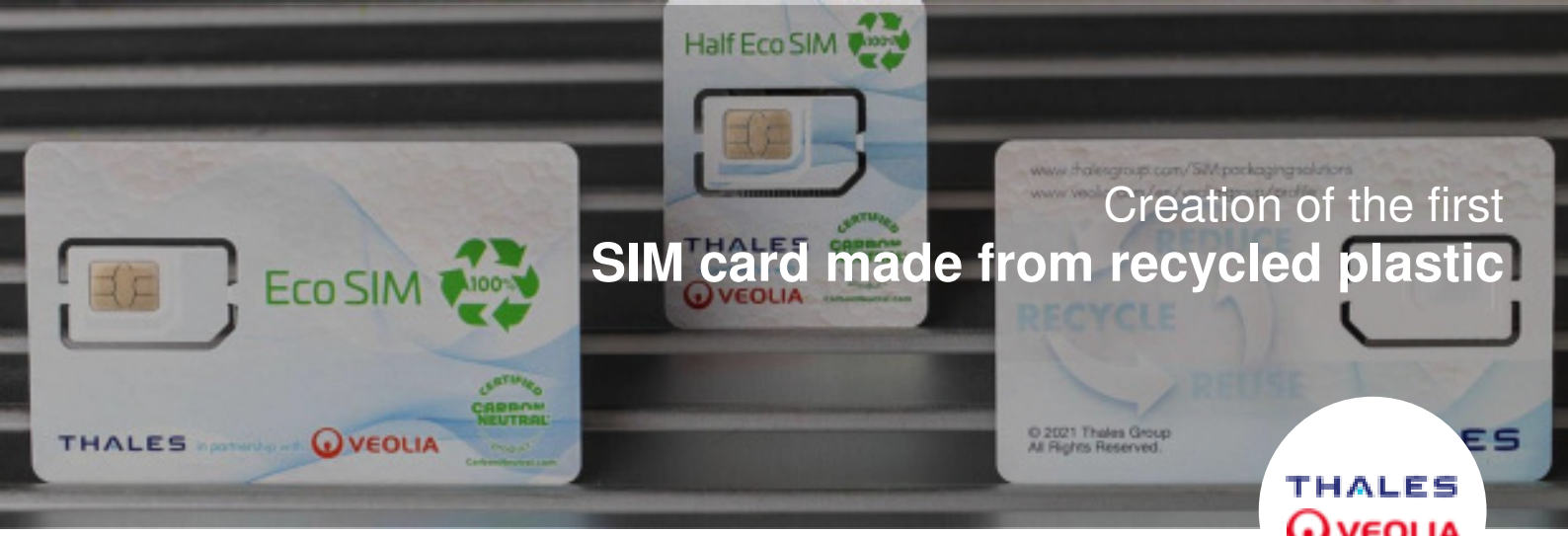

Creation of the first SIM card made from recycled plastic

THALES
VEOLIA

Thales and Veolia have joined forces to create the first eco-designed SIM card made from recycled plastic. The polymer, a plastic found in high concentrations in household electrical waste, is transformed in France at Veolia's recycling plant. Using this new recycled material, Thales engineers, in collaboration with Veolia experts, have developed a specific manufacturing process for SIM cards that meets industrial requirements.

Start date of the project	2019
Location of the project Places of implementation of the project at this stage and target geography if replicability	The manufacturing of the SIM cards takes place at several Thales sites around the world (in Europe, Asia and Central America) and the plastic, which is derived from household electrical waste (particularly end-of-life refrigerators), comes from Veolia's sorting and dismantling unit in Angers (49) and is processed in France at the Froissy recycling plant (60).
Objectives of the project Nature of the project climate innovation with reminder of the problem/issue addressed	Promote the use of recycled plastics in the design of SIM cards and thereby reduce the carbon footprint of their manufacture.
Detailed description of the project	Thales and Veolia have joined forces to create the first eco-designed SIM card made from recycled plastic (polystyrene) from old refrigerators, thereby helping to reduce the environmental impact of a market of more than four and a half billion SIM cards (global production in 2020, of which Thales is the leader with a 25% market share). The use of recycled material in an industrial manufacturing process allows Thales to replace the production of nearly 5,000 tons of virgin plastic (ABS) per year, corresponding to a reduction of 16 times less CO2eq emissions per SIM card produced (SRP ref - eco profile of recycled/ virgin PS (Polystyrene)). The eco-SIM card supports the ambitious sustainable development objectives of Thales and its mobile operator customers. The project has also enabled Veolia to demonstrate that recycled plastic can meet the same technical specifications as virgin plastic, while still retaining its competitive advantages
Main project's drivers for reducing the greenhouse gas emissions	

