



## SEACON (seacon.um-sml.com)

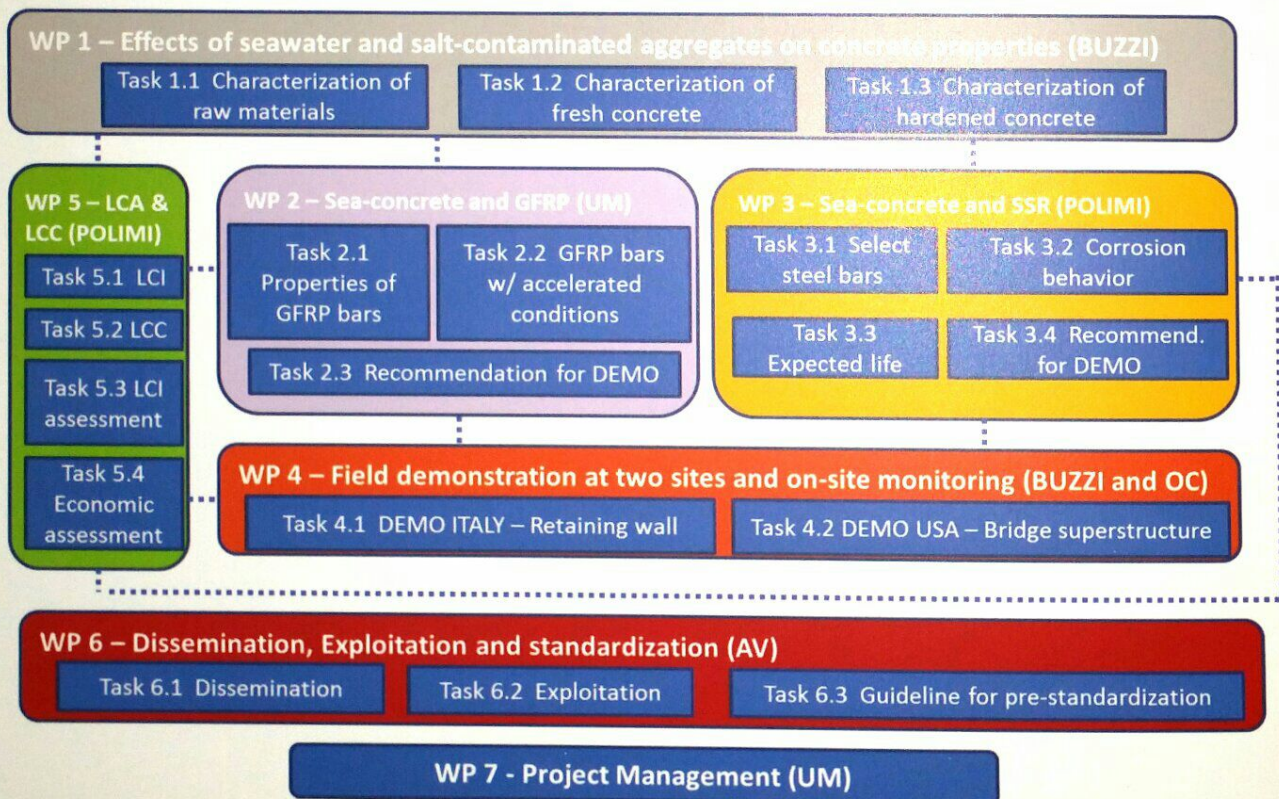
### SUSTAINABLE CONCRETE USING SEAWATER, SALT-CONTAMINATED AGGREGATES, AND NON-CORROSIVE REINFORCEMENT

