
EU MS/ AC and India Joint Call on Clean Water and Health



KICK-OFF MEETING

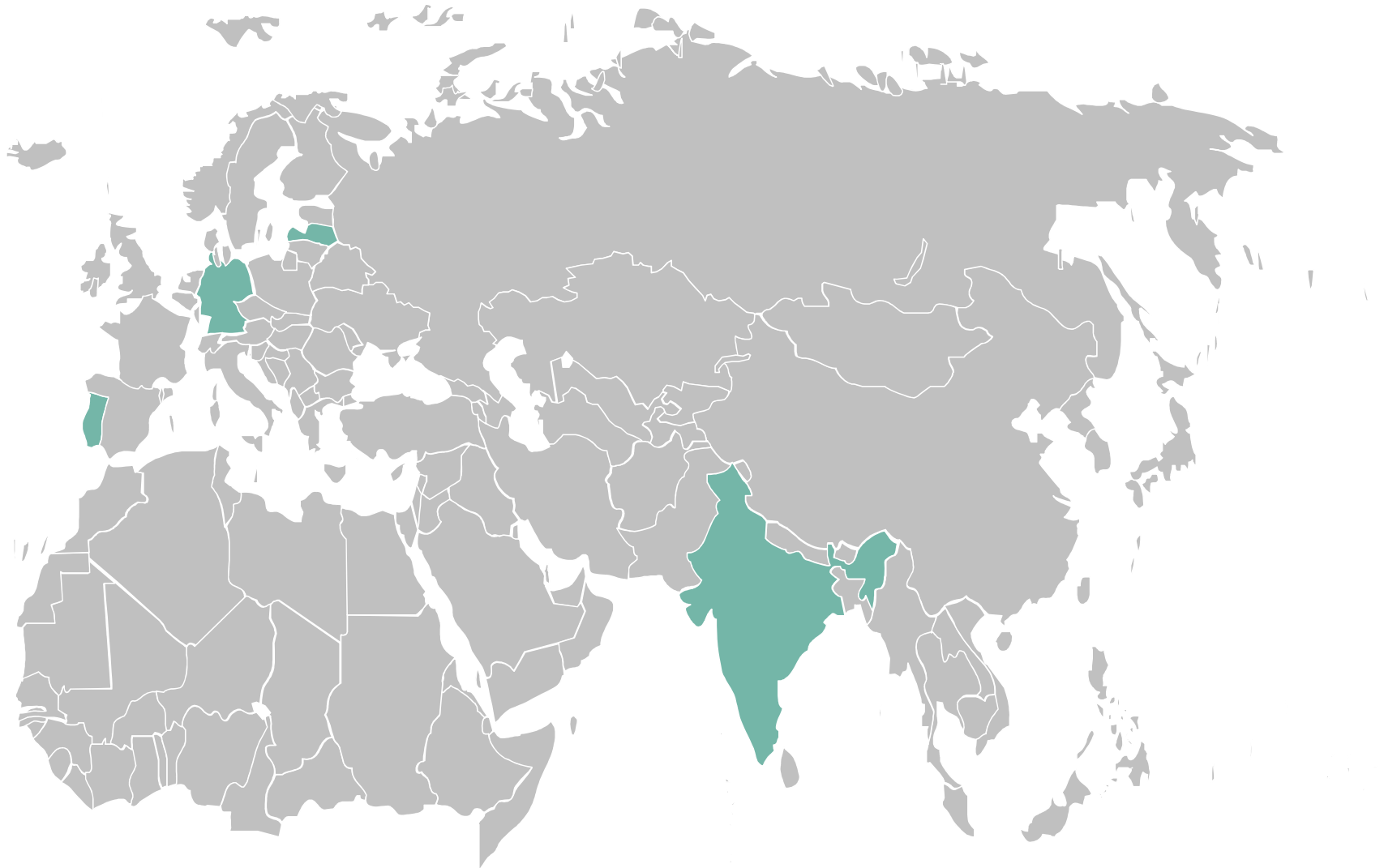
PORTO

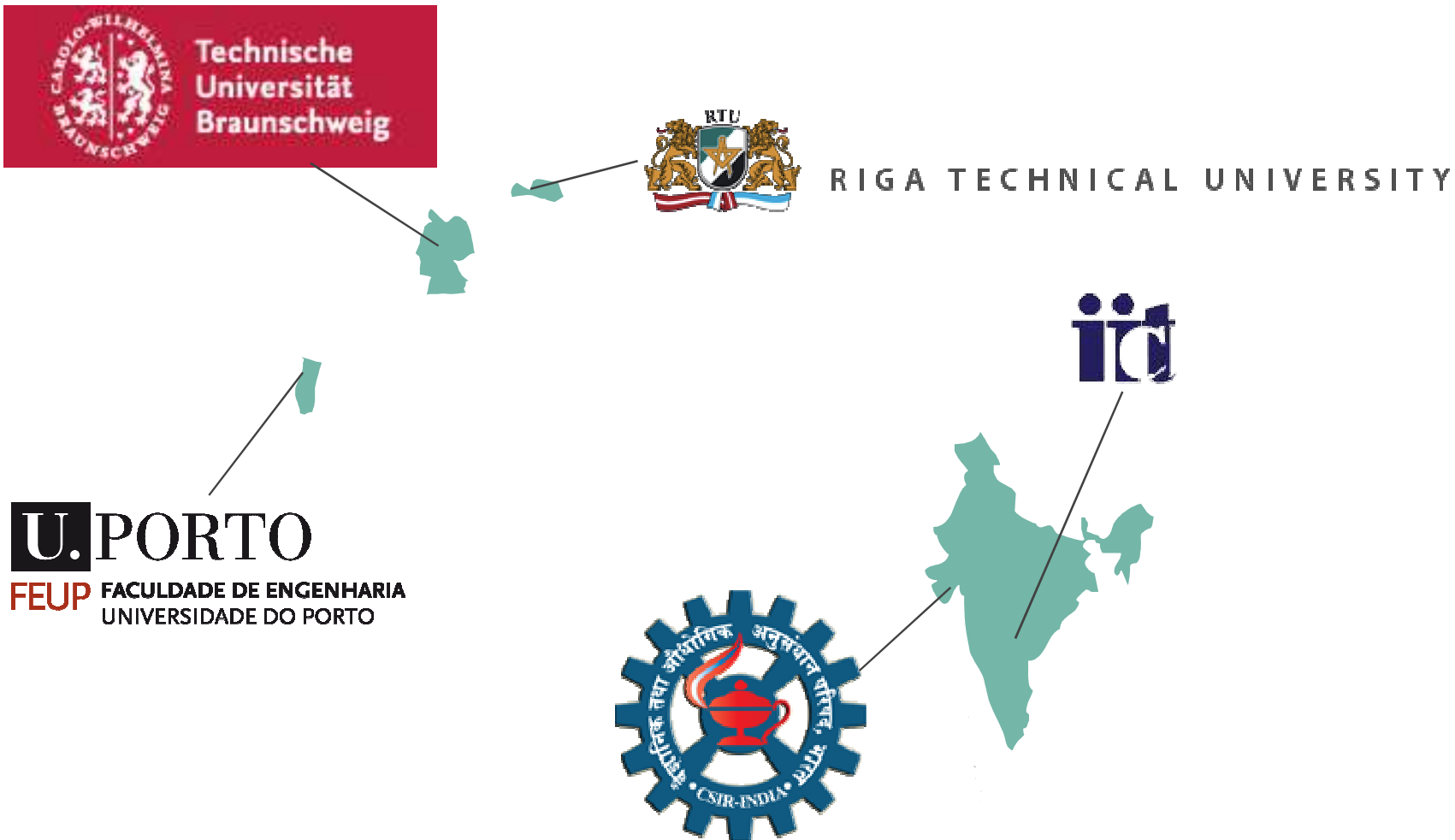
08-10-2015



Affordable technology for mitigation of membrane (bio)fouling through optimization of pre-treatment And Cleaning methods





