



# **OPTICON Key Technologies Network: Part of N3 - Structuring**

**Chair: Colin Cunningham**



# Aims

- Identify key technology needs - roadmap
- Look for opportunities which technology developments in other sectors provide for astronomy
- Encourage European collaborative technology development projects
- Provide a forum for discussing potential routes for further development, particularly looking ahead to Framework 7



# Role of Key Technology Network

- Note that the KTN will NOT act as a technical or programmatic review panel– that is up to the Board's ad-hoc technical oversight committee



# Workshops to achieve these aims:

- Technology Roadmapping: mapping science goals onto technologies available and requiring development, and linking to implementation paths and funding sources.
- Key Technologies Workshops: to look into particular technology areas and investigate how European cooperation can help make significant advances
- Project definition and consortium development: bringing together teams to develop proposals for technology development.



# Tools

- Support from ATC
- Interactive Website
- Roadmapping
- Working groups
- Workshops
- Industry Forum



# Support: Staff at ATC

- Resources:
  - WP1 *Workshops & Roadmapping* 15 pm
  - WP2 *Information Exchange & Networking* 6 pm
- Colin Cunningham will chair the network
- Assistance from ATC project scientists and Technology Development Manager (currently being recruited):  
<http://www.roe.ac.uk/ukatc/support/recruitment/>
- Industrial Links: Smart Optics Faraday Partnership Technology Translator Mark Bonnar
- Project Assistant



# Interactive Website

- open to all (but can protect if needed)
- easy to up and download documents
- easy to edit (but not WYSIWYG)
- records changes
- gives email alerts
- used by Astrogrid & ALMA



# Twiki

- \\Jupiter\dfs\home\crc\Documents\Projects\Opticon\Key Technologies Network\TWiki \_ Optikeytec \_ WebHome.htm
- <https://ssl.roe.ac.uk/twiki/bin/view/Optikeytec/WebHome>





# Roadmapping

- We will adapt the Cambridge University T-Plan technique (<http://www-mmd.eng.cam.ac.uk/ctm/pubs/TPlan/>), using experience gained by the PPARC Technology and Industry Advisory Panel



# Technology Roadmap Process – Why?

- To establish key linkages between science drivers and technology resources
- To identify important gaps in science goals, projects and technology
- To support strategy and planning in Opticon
- To support communication between technology and science communities

