



**Session 2, Part 2**  
**TIGER**



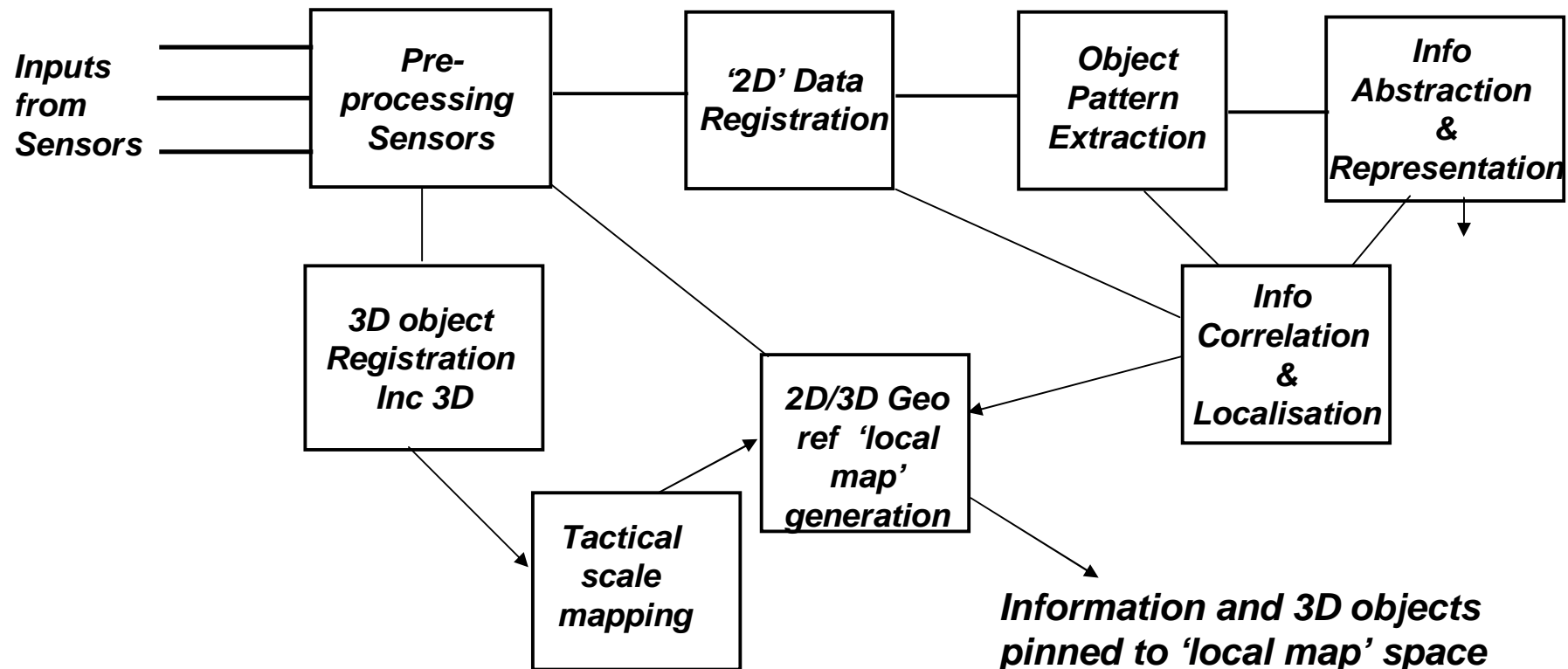
- **At the 2008 conference it was proposed that key outputs of the SEN theme research set would be combined into two “mini-threads”:**
  - **Information from imagery**
  - **Spatial representation in complex environments**
- **Following consultation with researchers and DSTL these have now been combined into a single mini-thread called “TIGER” - Tactical Information Generation Exchange and Registration.**
- **TIGER is proposed as a one year programme from August 2009, which will deliver a demonstration which shows the integration of outputs from the SEN theme.**
- **TIGER will also be integrated with the research outputs of other themes as part of the Exemplar thread activities.**