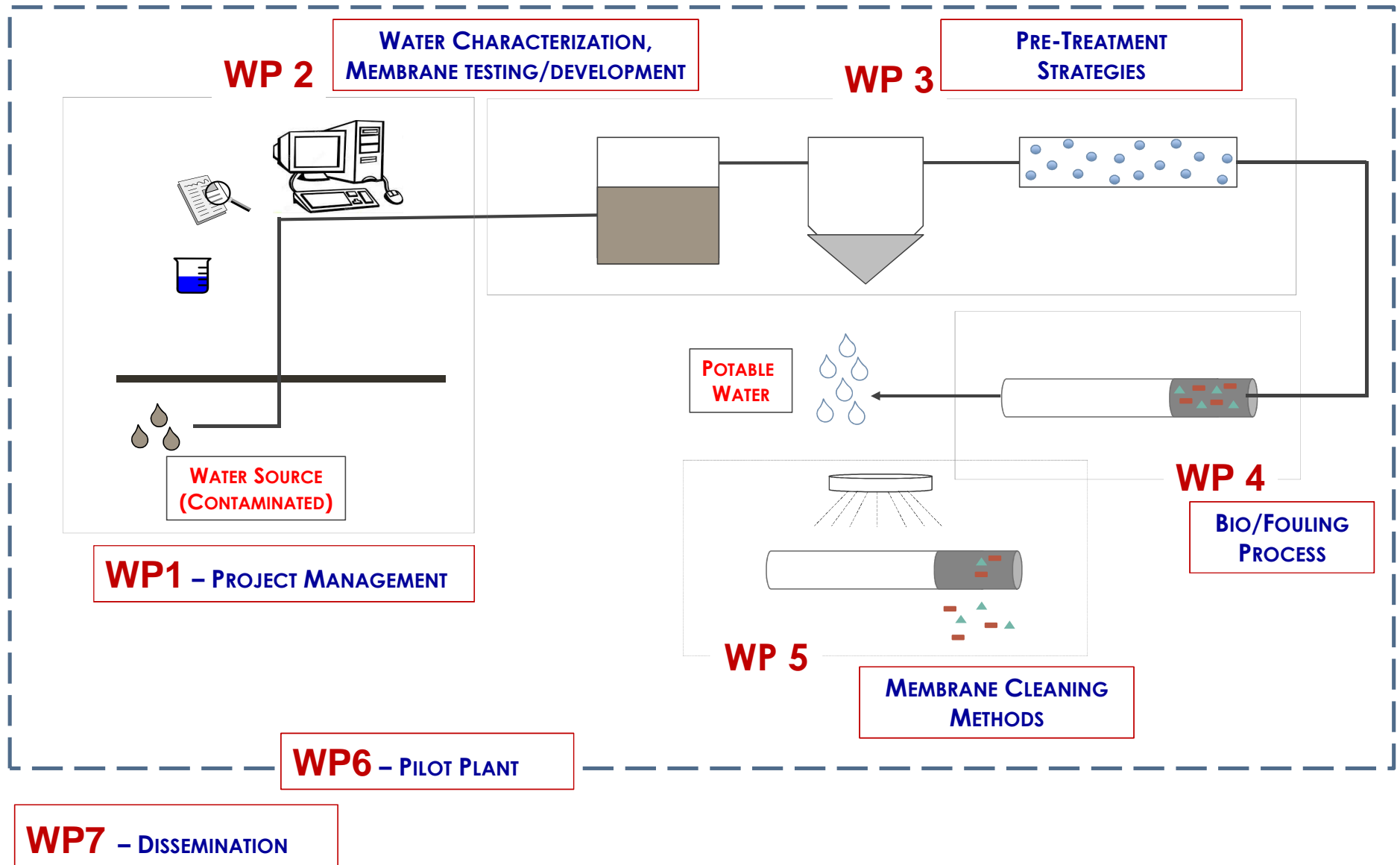


- **Overall project objectives**
- **WPs and Milestones (next 12 months)**
- **Expected results/Team**

OVERALL PROJECT OBJECTIVES

- To find an **optimal technology and operation mode** for effective **membrane performance** and longevity;
- To develop and **test methods** that may be integrated as **pre-treatment processes**