Reduction levers	**Details of associated project aspects**
☐ Energy and resource efficiency (including behaviour)	
☐ Decarbonisation of energy	
☐ Improving energy efficiency	
☒ Improving non-energy resource efficiency	Replacement of virgin plastic with 100% post-consumer recycled plastic
☐ Absorption of emissions: creation of carbon sinks, negative emissions (BECCS, CCU/S, …)	
☐ Financing low-carbon issuers or divesting carbon assets	
☐ Reduction of other greenhouse gases	

Scope(s) of emissions on which the project has a significant impact and quantification of GHG emission reductions per emissions scope

	Aspects of the project contributing to the reduction of emissions by emission category	**Quantification of associated greenhouse gas emissions by emission category** *Merci de respecter la méthodologie de quantification utilisée dans la note de l'Afep.*
Reducing the company's carbon dependency		
Scope 1 *Direct emissions generated by the company's activity*	replacement of virgin resin with recycled resin	5000 t x 0.138 = 690 t de CO2 recyled Egtpolystyrene x 0,138
Scope 2		

	Indirect emissions associated with the company's electricity and heat consumption.		
	Scope 3 *Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.*		
	Increase in carbon sinks		
	Absorption of emissions *Creation of carbon sinks, (BECCS, CCU/S, …)*		
	Greenhouse gas emissions avoided by the company at others		
	Emissions avoided *Emissions avoided by the activities, products and/or services of the project company or by the financing of emission reduction projects.*	replacement of virgin resin with recycled resin	Virgin tpolystyrene x 2,24 - soit 5000 t x 2.24 = 11200 t CO2 recycled Eq Tpolystyrene x 0,138 5000 t x 0.138 = 690 t CO2 Eq

Clarification of the calculation or other remarks:
NB 1: Emission factors include waste collection, transport, sorting and preparation (washing, grinding, densification, micronisation, granulation, compounding)

NB 2: Thales also offsets residual emissions via a CarbonNeutral® certified programme with The Carbon Neutral Protocol, this impact is not included in the calculations.

Modality of verification of the quantification.	**Calculation frame of reference used (ADEME basis, Green House Gases protocol, …) :** / **Verification of the calculation (internal or external):** "ICV des MPR" study conducted by the Syndicat des régénérateurs de plastiques (SRP), according to ISO 14040 standards, validated by 4 independent experts. Link to SRP website here and PS ecoprofile here
Other environmental and social benefits of the project	The use of recycled plastic brings other environmental benefits compared to virgin plastic resin: less pollution of water, air, living ecosystems, and also less consumption of non-renewable energy for its production (12 times less for polystyrene - *see SRP ecoprofile*)
Project maturity level	☐ Prototype laboratory test (TRL 7) ☐ Live test (TRL 7-8) ☐ Pre-commercial prototype (TRL 9) ☐ Small-scale implementation ☒ Medium to large scale implementation **Remarks: Serial launch since April 2021**
Potential and condition for replicability of the project with associated climate impact potential	This project is applicable to the entire world market for SIM cards (4 times the production of Thales). A study within Thales is underway to use recycled plastic for other technological products (e.g. banking terminals).
Amount of investment made (in €)	Not communicated
Return on investment (ROI)	☐ CT (0-3ans) ☐ MT (4-10 ans) ☒LT (> 10 ans) **Remarques :**
Engaged partners	The operation is conducted in partnership between Thales et Veolia.
Free comments from the project owner	/
More about the project	
Contact the project company	For Veolia : jean-christophe.delalande@veolia.com For Thales : yannick.burianne@thalesgroup.com
Liens URL du projet	Press release here
Illustrations du projet	Video here

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