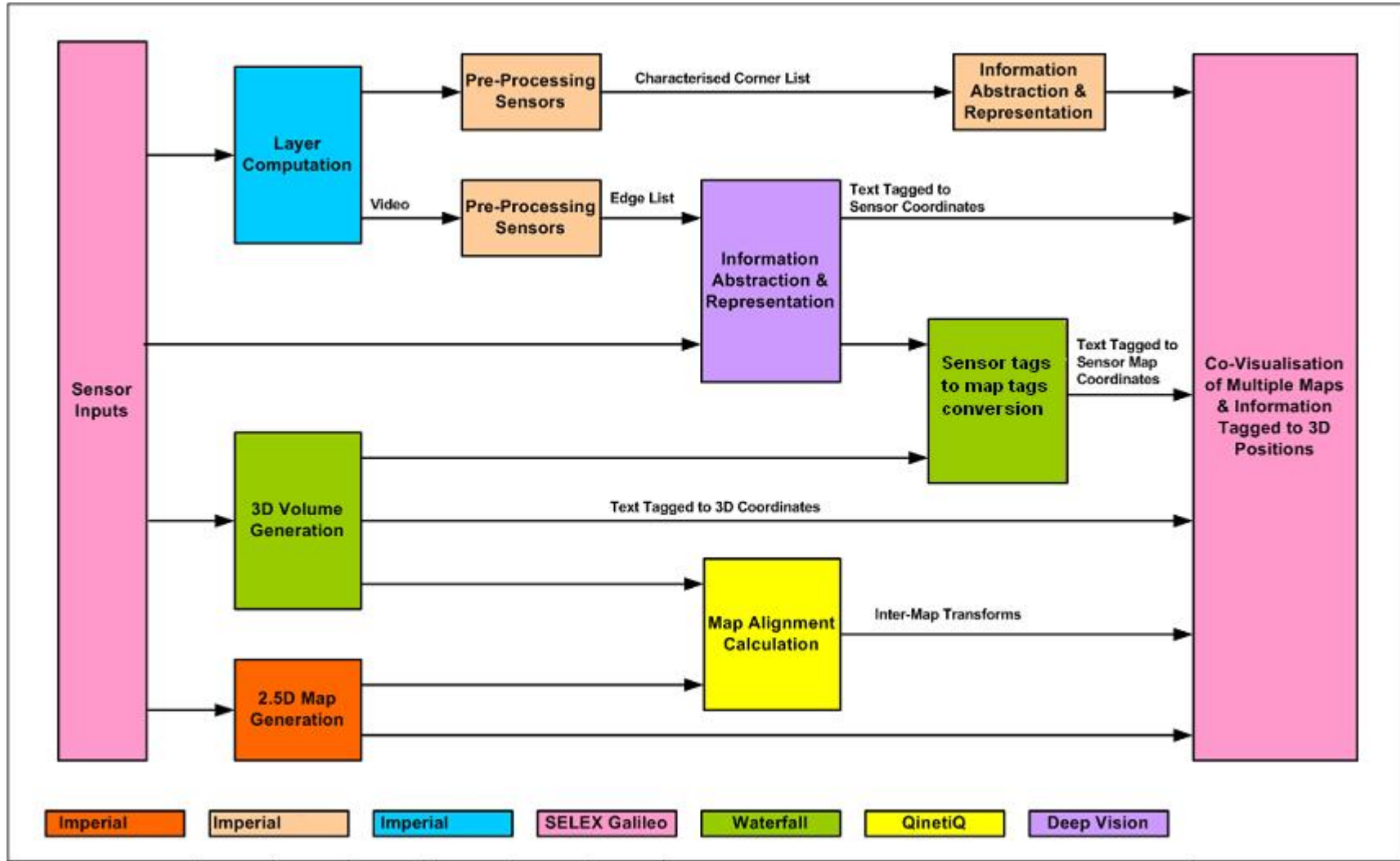


- TIGER contributes to
  - Improving situational awareness:
    - TIGER will create a three dimensional (3D) view of the battlespace from two dimensional (2D) inputs (e.g. images).
    - A 3D view may be used for mission planning and mission rehearsal activities providing increased situational awareness of the positions of assets and personnel on the battlefield.
  - Navigation of manned vehicles and autonomous systems within the Battlespace:
    - TIGER will create a 3D map which may be used for navigation
  - Autonomous identification of features of interest
    - TIGER can autonomously identify features of interest within input imagery.
    - TIGER includes a knowledge base which is used to classify and highlight system specified items of interest.



- TIGER will provide a library of algorithms which input 2D data (e.g. images) and output a 2D and 3D map.
- Information abstraction algorithms identify features of interest allowing the generation and display of map overlays.







- Selex Galileo
  - Overall systems integration
  - Information database, algorithm scheduler and visualisation tools
- Imperial College:
  - Phase correlation based alignment registration
  - Pre-processing, information abstraction and representation
  - Extraction of image layers (plenoptic function)
- Deep Vision:
  - Information abstraction and representation
- Waterfall Solutions
  - Image volume registration
- QinetiQ:
  - Map transformations



Deep Vision

Imperial College  
London

SELEX GALILEO

waterfall  
SOLUTIONS

QinetiQ



## TIGER mini-thread contributions:

- Robust phase correlation methods for sub-pixel feature matching - Jian Guo Liu, Imperial College
- Distributed knowledge - Michael Outhouse, Deep Vision
- Image volume registration - Darren Myatt, Waterfall Solutions
- Exchanging multi-level maps - Tom Cooper, QinetiQ