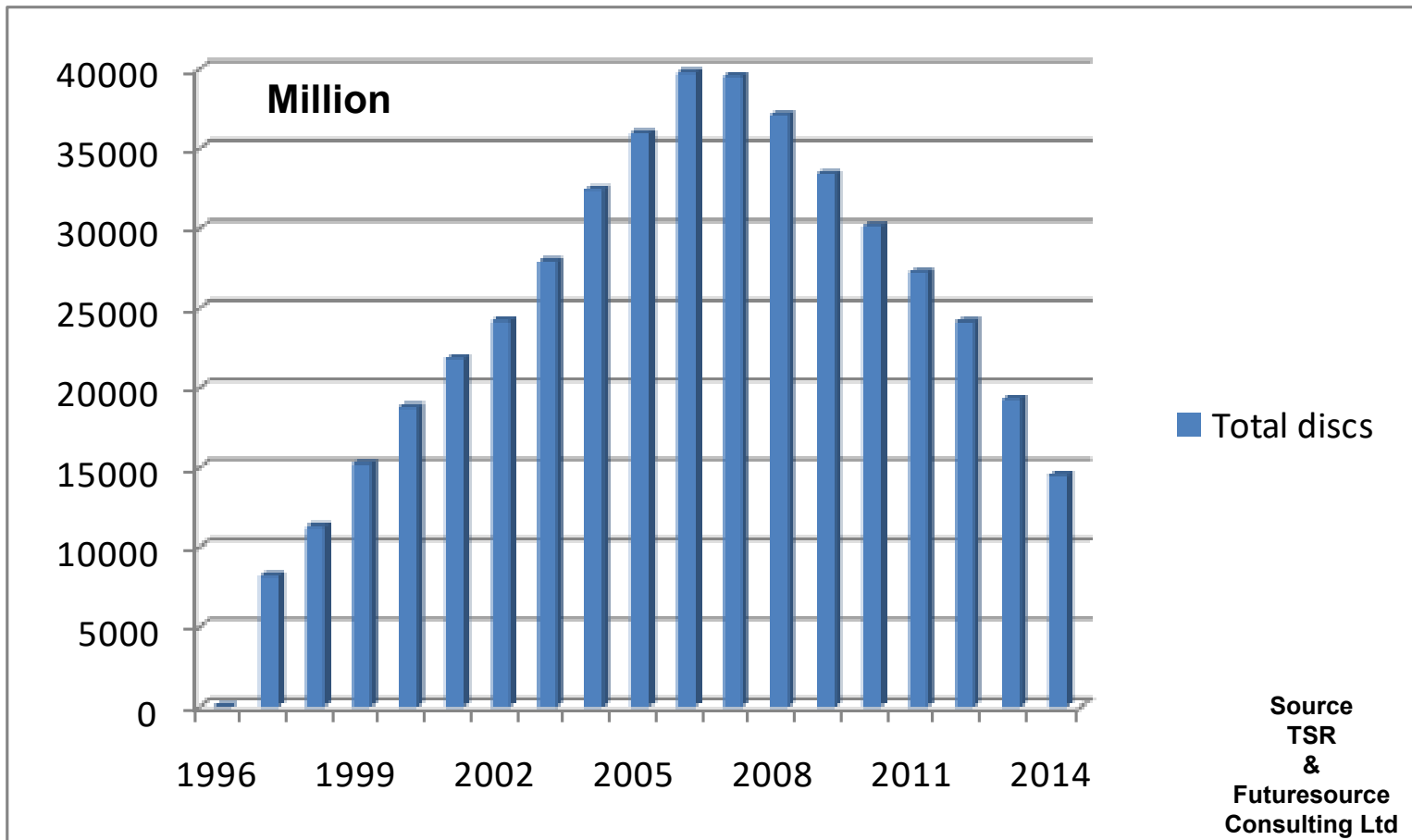
Read Only Discs



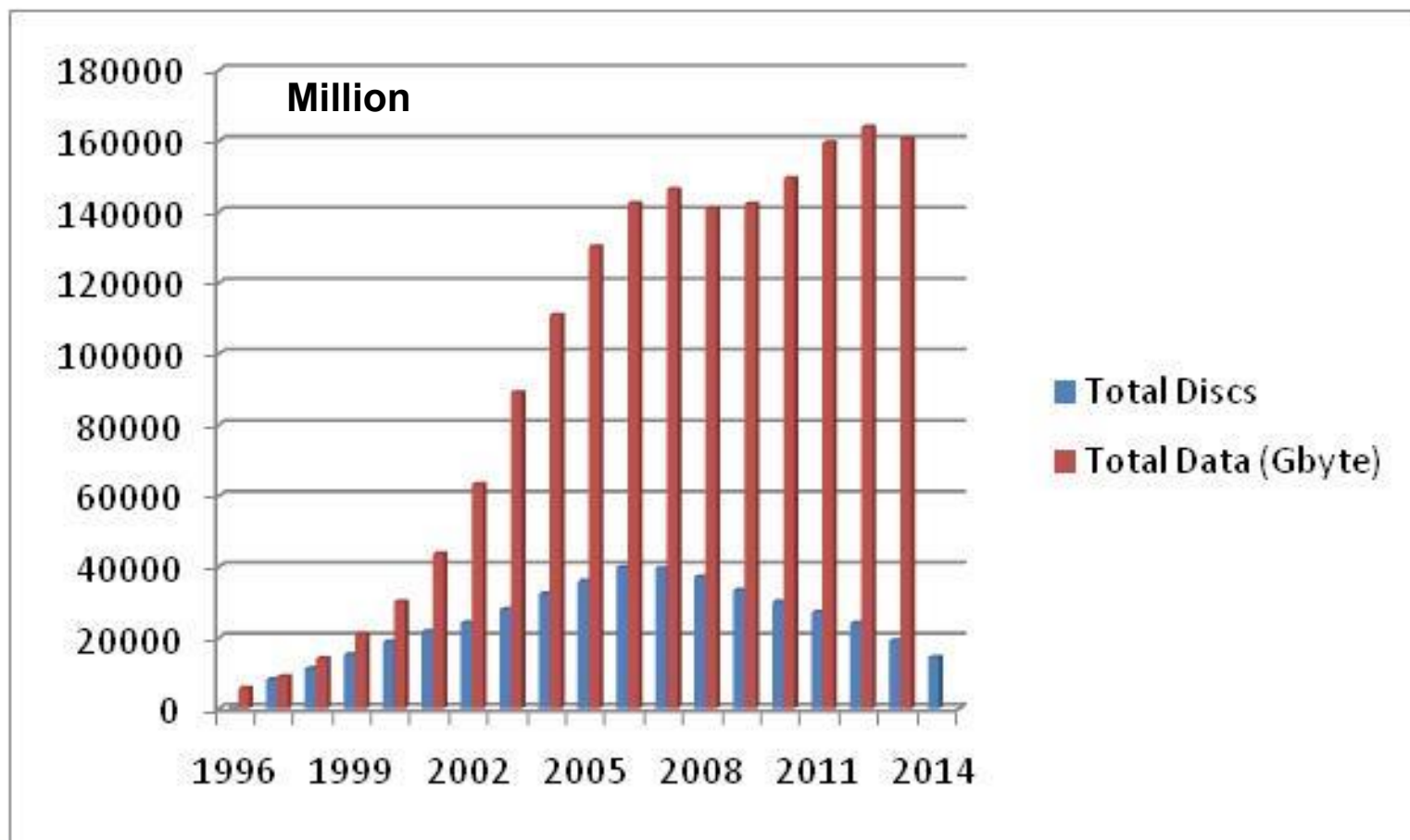
Recordable Discs



Total Discs



Total Discs and Capacity



Thank you!



**Rue du Rhône 114
CH-1204 Geneva
T: +41 22 849 6000
F: +41 22 849 6001**

www.ecma-international.org