## **Messenger makes historic Mercury flyby** NASA returns to Mercury for the first time in almost 33 years with its Messenger spacecraft passing the planet at a distance of just 200km. The fly-by is the first of three the probe will make as it slows itself to enter into orbit around the planet in 2011 Sunshade: Nextel ceramic cloth. Antenna surrounds layers of Kapton plastic insulation. Surface temperature will reach 370C but probe kept at comfortable 20C Magnetometer Measures planet's magnetic field **Spectrometers** Solar Measure charged Laser wings: altimeter particles in Two-thirds magnetosphere, composed of mirrors, detect minerals to reflect heat away from solar cells and gases on surface and in atmosphere Mission: Journey -5bn miles Cost -\$427m DSM 1\* DSM 3 DSM 5 MOI\*\* DSM 2 DSM 4 Aug 2, Aug 1, 2005 Oct 24, 2006 Jan 14, 2008 Mar 18, 2011 2004 Jun 6, 2007 Oct 6, 2008 Swings past Start of year-Launch Earth for Venus flybys Sep 30, 2009 long orbit of Mercury flybys gravity assist Mercurv \*Deep Space Manoeuvre \*\*Mercury Orbit Insertion Source: NASA @ GRAPHIC NEWS