



ALPHARECYCLAGE
COMPOSITES

LEITAT
managing technologies



CUSTOMISIZE PROJECT

New tailor-made sizing strategies for recycled carbon fibres to improve the mechanical properties of polymeric and cementitious composites

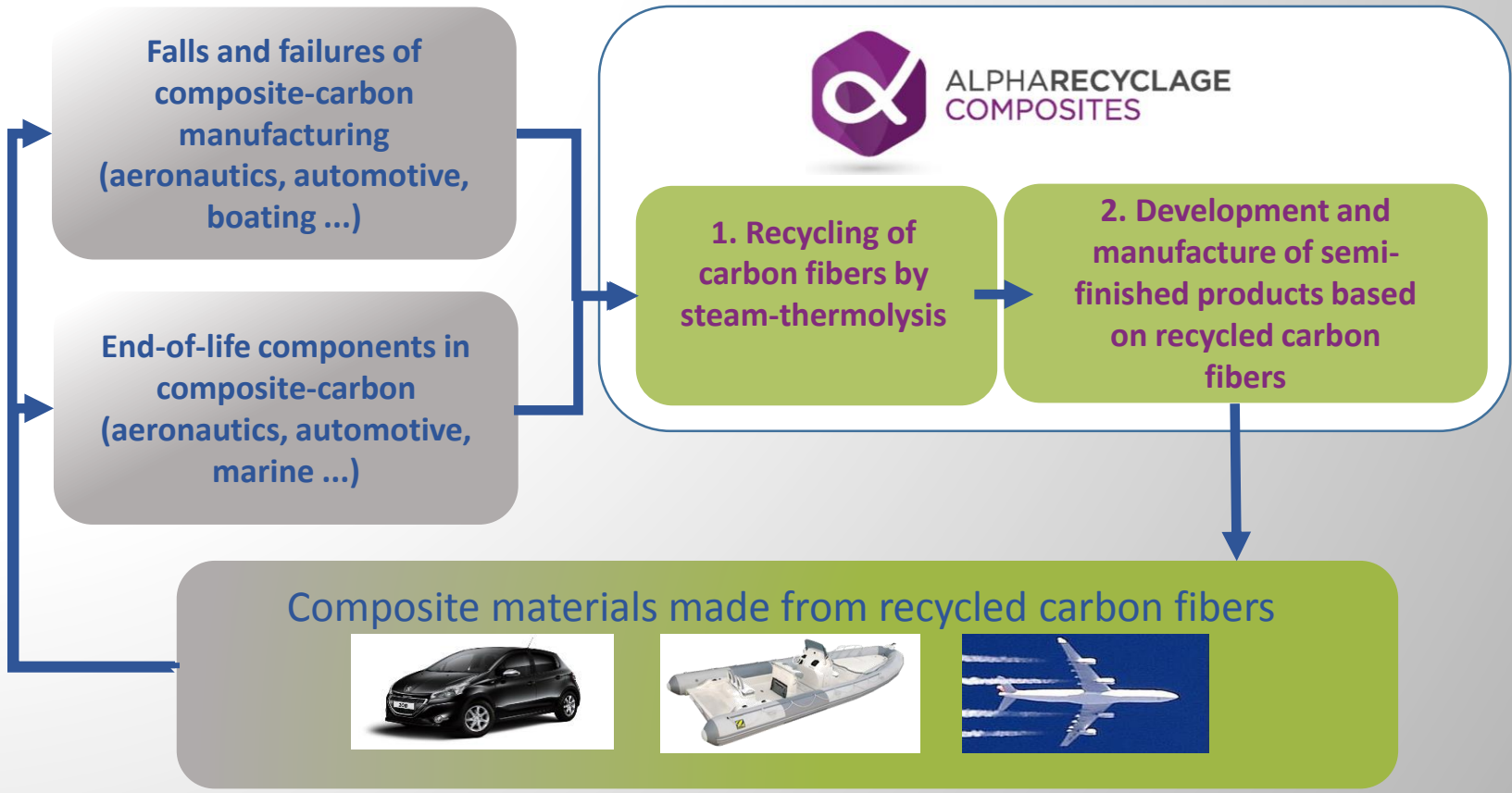
Clean Sky – Info day

Toulouse, may 7, 2019



1. Alpha Recyclage Composites

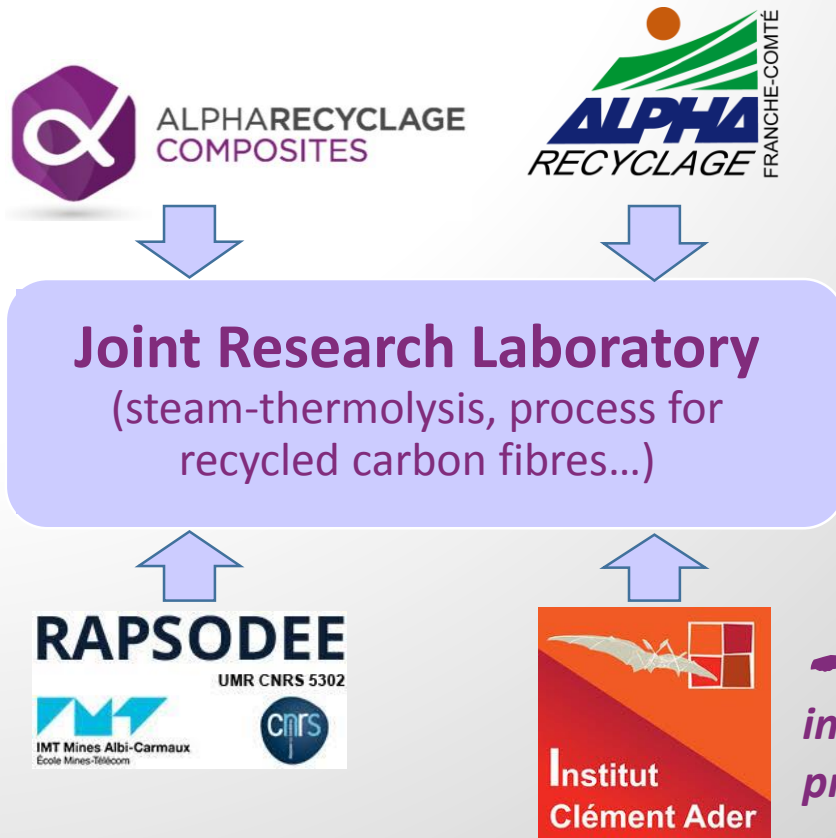
- Created in 2009, headquarters in Toulouse;
- Activity : A circular economy strategy focused on carbon fiber:



- Summer 2019** : entry into operation of the **first operational unit of steam-thermolysis** dedicated to the recycling of composites-carbon materials in Castelsarrasin (Tarn-et-Garonne).

1. Alpha Recyclage Composites

➤ An old partnership with the Engineering School of Mines d'Albi-Carmaux in the field of Research



Steam-thermolysis laboratory pilot (research works, tests)

➤ A partnership with ICA-Albi that has been important in the history of the CUSTOMISIZE project !

2. CUSTOMISIZE : the project in outlines

✓ Purpose of the project :

- To develop a **new family of carbon fibres' sizing** in order to improve the interfacial adhesion between **recycled carbon fibre (rCF)** and **polymers** (thermoset and thermoplastics) and **cementitious matrices**.
- Goal : to improve the strength, toughness and environmental stability of the composites prepared with the resized fibre.
- Specific sizing will be developed for **non woven mat** and **chopped tow** of **recycled carbon fibres**.
- New upgraded recycled carbon fibre will be used to produce new composites with cementitious or polymeric matrices (thermoset and thermoplastic).

✓ Consortium :



- **LEITAT** (project leader) : private technical institute with more than 110 years of experience in industrial innovation processes, based in Spain.



- **RESCOLL** : private company providing technological services, based in France.

- **ALPHA RECYCLAGE COMPOSITES.**



2. CUSTOMISIZE : the project in outlines

- ✓ Duration : from april 1st, 2019, to september 30,2021
- ✓ Global budget : 499.858,75 €