#### MAIN GOALS

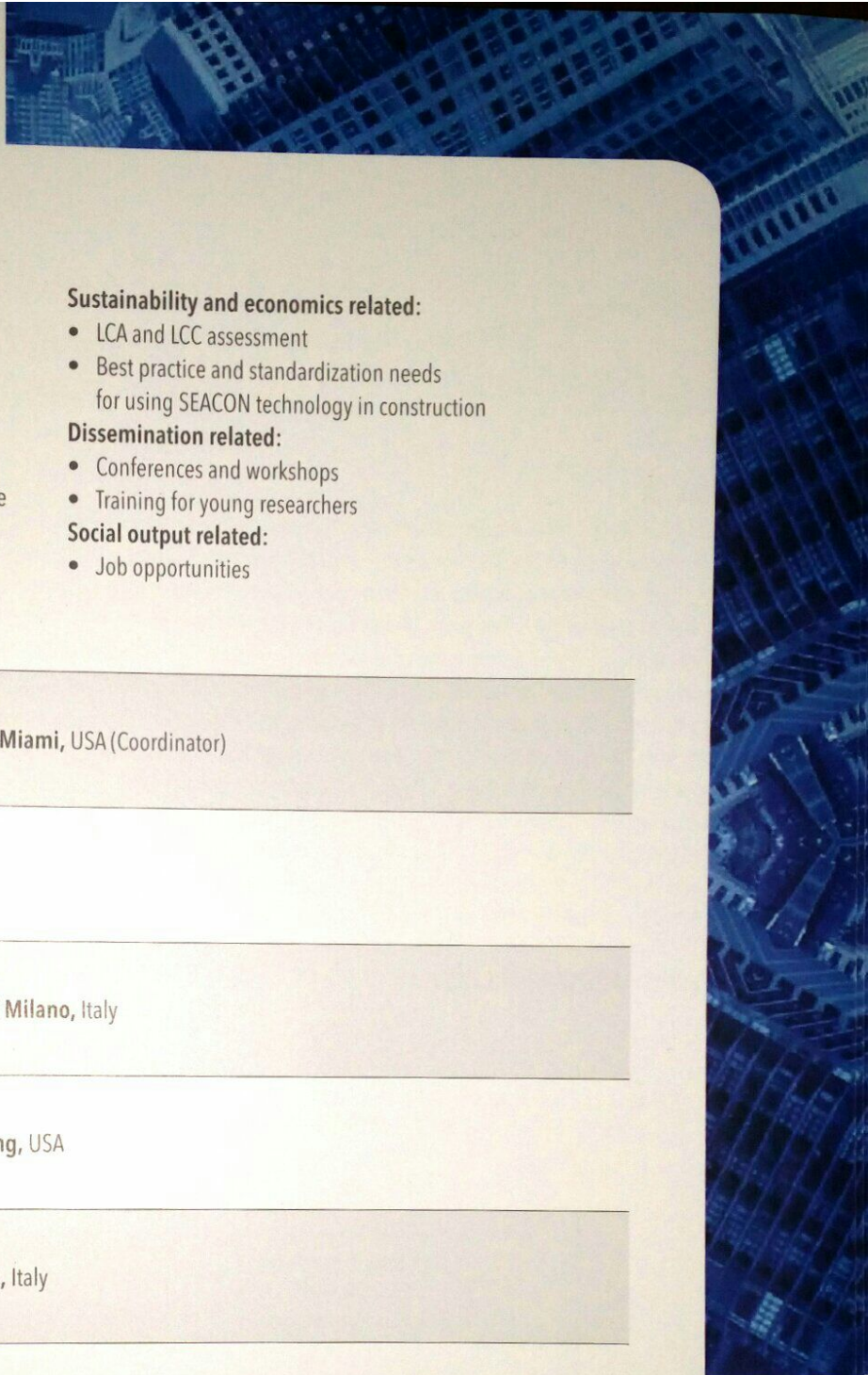
SEACON aims at demonstrating the safe utilization of seawater and salt-contaminated aggregates (natural or recycled) for a sustainable concrete production when combined with noncorrosive reinforcement to construct durable and economical concrete infrastructures. In addition to life-cycle assessment and life-cycle costing analyses used as driving tools for the assessment of the developed solutions, two real-size demonstration projects will be undertaken at locations with different (micro) climates to provide the opportunity for long-term performance monitoring. SEACON uses the following steps:

- Make it clear that chlorides are harmful for steel reinforcement, but they do not damage the concrete's characteristics (i.e., workability, strength development, durability)
- Assess through LCA and LCC durability performances and economical impact resulting from use of chloride contaminated aggregates, high chloride content cement and seawater on structural concrete
- Work at reinforcement level (improved SSR bar and use of GFRP bar in concrete)
- Demonstrate technology by means of two real-size field prototypes in two countries (Italy and Florida, USA)

#### METHODOLOGY (WORK PACKAGES)







## MAIN OUTCOMES

### Material related:

- Mix-design of chloride contaminated concrete
- Know-how on performance (durability) of chloride containing cement and concrete
- Know-how on expected service life of GFRP and SSR bars embedded in chloride contaminated concrete

### Infrastructure related:

- Demo fields in Italy and USA (long-term monitoring)

### Sustainability and economics related:

- LCA and LCC assessment
- Best practice and standardization needs for using SEACON technology in construction







### Dissemination related:

- Conferences and workshops
- Training for young researchers




### Social output related:

- Job opportunities

## PARTNERS/CONSORTIUM

	University of Miami, USA (Coordinator)
	ATP, Italy
 <b>POLITECNICO</b> MILANO 1863	Politecnico di Milano, Italy
	Owens Corning, USA
 <b>Buzzi Unicem</b>	Buzzi Unicem, Italy
 <b>Acciaierie Valbruna</b> S.p.A.	Acciaierie Valbruna, Italy

## COLLABORATORS

	Florida Department of Transportation, USA
	Pavimental, Italy
	Titan America, USA

## CONTACT

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