*[To prolong membrane performance,
To decrease energy use and water consumption]*



- **WP1 – Management**
- **WP2 – Feasibility Study:** *collection, characterization, and use of ground and surface contaminated water from Gujarat, Rajasthan and Maharashtra*
- **WP3 Pre-treatment Methods** *(and their effect on membrane lifetime)*
- **WP4 (Bio)Fouling Processes** *(Biofouling on membrane surfaces; Fouling on the membrane surface and inside membrane modules)*
- **WP5 Membrane Cleaning Methods** *(Alternative physico-chemical methods)*
- **WP6 - Pilot-plant Construction in India and Field Study**
- **WP7 - Dissemination**

Deliverables and Milestones – 1st Year

Year	Month	WP1 (UPorto)	WP2 (CSIR CSMCRI/IICT)	WP3 (RTU)	WP4 (UPorto)	WP5 (TUBS)	WP6	WP7 (RTU)	Milestones	
1	1 (11.2015)	D1.1.						D7.1.	M1.1	
	2									
	3									
	4 (02.2016)									
	5									
	6									
	7 (05.2016)									
	8									
	9			D2.1.					D7.2.	M3.1
	10 (08.2016)									
	11				D3.1.					M2.1 , M3.2, M3.3
	12			D2.2.						M7.1

WP1 Project management (Leader **UPorto**)
M1.1 – Elaboration of project management method and activity plan (m 1)

WP2 Feasibility study (Leader **CSIR-CSMCRI/IICT**)
M2.1 – Characterisation of the water quality in 3 different locations in India (m 11)
M2.2 – Evaluation of the performance of indigenous membranes (m18)

WP3 Pre-treatment methods (Leader **RTU, involved all**)
M3.1 – Design and start-up of a bed reactor with biocidal microparticles (m 9)
M3.2 – Fixed bed and suspended biomass reactors for pre-treatment (m 11)
M3.3 – Assessment of physical pre-treatment operations (m 11)

Deliverables and Milestones – 1st Year

Year	Month	WP1 (UPorto)	WP2 (CSIR CSMCRI/IICT)	WP3 (RTU)	WP4 (UPorto)	WP5 (TUBS)	WP6	WP7 (RTU)	Milestones	
1	1 (11.2015)	D1.1.						D7.1.	M1.1	
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	3									
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	5									
	6									
	7 (05.2016)									
	8									
	9			D2.1.					D7.2.	M3.1
	10 (08.2016)									
	11				D3.1.					M2.1 , M3.2, M3.3
	12			D2.2.						M7.1

WP4 (Bio)fouling processes (Leader **UPorto**, involved all)
M4.1 – Study of Inorganic membrane fouling (m 36)
M4.2 – Study of Biological membrane fouling (m 36)
M4.3 – Interaction inorganic-biological fouling (m 36)

WP5 Membrane cleaning methods (Leader **TUBS**, involved all)
M5.1 – Evaluation of novel chemical cleaning methods (m 30)
M5.2 – Assessment of physical cleaning methods (m 30)
M5.3 – Analysis of chemical enhanced backwash (m 30)
M5.4 – Efficacy of combined cleaning strategies (m 36)

WP7 Dissemination (Leader **RTU**, involved all)
M7.1 – Set up of the webpage (m 12)
M7.2 – Dissemination report (m 36)

EXPECTED RESULTS (NEXT 12 MONTHS)

	UPorto	CSIR	TUBS	IICT	RTU
WP1	Project management method; activity plan	-	-	-	-
WP2	-	Indigenous membranes performance	-	Water collection and quality	-
WP3	Pre-treatment strategies: particle bed reactor	-	Pre-treatment strategies	-	-
WP4	Biological membrane fouling	-	Fouling on the surface and inside the membranes	-	Proteobacterial community characterization
WP5	NEOW as membrane cleaning agent	Membrane bio-fouling after pre-treatment	Alternative physical cleaning methods	-	Backwash strategies
WP6		Pilot Plant		Pilot Plant	
WP7	-	-	-	-	WebPage



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membrane (bio)fouling through oPtimizatiOn
of pre-treatMent And CIEAning methods**