- ✓ Program : Clean Sky 2
- ✓ Clean Sky Topic : **“Sizing for recycled carbon fibres to optimise adhesion in organic / inorganic composite materials”** (ID: JTI-CS2-2018-CfP08-AIR-03-03)
 - Opening date : may 3, 2018
 - Deadline : july 12, 2018
- ✓ Financial framework : Horizon 2020
- ✓ Topic manager : Fraunhofer Institut for Chemical Technology (Germany)
- ✓ Grant agreement number : 831858

3. CUSTOMISIZE : course of the submission

☛ The result of an efficient networking



- Reflection about sizing technologies adapted to the context of recycled carbon fiber (spring 2018)



Feedback ICA toward ARC



- Speech about composite recycling during a Clean Sky Workshop (Toulouse, march 2018)



- Initial contact ICA/LEITAT
- expression by LEITAT of the intention to submit a project (recycling) to Clean Sky

- Meeting and decision to associate ARC with the project of LEITAT (june 2018)



1. Project definition, constitution and submission of the application (july 2018)
2. Project acceptance notification (october 2018)
3. Finalizing of the agreements (november 2018 to march 2019)
4. Kick-off meeting on April 12, 2019, at the Fraunhofer Institut for Chemical Technology (Pfinztal, DE)

4. CUSTOMISIZE : setting up of the project

☛ Specifications relatively precise → project fairly easy to design

☛ The strengths of the consortium despite a short response time :

1. Topic fully in the field of competence of the consortium leader,
2. Mastery of european calls for projects by the consortium leader,
3. Convergence of interests and complementarity of skills and means between the consortium partners,
4. Clearly distributed roles in the project and the preparation of the application documents.

☛ Working method :

- ✓ 1 working meeting,
- ✓ Transmission, by the consortium leader, of **document templates to fill in**,
- ✓ exchanges by phone or e-mail.

☛ Vigilance points :

- ✓ after notification of acceptance, very careful reading of the draft agreements at the time of signing the project (numerous and thick documents).

Thank you for your attention.