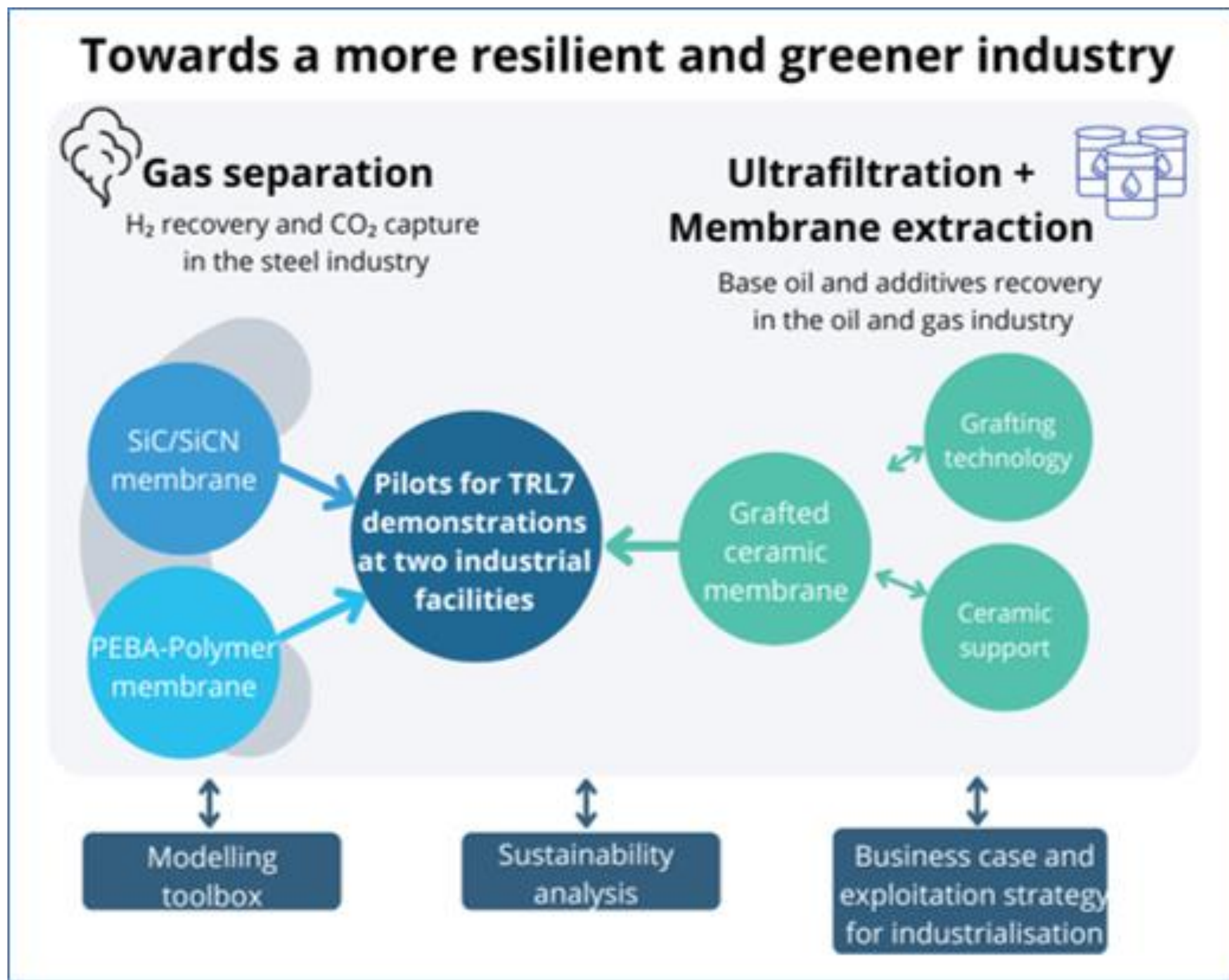


General information to Cumeri:



Goal is the producing of advanced and customized membrane separation systems for two key industries, the steel and oil industry. The aim of these new separation systems is to recover valuable components and improve energy efficiency at industrial facilities, while reducing emissions at the same time.

For this purpose, 16 partners have come together in the CUMERI project (7 RTOs and 9 companies including 4 SMEs, 3 membrane suppliers and 2 industrial end-users) and will develop three different types of membrane technologies until on-site demonstration.

What does Rauschert contribute?

Testing geometry length 500 mm	Outer diameter*4	Inner diameter	Channels	Specific membrane area	Membrane area (1200 mm length)	Face area of channels	
Ceramic element	[mm]	[mm]	no.	$\frac{m^2}{m}$	$[m^2]$	$[mm^2]$	
	AA	10	7	1	0.022	0.026	38.5
	CA	25	3.5	19	0.209	0.251	182.8
	CC	41	6	19	0.358	0.430	537.2

The separation system for the O&C industry, a multistep liquid filtration system, which enable base oil and additives recovery from used lubricant oil is based on grafted porous ceramic membranes, produced from Rauschert. These grafted membranes will unlock greater energy efficiency and decrease unwanted emissions.

	Membrane material	Pore size	Porosity	Membrane material	Pore size	Cut-Off*2	Porosity
inopor® micro	α-Al ₂ O ₃	1100 nm	40 - 55 %	inopor® ultra	TiO ₂	30 nm	100 kDa
		800 nm				10 nm	20 kDa
		600 nm				5 nm	8.5 kDa
		400 nm		inopor® nano	TiO ₂	3 nm	2 kDa
		200 nm				1.0 nm	750 Da
		100 nm				0.9 nm	450 Da
70 nm	LC ³ *	200 Da	30 - 40 %				

In order to achieve this goal, the appropriate support or membrane is required. Rauschert has a variety of options that can be used for this purpose.

Rauschert supports the Cumeri project from the first attempts with AA (Single-Channel tubes) up to the industrial scale with multi-channel supports depending on the needs of the project. Furthermore we will optimiz the coating and technology according to the needs of our partners.

