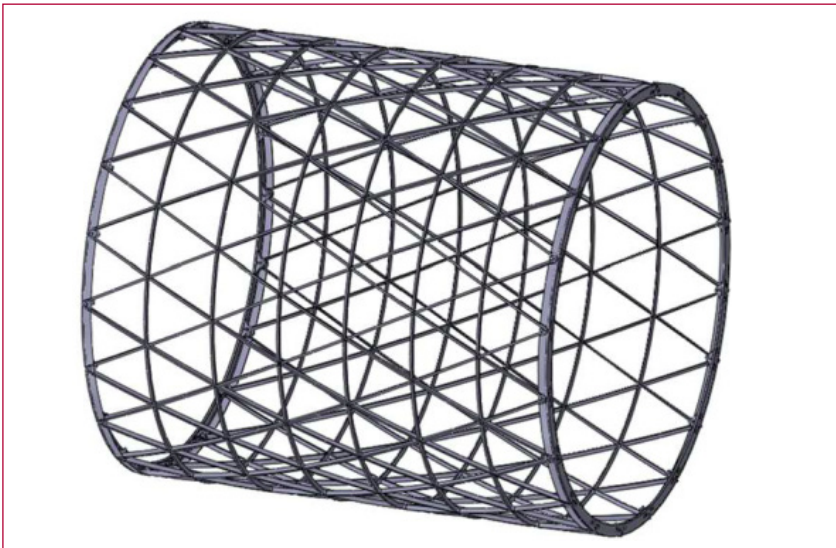


Wafer design Approach for Safety  
Increasing in worst case Situations  
and joints minimizing



# wasis

*project*



WASIS project aims to develop innovative fuselage sections based on the composite lattice approach that simultaneously meet the required environmental demands and increased safety together with design and manufacturing cost-efficiency improvement.



## CONSORTIUM

This is a collaborative project between 11 European companies located across 9 different countries. This consortium brings together several expertises from material selection, structural design, safety, manufacturing to testing phase with the main objective to develop of a composite fuselage for an medium sized aircraft.

More information at:  
[www.wasis.eu](http://www.wasis.eu)

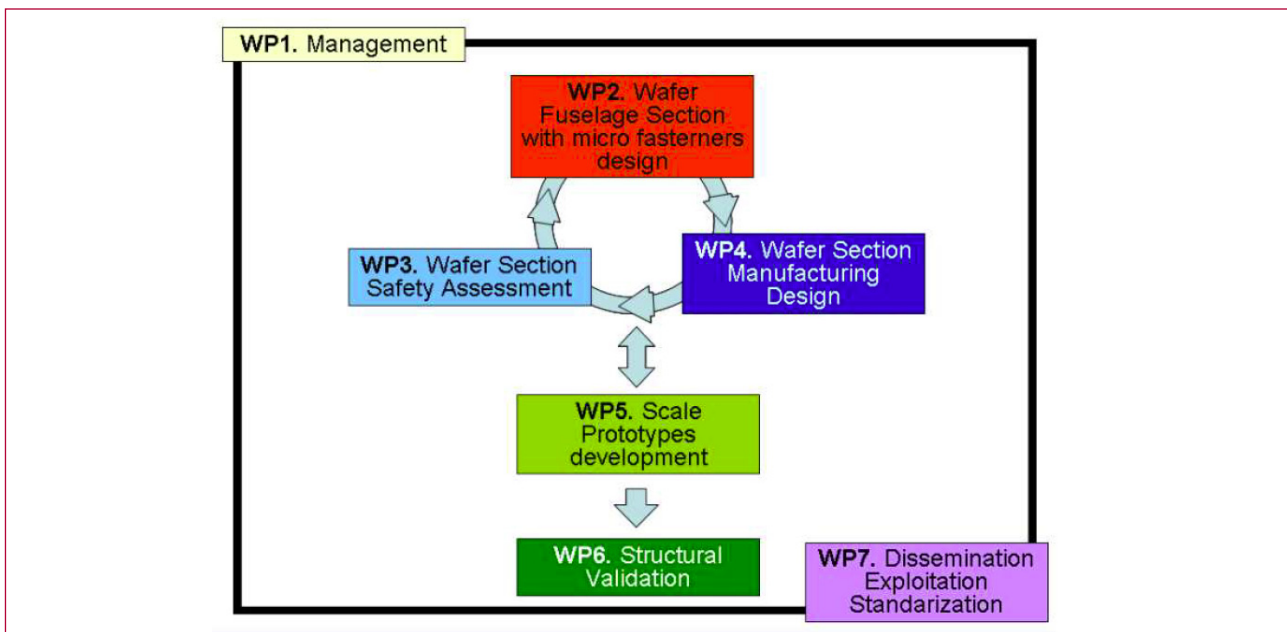
You can also get more information by visiting our  
website: [www.wasis.eu](http://www.wasis.eu)





## WASIS APPROACH

Aeronautical industry nowadays has to face the challenge of “More Affordable, Safer, Cleaner and Quieter” while at the same time accounting for a demand that will triple over the next 20 years. WASIS project aims to aid this industry to overcome this challenge with the development and prove of innovative composite fuselage based on the lattice approach. The lattice approach allows composites to obtain more efficient mechanical behaviour, reducing weight and optimizing structure performance. This will be combined with specially designed semi-loop and micro-pin joining elements applied in innovative non-regular lattice structure manufacturing, save aircraft weight, avoid fuselage section weakening due to cutting reinforcement fibres. Furthermore, the structure will also be developed to better withstand worst case situations loadings. Safety will be assessed through the large adoption of simulation and virtual testing from the very first design stages. The developed fuselage section design will be merged with high-productive filament winding technology to reduce manufacturing costs and time. The experimental validation of integral wafer approach with novel micro-fasteners elements will set a reliable basis for WASIS project results and its industrial application. To attain this goal several S&T objectives have been defined and grouped in five workpackages. See figure below.



## EXPECTED RESULTS

It is expected that this concept is proven as an available option for the future design standards. This integrated solution allow a:

- Cleaner aircraft;
- More affordable aircraft;
- Safer aircraft.

## PARTNERS



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