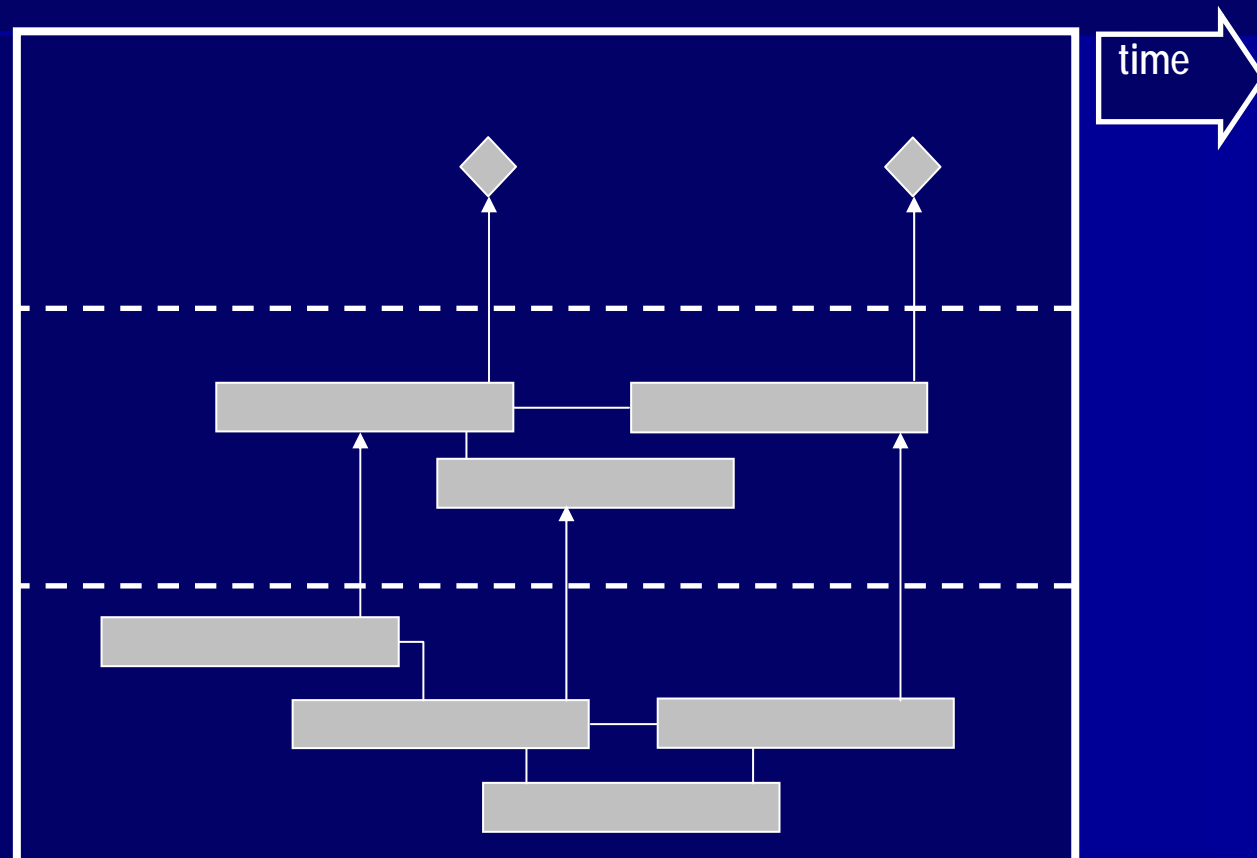
# Technology Road Mapping (TRM)

