

JTC Research Areas

Thrust 1: Reclamation & Marine Infrastructure

1. Alternative reclamation materials
2. Fast reclamation technologies
3. Waterfront Space optimization
4. Coastal engineering & hydrodynamics
5. Ship handling stimulations
6. Floating Structures
7. Submerged & sea bed utilization

Thrust 2: Sustainable Infrastructure

1. Brownfield rehabilitation & Remediation
2. Industrial waste & wastewater treatment
3. Smarter water utilization
4. Eco-materials & recycling
5. Waste to Profit network
6. Energy efficiency
7. Total carbon and water footprint management
8. Renewable & clean energy
9. Alternative “clean & green” fuel source
10. Off-site production techniques that would improve construction time and reduce resource wastage and carbon footprint
11. Real Time Information Management
12. Waste Heat Utilization & Management
13. District Level smart systems for energy, water, resource efficiency, etc.
14. Off-site systems for power generation, waste management, etc.
15. Waste to resource e.g. black water treatment for bio-fuels production
16. Industrial Ecology – Waste of one company as resource of another, cradle to cradle construction, manufacturing, etc.

Thrust 3: Underground Infrastructure

1. Geological Investigation Management
2. Engineering Geology & rock mechanics
3. Hydrogeology
4. Tunnel fire safety assessment and evacuation tool
5. Environmental/Societal/Economical Impact assessment
6. Advanced excavation technologies
7. Confined space optimization
8. Confined space infrastructure systems
9. Underground Fire-safety
10. Underground Air Conditioning and Mechanical Ventilation (ACMV)
11. Underground Reliable Power Supplies

Thrust 4: Infrastructure Systems & Materials

1. Vibration isolation systems
2. Green Infrastructure & practice
3. Smarter Construction methods
4. Advanced materials technologies
5. Information Technology in infrastructure systems
6. One infrastructure multiple use