

## Information and Communication Technologies

### Goals

- Identify current ICT tools relevant to Low Carbon integrated manufacturing systems; identify developments which would improve integrated park operation including new directions which project identifies.

### Approach Taken

- Expertise and knowledge of all Locimap partners to identify current state
- Interviews with specialists and suppliers to identify trends and developments as well as State of the Art applications.
- Look at management support as well as planning & scheduling including energy management (D5.1, D5.2) and see how ICT can and could support better integration for lower emissions and costs.

### Results

The work identified specific areas where hardware and software developments offer options for further integration. A particular concern remains about data confidentiality and risks around sharing and external dependencies, although these are diminishing.

- Industrial Automation & Instrumentation – especially use of embedded systems (the Internet of Things)
- Asset Management
- Performance Monitoring & Optimisation
- Condition Monitoring
- Energy Management - Real time benchmarking
- Connectivity - The use of wireless communications and hand held/mobile devices; Cloud based or supported computing

### Lead Partner and other Principle Contributors

- **Lead partner:** Parsons Brinckerhoff
- **Principal Contributors:** NEPIC, Sembcorp, BASF, Cemex and external companies e.g. Conoco, ABB, DVA Global Energy Services, Sotetica Visual MESA, ITS, Process IT Consortium