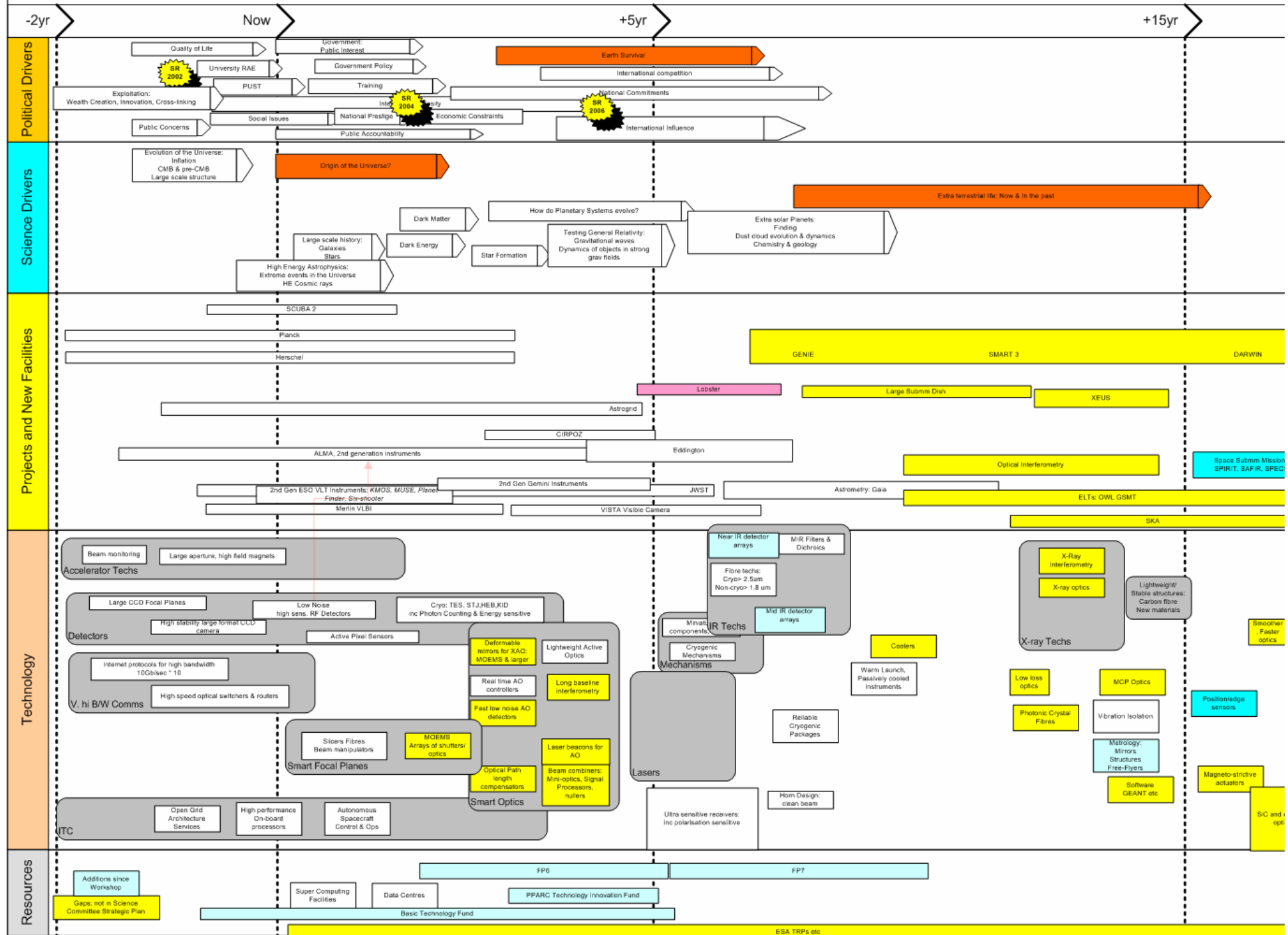


Science Goals

Project / Instrument

Technology







# Working groups

- Core Group
- Technical Specialist Groups



# Core Group

- Responsible for strategy, technology roadmapping, exploring links between technology topics, and engaging industry
- Selection
  - Invitation
  - Nomination from Opticon Partners.
- Important
  - Spread of expertise and affiliation
  - But groups not too large for effective operation
  - Active
  - Balanced and unbiased views on the key technologies
- Fixed terms of 2-3 years (?), to allow rotation and consequent fresh ideas.
- ***ACTION FOR OPTICON BOARD: Give their views on how best to appoint core and specialist panel members***



# Specialist Groups

- Topics will be chosen by the core working groups, but possible topics include:
  - Optical devices
  - Adaptive Optics
  - Interferometry
  - Detectors & readouts
  - Systems modelling (inc thermal)
  - Advanced software



# Specialist Workshops

- Emphasis on sharing experience and developing new partnerships to bid for other funds to develop new technologies
- Possible topics include:
  - Technology Roadmap
  - Thermal modelling/CAD
  - IR detectors for interferometry





# Industry Forum

- PPARC, Scottish Enterprise and the Smart Optics Faraday Partnership are holding an Industrial Event at SPIE in Glasgow
- We will use the SPIE meeting to gauge interest from industry
- If there is sufficient enthusiasm we will promote an Industry Forum based round Opticon Technologies. It would be appropriate to hold this at ESO.



# Proposals for future tech development consortium building

- An important task of the network is to encourage new teams to form to propose technology development programmes, as was done very successfully during the Framework 5 Opticon programme.



# Interaction with JRAs

- It is vital that good communication links are made with the JRA teams
- They are the prime sources of technology expertise within OPTICON.
- Their research programmes will modify the technology roadmap, both by generating new possibilities through their development programmes, and by unearthing new technology needs.



# The KTN will maintain these links by:

- Asking JRA chairs to submit brief quarterly (?) reports to our Twiki website
- Encouraging JRA team members to contribute to instrument and systems requirements developed on the Twiki
- Holding yearly meeting of JRA chairs – probably at the OPTICON board meetings
- Suggesting that JRAs develop Technology Roadmaps for their specialist areas
- Inviting JRA chairs to the Roadmapping workshops
- ***ACTION FOR OPTICON BOARD Approve mechanism for interaction with JRAs, or suggest improvements***