

March 2014

## **Public strategy – Construction Management Research Group**

### **Research focus**

Optimization of Construction Processes.

### **Subject explanation**

Focus is on optimization. Construction is a production system with a capacity compound of technical, organizational and human factors. Pro-active system thinking through early engagement in product and process requirements is needed. The main application areas are currently Energy efficient construction management, Robust planning of complex projects and Offshore installations processes to reduce CoE.

### **Applications**

The applications are found mainly in 3 areas: 1) Energy efficient construction management. Pre-construction and construction today consume 20% of the energy of the constructions life cycle, and it will increase to 85%. The knowledge of how to avoid this increase in energy use is very limited and in need of research. 2) Robust planning of complex projects: Scheduling of complex projects includes reducing of waste, transport and waiting time 3) Offshore installations, which are difficult in both planning and executing due to the hard and unpredictable weather as well as the distance to the shore. Special and costly equipment is needed, the work flow must be carefully planned and bottlenecks must be avoided. Alternative strategies might add value to the process.

### **Disciplines**

- Lean Construction / Lean Design
- Value Engineering
- Planning & Scheduling
- Risk Management
- Concurrent Engineering
- Optimization of production processes
- User involvement, User-Driven Innovation
- Value Management
- Construction processes
- Tendering (Danish and European)
- 5D planning and simulation
- Project Management & Organization
- Product requirement/specification