International Contributions for L3

• Must not be mission critical
  – Flight equivalent must exist in Europe
• Must bring real cost savings
  – Needs clean interfaces
  – Minimize shadow engineering required in ESA and Member States
  – Low friction losses required
• Ideally we want third arm back
  – Has implications both at ESA and Member States
• We need a creative mix of contributions
International Contributions

• What is noble work and what is not?
• Easily identifiable S/C building blocks:
  – Launcher
  – Propulsion modules
  – Thrusters
  – Pieces like: Solar array, power supplies, batteries, structures, mechanisms, star trackers, TTC, antennas
• Easily identifiable Payload items:
  – Telescopes
  – Lasers, Modulators, reference cavities
  – CCDs, Diodes, Pre-Amps
  – Proof masses
  – Actuators
  – Electronics, USO
International plans for space-based detectors

• USA
  – Scenario 1: Junior partner in eLISA
  – Scenario 2: NASA-led mission (SGO)
  – Technology: Telescope, Laser system, Interferometry, Optical Bench technology, GRS, Charge management, torsion pendulum test benches

• China
  – Scenario 1: Join eLISA with a 20% contribution
  – Scenario 2: Develop a similar Chinese mission
  – Technology: Telescopes, interferometry, GRS and torsion pendulum

• Japan: Decigo-Pathfinder was strong candidate for a small mission by Jaxa, not selected
Roadmap for eLISA as ESA L3

- eLISA Science Theme selected as L3 in 2013
- Technology Roadmap work 2013 – 2015
- Possibly continued Mission Concept Study 2014 – 2015
- Successful LISA Pathfinder flight in 2015
  - Assessment of technology status
  - Possibly additional work, e.g. breadboarding of Payload + (1 to 4) years
- Selection of Mission Concept in 2015 + (1 to 4)
- Possibly Start EQM of complete Payload 2015 + (2 to 5)
- Start of Industrial Definition Study 2015 + (2 to 5)
- Start of Industrial Implementation 2015 + (6 to 9)
- Launch in 2015 + (15 to 18)