

# Systems integration and Work Packages

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## Systems Integration

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- Bringing together all of the individual components into a self consistent positron source
- Taking account of the whole of ILC so that the overall performance and cost is optimised
- Learn lessons from RDR phase
- The greatest challenge will be communication amongst ourselves and (even harder) with the other ILC areas
- Internally within the positron source it is up to us
- Externally we should benefit from (make use of) the project managers

## Team Communication

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- Continue to hold 3 team meetings per year (nominally!) as well as parallel sessions at major GDE meetings (if appropriate)
- Make more use of new technologies like Webex
- <http://www.ippp.dur.ac.uk/~gudrid/source/>
- Work packages should help provide a structure for our studies and try to ensure no effort is wasted
- Any other suggestions?

## Work Packages

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- Intention is to move from the present loose collaboration, to a structure with a stronger central organisation.
- Definition of work packages for the engineering design phase, and assignment of roles and responsibilities will be an important step towards that goal.
- We have to make sure that our limited resources are directed towards activities that are essential for the engineering design phase.

## Work Packages – for discussion

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- Undulator system (everything in the ~150m)
- Target System
- Capture Magnet (design and possible prototype of selected type)
- RF Systems (capture RF and other linac systems)
- Photon & positron collimation and dumps
- Polarisation specific issues (polarimetry, spin preservation, spin rotators) – in Simulations Technical Area??
- Auxiliary positron source (keep alive)
- Remote Handling (and target hall arrangement)
- System Integration (put all the bits together to form a consistent design and liaise with rest of ILC, start to end simulations)
- Lattice design (electron insert & positron transport to DR)
- Compton Source

## Work Package Allocation Process

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- Transparent process
- Respecting inter-regional balance and existing institutional programs
- Expressions of Interest will be requested from institutes who want to work on particular aspects of the positron source (not necessarily complete WPs)
- What resources are you likely to be able to provide?
- Not a firm commitment at this stage
- All EOI will be public by default

# DR Example

	X	FTE per year	Equipment total	Collaborators
<b>Beam dynamics work packages:</b>				
Lattice design				
Impedance and impedance-driven instabilities				
Electron cloud				
Ion effects				
Other collective effects				
Acceptance				
Orbit, optics and coupling correction				
<b>Technical subsystem work packages:</b>				
Vacuum system				
Magnets and supports				
Wiggler				
Power systems				
650 MHz RF system				
Injection and extraction systems				
Fast feedback systems				

## Work Packages

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- After EOI are collated, work package teams will be assembled and responsibilities proposed
- WP leaders will draft task list and schedule
- Then need MOUs etc

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